

Black-Capped Chickadee / *Parus atricapillus*

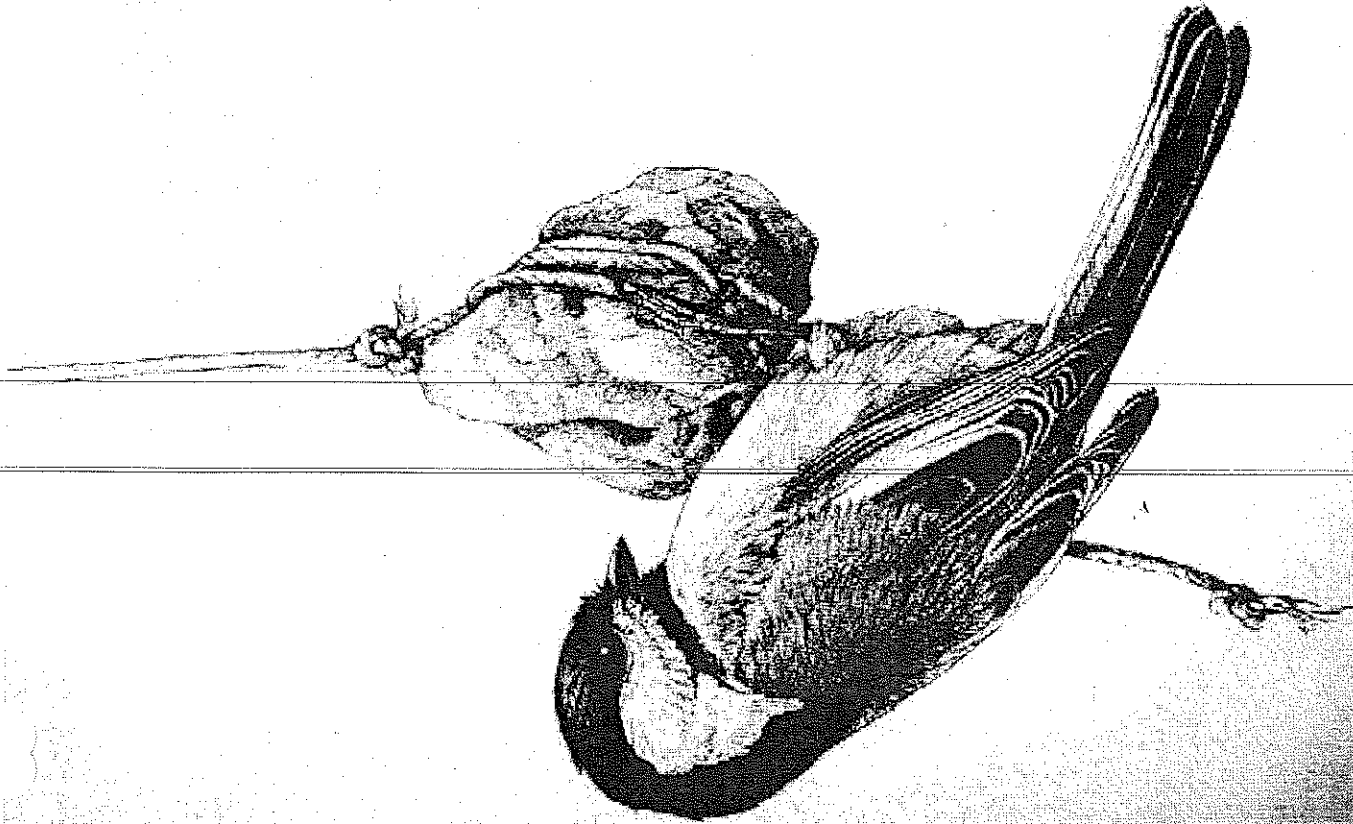
THE BLACK-CAPPED CHICKADEE IS ONE OF THE BEST BIRDS FOR learning about the various uses of auditory displays. You can often tell what a Chickadee is doing just by hearing one of its calls. And as you listen throughout the year, you will hear certain calls more than others in each season.

During late winter there is a particularly obvious change in the Chickadee's vocal habits, for the males start to give their Fee-bee-song — a clear, two-note phrase. This call becomes frequent at the same time that the Chickadees' small winter flocks begin to break up. When breeding males start to define their territories, the Fee-bee-song becomes even more prominent, for two or more males may be giving it at the same time, seeming to answer each other.

The period just before egg-laying and incubation is marked by the Teeship-call of the female. She gives this as she does the Wing-quiver display and follows her mate through the woods, possibly even being fed by him. Later, you are likely to hear several variable calls such as the Tseededeedeer-call and the Che-be-the-call; they are used by males and females when their territories are intruded upon by other Chickadees.

Near the nest in midsummer you may hear calls associated with breeding. One is a quiet version of the Fee-bee-song used by the adults as they approach the nest. The other is the Teeship-call again, this time used by the young in their fledgling stage as they beg for food from the parents.

In late summer and fall, the flocks that will stay together



through the winter begin to form and roam about their territories feeding. Two calls are commonly used by the birds at this time, the Tset-call and the Chickadee-call. They are believed to function as contact-calls — sounds that enable the flock to stay together even though they may not be in visual contact.

BEHAVIOR CALENDAR

	TERRITORY	COURTSHIP	NEST-BUILDING	BREEDING	PLUMAGE (MOLTS)	SEASONAL MOVEMENT	SOCIAL BEHAVIOR
JANUARY	■						■
FEBRUARY							
MARCH						■	
APRIL	■	■	■				
MAY	■	■	■	■			
JUNE	■	■	■	■			
JULY				■			
AUGUST				■			
SEPTEMBER						■	
OCTOBER						■	
NOVEMBER							
DECEMBER							■

DISPLAY GUIDE

Visual Displays

Head-Forward

Male or Female

The body is held horizontal, and the head is thrust forward with bill often gaping. The crown is raised and contour feathers ruffled.

CALL: Chebeche-call and others

CONTEXT Given during close encounters between competing birds; a threat of attack that usually causes the other bird to fly away. See Social Behavior

Wing-Quiver

Male or Female

Wings are lowered and opened slightly and then rapidly quivered. Birds are often crouched while displaying.

CALL: Teesup-call

CONTEXT Done by fledglings when begging for food; done by female toward male during incubation and the first half of the nestling phase; and done by both male and female before and during mating. See Courtship, Breeding

Auditory Displays

Fee-See-Song

Male

A clearly whistled two-note phrase, the first note usually about a whole tone higher than the second; often "answered" by another bird



CONTEXT A loud version given during territorial skirmishes; a soft version given during mate-feeding. *See* Nonbreeding Territory, Breeding

Chickadee-Call

Male or Female

Sp Su F W

A call almost exactly like the written sound, with the emphasis usually on the first two syllables

CONTEXT Given especially in late summer and winter when the birds are in flocks; given by a bird that has become slightly separated from the flock, or given after a disturbance has dispersed the flock; has the effect of bringing the flock back together. *See* Social Behavior

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Isset-Call

Male or Female

Sp Su F W

A high, short, single sound; very quiet; hard to hear at first

CONTEXT Given mostly by birds in a flock as they quietly feed; may help the flock keep in aural contact. *See* Social Behavior

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Dee-dee-Call

Male or Female

Sp Su F W

A repeated *dee* sound with a definite scolding quality

CONTEXT Given in conflict situations and often followed by other aggressive actions such as a chase; used especially in territorial skirmishes. *See* Territory

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Chebeche-Call

Male or Female

Sp Su F W

A fast call of three or more syllables with the emphasis on the last syllable

CONTEXT Given in conflict situations by the more dominant bird; usually has the result of making the other bird fly away. *See* Territory, Social Behavior

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chebechebeche

Teedeedeede-Call

Male or Female

Sp Su F W

A sputtering call much like the written sound, with the accent on the last syllable

CONTEXT Given during skirmishes and chases; one of the more common of many variable calls given in such circumstances. *See* Territory

teedeedeede

See-See-Call

Male or Female

Sp Su F W

A rapidly repeated series of short, extremely high whistles, almost like the squeaking of a shrew or mouse

CONTEXT Given especially when predators or danger are spotted; often causes surrounding birds to freeze momentarily, or at least to be very alert

see see see see

Teeship-Call

Male or Female

Sp Su

A high call accompanying Wing-quiver; much like its written sound, with emphasis on the first syllable

CONTEXT Given by female during mate-feeding and by young in fledgling phase. *See* Courtship, Breeding

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BEHAVIOR DESCRIPTIONS

Territory

Black-Capped Chickadees are unusual in terms of territory. Like some other birds, they hold both breeding and nonbreeding territories, but unlike any of our other common birds, their nonbreeding territory is occupied and defended by a flock and not by an individual bird or mated pair. These flocks are highly structured and have predictable patterns of movement. (See Social Behavior.)

Breeding Territory

Type: Mating, nesting, feeding

Size: 10 acres; variable

Main behavior: Tee-bee-song, aerial phases, and various calls

Duration of defense: March through July

Hearing the clear, two-note Tee-bee-song of the male Chickadee in late winter or early spring is a sign that behavior patterns associated with breeding are beginning to take place. Male Chickadees form territory by becoming increasingly intolerant of the other members of their winter flock.

Territory formation is a gradual process, with a pair first separating from the winter flock, then remaining in a given area, and then finally defending that area from the intrusion of others. This all occurs over a period of a few months, the actual defending of an area lasting only a few weeks around the time of nest-building. The defended area generally decreases in size during the incubation and nesting phases and disappears altogether during the fledgling phase.

Territorial skirmishes take a fairly typical form. First there is the Tee-bee-song by one or more males, often in a type of vocal duel where they alternate giving the song. The song is given only when the birds are ten yards or more apart. As they get closer, the song stops, and a variety of aggressive calls are given: Chebeche-call, Tseedeedeedeet-call, and Dee-dee-call. These are

accompanied by short chases among trees or shrubs. Often one or both birds will appear to feed throughout these interactions. The skirmish ends when one of the birds leaves.

These interactions are usually brief early in the season, but at the time of nest-excitation in April through June they may last for forty-five minutes or more. They generally occur at the borders of a territory or near the nest site.

The male does not use song to advertise his territory, but generally sings only when he comes across another male there. The size of breeding territories has been estimated at ten acres. In July, when the young disperse, the boundaries of the breeding territory are no longer defended.

Nonbreeding Territory

Type: Feeding

Size: 20 acres

Main behavior: Dee-dee-call, Chebeche-call, Chickadee-call, aerial chases

Duration of defense: August through February

In late summer and early fall many Black-Capped Chickadees begin to form small flocks. (See Social Behavior.) These become stable in membership and define territories in which they remain until the beginning of the breeding season. A nonbreeding territory is often formed around the territory of a pair that has bred the previous season, and is usually about twice the size of a breeding territory.

The flock circulates around the territory, stopping to feed at certain productive spots. If a neighboring flock trespasses, aggressive interactions follow with chases and several characteristic calls: the Dee-dee-call, Chebeche-call, and Chickadee-call. These interactions are common and very obvious, for the feeding flock is normally quiet as it moves along, giving only the Tseedeedeedeedeet-call to stay in contact. The added aggressive calls are a sign that there is a boundary conflict, and then, when the flock is quiet again, it means the conflict has stopped.

In winter, when it is easy to keep track of a flock, it is

interesting to follow it about its territory. While doing this you are likely to witness one of these flock encounters from start to finish. You will also get an idea of the dimensions of the flock's territory. The nonbreeding territory breaks up in late winter as the males give the Fee-bee-song and become less tolerant of other flock members.

Courtship

Main behavior: The pair separate out from the winter flock and move about the territory together; the female Wing-quivers; the pair does bill touching.

Duration: March through June

There is no obvious stage of courtship in Chickadees, but you will notice the breakup of the winter flocks as pairs of birds separate out and begin feeding on their own. These pairs become intolerant of the presence of other Chickadees; if others come near, the pair will incite brief skirmishes with scolding calls and chases.

About the time of the excavation of the nest hole, the female may start displaying with the Wing-quiver as she follows closely behind the male. Accompanying this display is the Tee-ship-call. Every so often the male will approach her as she displays, and the birds will touch beaks. Actual feeding may or may not take place. This mate-feeding is very similar to parent-fledgling feeding, but that takes place later in the summer. Mate-feeding is a good indication of the pair's breeding stage.

Mating also takes place at about this time, but it is not commonly seen. During mating, the female and/or the male begin to Wing-quiver. The female crouches down, the male steps onto her back, and copulatory occurs.

Nest-Building

Placement: In the sides of partially rotted trees; 4-15 feet high
Size: Nest-hole entrance about 1 inch in diameter
Materials: Excavated into wood, lined with soft fibers

Chickadee nests are excavated in soft, partially rotted wood. Often birches are used, for the bark remains intact while the inner wood becomes soft with rot. The nests may be excavated in the side of a trunk or actually down the end of a broken-off limb. They are generally four to fifteen feet off the ground.

The birds have a marvelous habit of carrying the excavated wood chips away from the nest and dropping them from a perch nearby. Seeing the chips drop from their bills is a giveaway of the nest's location. The pair often work in close association, alternately carrying wood chips from the nest.

It is common that nests are started or even completed and then not used, so even if you find birds excavating a nest, be prepared to have them abandon it for a new site.

Locating the Nest

WHERE TO LOOK: In wooded areas in the suburbs or the country
WHEN TO LOOK: Nest excavation from April through June

BEHAVIORAL CLUES TO NEST LOCATION:

1. Follow a bird after it drops wood chips from a perch.
2. Small wood chips littering the ground mean the nest is nearby. (I locate at least a third of the nests I find this way.)
3. Be aware of territorial skirmishes and watch for excavation or feeding of young in that area.

Breeding

Eggs: 6
Incubation: 12 days, by the female only
Nesting phase: 16 days
Fledging phase: 1-2 weeks
Broods: 1-2

Egg-Laying and Incubation

During this stage the female is often fed by the male. He approaches the nest with food and gives the soft version of the Fee-bee-song. The female then leaves the nest and joins him. As she receives food, she Wing-quivers and gives the Teeship-call. Sometimes the female initiates this process by leaving the nest and calling the soft Fee-bee-song, and then if the male approaches she is fed by him; otherwise she feeds on her own. These feedings occur about once every half hour.

The eggs are laid one each day until the clutch is complete; the average clutch size is six eggs. The female does all the incubation, which lasts about twelve days.

Nesting Phase

The female broods the young for the first few days after they have hatched. The male continues to bring food to the nest, signaling with the soft Fee-bee-song each time he approaches. The female may still leave the nest and Wing-quiver in front of him, but he now gives the food to the young in the nest. When brooding time decreases, both parents join equally in bringing food to the young. The male continues to give the soft Fee-bee-song all through this phase, whereas the female is generally silent as she approaches the nest. The nestling phase lasts sixteen days before the young are able to leave the nest.

Fledging Phase

Once the young leave the nest, they start to give a distinctive call much like the call of the female when she receives food from the male. This is the Teeship-call. The young will be recognized by their use of this call and by their habit of following the parents. After about ten days the parents no longer feed the young and may even be aggressive toward them. The young disperse in the following few weeks and actively engage in skirmishes with each other that involve much calling, and often imperfect renditions of the Fee-bee-song.

Plumage

Black-Capped Chickadees go through one complete molt per year in July and August. The birds' appearance is not changed significantly by the molt.

As there are no marked differences in the plumage of the male and the female, behavior must be used to distinguish the sexes, and even this can be of help only in certain seasons. In spring the male gives the Fee-bee-call and feeds the female before and during incubation. Only the female incubates. During fall and most of winter, male and female behavior is very similar.

Seasonal Movement

From careful behavioral studies it is clear that many Chickadees remain on or near their breeding grounds throughout the year. The fact that Chickadees seem more plentiful in winter is often due to their habit of staying in small, fairly conspicuous flocks during that time.

But there is also evidence that some Chickadees migrate, for there are large rises in local populations during fall and spring. In much of this movement the birds may be drifting to new areas rather than undergoing real north-south migration, but then, banding reports also show significant north-south movement for some individuals.

Social Behavior

In late summer after the young have dispersed, Chickadees gather into small flocks that remain together until the start of the next breeding season. This pattern seems to be true for the majority of Chickadees but may not be the case with them all. A flock usually forms around a dominant pair that has just finished a successful brood. The flock contains six to ten birds, some juveniles, some paired adults, and some single adults. It

establishes a feeding territory which it defends against other neighboring flocks.

The flocks are easy to recognize, for they are small bands of birds moving slowly through the woods and continually giving the Tset-call to keep in aural contact. You may see some short chases between members of a flock. This is probably the result of one member's expression of its dominance over another, for the flock has a linear hierarchy, with the two members of the main pair each dominating all others of their respective sexes. These expressions of dominance are best seen in crowded feeding conditions, such as those around a backyard feeder. If you watch closely you will see certain birds approach immediately, while others will wait until the more dominant ones are through.

Chickadee flocks are often joined by other species as they move about their territory feeding. Throughout the flocking period (August through February), other species frequently seen with the Chickadees include Downy Woodpeckers, Tufted Titmice, Kinglets, Brown Creepers, and White-Breasted Nuthatches. These are called "mixed flocks."

During fall migration, the Chickadees are also joined by many species of Warblers. The Warblers migrate at night and land early in the morning to feed. At this time they all give soft contact-calls to stay together, but by midmorning most of them have joined resident Chickadees and become silent, relying on the contact-calls of Chickadees to keep them together. It may be that the migrating birds are taking advantage of the resident Chickadees' knowledge of feeding sites.

An interesting feature of flock movement is that when Chickadees cross an open space, they usually fly only one or two at a time. Because of this it is possible to count the number of birds in a given flock, and this may help you to distinguish one flock from another in a given area.

Feeder Behavior

Chickadees are likely to be the first and most regular visitors to any suburban or country feeder. Their favorite food is sunflower seeds, and they are also attracted to suet. They will continue to come to feeders through summer if they can find a suitable nest hole nearby. In winter, Chickadees generally stay in small flocks that are fixed in membership and that defend a territory. A feeder at the edge of two territories will be visited by both flocks, but when the flocks meet, there will be some scolding between members. Within each flock there is a hierarchy, and the most dominant birds usually feed first and at the best spots. A bird may express dominance by taking the perch of another bird or by giving a call, which makes the other bird fly off. Subordinate birds may wait until a dominant bird has left and then go feed. See the sections on Territory and Social Behavior.

Most common displays: Head-forward, Tee-dee-call, Chibeche-call, and Tseedefeechee-call all occur in close interactions and are usually given by the dominant bird. See the Display Guide.

Other behaviors: Once the breeding phase starts, winter flocks break up and you will have fewer Chickadees at your feeder. If one or two pairs remain in the area to breed, you may see the female do Wing-quiver as she is fed by the male in courtship, and later you may see the young do Wing-quiver as they are fed by the parents. See the sections on Courtship and Breeding (fledging Phase) and the Display Guide.