

# Chickadee: Mighty Mite

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*Photo by Walt Wolff*

Many of us have looked out our winter windows and observed a tiny, little black and white bird stoically going about its business on the coldest, snowy, blustery days, and wondered how on earth they manage to survive. I'm talking about the Mountain Chickadee, *Parus gambeli*, a half ounce of wondrous engineering.

While other birds flee our northern latitudes at the first sign of winter, the chickadee adds an extra down comforter around its little body, and employs some very astonishing feats of metabolism to maintain its body heat to survive the plunging air temperatures. The additional layer of down feathers fluffed up adds an inch of heat trapping air around this tiny marvel, allowing it to maintain a 108 degree body temperature, even when the thermometer hits ten below zero. At night they lower the thermostat on their little furnace as much as twenty degrees in order to survive without the need to keep eating through the night.



As you can well imagine, it takes a lot of food to fuel this little dynamo. They need to be eating constantly during the day, adding enough fat each day to get them through the night. Where do they find enough food in winter to keep from starving though? They stock up in fall, stashing food in thousands of different locations. So then how do their little bird brains remember all these places where they hid food maybe months before? We're talking about several acres here. This is where chickadees demonstrate some truly remarkable abilities.

Chickadees grow new brains each fall. Well, not entire new brains, but the brain cells are renewed, so to speak. Old brain cells die off, and then new cells generate very quickly to replace them. (Medical science could cure Alzheimer's if they could discover their secret.) The area of their brains that govern memory and spatial relationships becomes enlarged, giving the chickadees the ability to mentally map out all their food caches and to remember where they all are. When spring comes and new food is available, their brains shrink back to normal size.

Chickadees form monogamous pairs, but in winter, they form flocks of these "couples", but with a definite "pecking order". I hate to say it, but the males outrank the females, and the older birds outrank the younger. At night though, each bird finds its own little tree cavity in which to sleep.

Chickadees are the only birds besides woodpeckers that excavate their own holes. The tiny tree cavity is just big enough for our bird to fluff its feathers for warmth and to stuff all of its little self in for the night.

You may have seen a chickadee early in the morning with its tail feathers all crimped from its night in these miniature cramped quarters.

Now you know, when you see these tiny little birds bravely, but cheerfully, enduring a harsh winter day, what engineering marvels chickadees are. But feel free to offer them a bird feeder in winter. They'll appreciate the help.

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Sources: MOTHER EARTH NEWS, February/March, 2003 "Our Little Chickadees" by Terry Krautwurst  
A SIERRA CLUB NATURALIST'S GUIDE of The Southern Rockies