

ABOUT THE COVER: BAY-BREASTED WARBLER

For many birders, the spring migration is highlighted by the appearance of the Bay-breasted Warbler (*Dendroica castanea*). In spring the male is striking, with black face and chestnut crown, throat, and sides, set off by light buff on his belly and neck. Two white wing bars further highlight this gorgeous bird. The female lacks the black face and patches of dark chestnut, but has a flush of chestnut on her breast and flanks. By fall the birds have molted and joined flocks of other "confusing fall warblers." Bay-breasted Warblers resemble Blackpoll and Pine Warblers, but can be distinguished from the latter by their greener, striped backs, and from the former by darker legs and less streaking below. Most fall male Bay-breasted Warblers show a hint of chestnut on their flanks.

The species is monotypic with little geographic variation. Their breeding range extends across Canada from northeastern British Columbia to southern Newfoundland, wherever there are extensive forests of spruce and balsam fir. Bay-breasted Warblers are found in the United States in the Great Lakes region and in the east in New York State and northern New England. They are Neotropical migrants, wintering in Costa Rica, Panama, and northern South America.

They are late migrants, perhaps reflecting the late season on their northern breeding grounds, arriving in Massachusetts in peak numbers during the third week of May. The numbers reported vary substantially from year to year, a reflection, perhaps, of population fluctuations associated with food abundance during spruce budworm outbreaks. In fall Bay-breasted Warbler numbers peak during the last week of August and the first week of September.

The breeding biology of Bay-breasted Warblers is poorly known, but they are thought to be seasonally monogamous and usually produce a single brood. On the breeding grounds they are highly territorial and aggressive. They prefer boreal spruce-fir forests, but are also found in pine and hemlock forests and in swamps and bogs. The male does most of the singing, usually from a perch high in a tree. Their song is very high pitched and has been described as thin "squeaking" notes and sequences of *seetzy*, *seetzy*, *seetzy* or *see-atzee-atzee-atzee*, often with two-note syllables.

The nest is a rather unruly cup of twigs, bark strips, grass, and spiderwebs, built by the female and usually perched on a branch in dense spruce or fir. The usual clutch is five bluish- or greenish-white eggs, spotted brown. However, clutches average slightly larger during spruce budworm outbreaks. Incubation and brooding is done by the female, and eggs hatch in 12-13 days. Ten or eleven days later, the young are ready to leave the nest. Females will give distraction displays with wings fluttering when nests are approached. Both parents feed the young, and when food is abundant this warbler may consume prodigious

amounts. One estimate of spruce budworms eaten by Bay-breasted Warblers during an outbreak was nearly 5,500 per acre during a nesting season.

During the breeding season, Bay-breasted Warblers forage mostly by gleaning insects from foliage (mostly evergreen needles) and flowers, but sometimes they hawk or hover. They eat mostly insects and spiders in the boreal forests; on their tropical wintering grounds they consume mostly insects in wet season, shifting to mostly fruit during dry season. Although they are territorial and dispersed on the breeding grounds, they are often non-territorial on the wintering grounds when food is abundant, and join interspecific foraging flocks. These flocks often include other North American wood warblers and are led by Neotropical resident species such as antbirds and tanagers.

Bay-breasted Warblers are rarely parasitized by cowbirds, but their populations have probably been diminished by annual pesticide spraying of boreal forests to prevent Spruce Budworm outbreaks. Shortened forest-cutting cycles have further degraded their nesting habitat, and in general, anthropogenic factors are the major threat to this species. Mortality during migration from collisions with television and radio towers is becoming an increasing threat due to the proliferation of communication towers associated with cellular phones.

Many consider the Bay-breasted Warbler the most beautiful of our wood warblers, and we can hope that control of habitat destruction in both North America and in the forests of Latin America will ensure the continued presence of these magnificent birds to brighten our days during spring migration.

--William E. Davis, Jr.

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