

# Black-Capped Chickadee

*Poecile atricapillus*

By David Cronenwett

Winter is a time of narrow margins for wild creatures. As energy dissipates from the land, those that remain must be well suited to the task of survival. That is certainly the case with the black-capped chickadee, a remarkably adaptable and heartwarmingly cute year-round resident of Montana.

## Description

For novice birders, not many species are easier to identify than the black-capped chickadee. This small bird has a telltale black head and bib that contrast strongly with its prominent white cheeks and neck nape. The breast is often whitish beneath, fading to buff on the bird's flanks. Its wings and back tend to be uniformly gray. Though both sexes have identical markings, males are slightly larger.

Three additional chickadees occur in our state: the mountain, the chestnut-backed, and the boreal. The mountain chickadee looks nearly identical to the black-capped except for its white eyebrow. The chestnut-backed has an auburn back and flanks, and the boreal has a brown cap and mostly gray neck nape.

## Distribution and Habitat

The black-capped chickadee thrives in diverse wooded habitats across a large swath of North America. In Montana, the species is found in most coniferous and riparian forests as well as human-created "edge" environments where open areas and woodland intermingle. Even in Montana's vast eastern prairies, you can spot black-capped chickadees near brushy streams and in town around wooded areas.

## Behavior

Black-capped chickadees are intelligent birds seemingly unafraid of humans. Their gentle, curious demeanor is endearing.

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## Scientific Name

*Poecile atricapillus* is Latin for "variegated black hair," referring to the various shades of black in the bird's plumage.

Commonly known as black-caps, these birds congregate in flocks of 4 to 16 individuals, especially in winter. When breeding season arrives, the winter flock disbands and male-female pair bonds establish. Nests are built in tree cavities left by woodpeckers or are sometimes excavated in rotten wood by chickadees themselves. Females lay an average of seven eggs, which hatch after incubating for roughly two weeks.

## Winter Survival

Black-caps weigh on average only about 11 grams, compared to 77 grams for an American robin. Due to their higher surface-to-volume body ratio compared to larger animals, tiny creatures such as chickadees have developed higher metabolisms to stay warm. This requires large amounts of food—something particularly challenging in winter. For black-caps, that can mean consuming nearly 60 percent of their own body weight each day in cold weather. To survive, chickadees store seeds through summer and fall for winter consumption. The birds also eat seemingly invisible insects and spider eggs gleaned from tree bark. In the deepest cold, chickadees try to find a tree cavity for shelter and enter a torpor called "regulated hypothermia." A chickadee's core temperature decreases by up to 15 degrees Fahrenheit, slowing the burning of precious

calories. Even still, it is possible for a black-cap to consume its day's accumulated calories by shivering for warmth all night long.

## Communication

Black-capped chickadees have developed a complex system of calls, whistles, and songs used to convey information to each other. For instance, the birds can recognize and communicate the relative threat level of a predator by attaching more "dees" to their alarm call. Scientists suspect these complex vocalizations evolved to allow chickadees to convey information in the dense forests where they live, often out of sight of each other.

## Memory

The black-capped chickadee's ability to find thousands of cache locations throughout a snow-covered forest requires phenomenal memory. Each fall, the spatial memory lobe of the bird's brain grows by up to 30 percent to accommodate this task. Since brain cells use up a lot of energy, those dedicated to food storage are kept only as long as they are needed. This astonishing ability to seasonally grow and reabsorb memory-specific neurons has not gone unnoticed by medical researchers hoping to find cures for diseases affecting the human brain.

Even if chickadees don't end up helping science cure Alzheimer's, the birds will always be a welcome tonic for the winter blues. For me, one of the joys of this season is observing chickadees at the feeder. Their inquisitive, gentle disposition always seems incongruous to the harsh reality of winter, making their enchanting company even more welcome. 🐦