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LIVING

Chickadees' secret lives

In the chickadee world, a lot goes on that is not immediately obvious

OUR CHANGING SEASONS
Drew Monkman

It's hard not to love chickadees, especially at this time of the year. Weighing no more than five pennies, you can't help but respect their ability to survive the long, cold winter nights, bitter winds and relative lack of food.

We are all familiar with the chickadee's relentless search for nourishment — hopping from branch to branch, clinging to the underside of twigs and never staying put for more than a second or two.

However, there is also a lot going on in the chickadee world that is not immediately obvious. By watching and listening closely, particularly at the backyard feeder, you can learn a great deal about their secret lives and interactions.

Chickadees live in a surprisingly complex social system, based on a dominance hierarchy, or pecking order. Each bird in the flock is known to the others according to its rank. The rank, in turn, depends on the bird's degree of aggressiveness. All of the birds in the flock are subordinate to the most aggressive bird. Males dominate females and younger birds are usually subordinate to older ones. The bird of lowest ranking is subordinate to all of the others. The rest have a ranking somewhere in between.

Dominance can be expressed through singing, body position, chasing and sometimes even by fighting. A friend of mine was skiing recently in the Trent Wildlife Sanctuary when she heard the high-pitched "chick-a-dee-dee" call being sung at a much higher pitch than usual. Curious, she stopped and immediately noticed some rustling in the snow. Two chickadees were actually fighting. One bird was on top and the other was lying on the snow with its wings quivering. The only sounds were the fluttering of the combatants' wings and the calls of a third bird that seemed to be observing the tussle. The two fought for at least two minutes! This type of behaviour is probably quite exceptional, however. Dominant birds rarely need to fight subordinates once the flock pecking order is established.

High rank in the dominance hierarchy confers some very important advantages. For starters, dominant birds enjoy the best access to food. At the feeder, for example, the dominant male can easily frighten other chickadees away. Dominant birds also occupy the deepest, most sheltered parts of evergreens where the flock roosts at night. This location provides more protection from the wind and less risk from attack by predators. Not only do highly-ranked birds survive better, but they also have more offspring that survive.

If you are the number one bird in the flock, you can also count on your mate always being faithful. A lower-ranked male, however, is often cuckolded by his partner, who tends to look for sexual opportunities with a higher-ranked bird. The female who is paired to the alpha male also enjoys better access to food and very little aggression from other birds. She, too, has a higher overwinter survival rate. When the nesting season arrives, she will also lay more eggs than lower-ranked females, and suffer less nest predation.

A chickadee flock usually forms in late summer around a dominant pair that has just completed a successful nesting. There are usually from six to 10 birds in the flock, but sometimes more if sufficient food is available. Other species such as woodpeckers and nuthatches often accompany the chickadee flock as well. In addition to the dominant pair, there are usually other mated birds, paired according to rank, as well as a few single adults and juvenile birds. The flock will remain together until the start of the next breeding season.

Terry Carpenter, special to The Examiner

A chickadee on the seedhead of a cattail, where it was probably looking for overwintering moth larvae.

When chickadees come to your feeder, watch for short chases between members of the flock. This is an expression of dominance that is most often seen when the feeder is crowded. Dominant birds will approach the feeder directly, scaring off others that are feeding. Lower-ranked birds tend to wait until the more dominant individuals are through. You will often see them approach the feeder and then veer off without landing. You might also try to compare the relative darkness of the black feathers on the birds. Apparently, high-ranking males exhibit significantly darker black plumage than lower-ranking birds.

February and March are courtship months. Males can easily be heard whistling a descending, two or three note "fee-bee"or "fee-bee-bee." Singing helps to reinforce the bond between birds in existing pairs, and is a tool single males use to find a mate. By April, the flocks disband and the pairs head off to wooded areas to nest. Some will also set up home in suburban neighbourhoods if there is sufficient tree cover. Mated pairs control a territory of about an acre in size. Chickadees usually dig out a hole in the rotting wood of a stump or in some dead part of a live tree in which to lay their eggs. They will also use hollows abandoned by other hole-nesting birds. It is also possible to attract chickadees to nest boxes.

Considerable research has been done in recent years on chickadee song. Song alone is usually sufficient to scare off any other chickadee males who may be intruding into an established territory. In fact, almost all of the dueling between males in the spring is done through song. For example, matching the musical pitch of another male's whistle is the birdsong equivalent of deflecting a fencer's advancing sword. However, if a male takes the song duel one step further and actually sings over the opponent's song, this shows a high degree of aggressiveness.

As the dueling is going on, females are listening in with rapt attention. According to research done by Laurene Ratcliffe and Daniel Mennill at Queen's University, female chickadees appear to use these song contests to compare all of the males within earshot. They can then decide who is the best male to copulate with.

Using computer-generated songs, Mennill was able to convince listening females, who normally are monogamous, to seek clandestine sex with males in neighbouring territories. Mennill used the computer to produce the songs of an imaginary "intruder," entering an existing territory.

Thanks to the computer, the intruder was allowed to win the singing contest. However, when the intruder interacted with a neighbouring male, Mennill made sure the neighbour won. This, of course, made the neighbour sound quite aggressive and therefore very attractive to the eavesdropping female. Sure enough, the female would fly off to the neighbouring territory to seek an extramarital adventure. Using DNA markers in the nestlings' blood, Ratcliffe and Mennill found that about a third of the chickadee nests they studied had a chick that was not fathered by the nesting female's main partner.

So, when you hear a chickadee singing this month, remember that he's not just whistling Dixie. This is serious stuff. You might even want to improve your own vocal skills. Remember, your partner may just be comparing your song virtuosity to that of the neighbour!

What to watch for this week

Male striped skunks roll out of their dens any time from mid-February to early March, and go on a long prowl looking for females with which to mate. The smell of a skunk on a damp, mild winter night is a time-honoured sign that spring is coming. It is also one on the first "datable"natural events of the new year.

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