

## *Setophaga ruticilla* (American Redstart)

Family: Parulidae (New World Warblers)

Order: Passeriformes (Perching Birds)

Class: Aves (Birds)



**Fig. 1.** American redstart, *Setophaga ruticilla*.

[[https://www.allaboutbirds.org/guide/American\\_Redstart/id](https://www.allaboutbirds.org/guide/American_Redstart/id), downloaded 6 November 2016]

**TRAITS.** The American redstart is an active warbler whose males can be distinguished by their coal-black colour with bright orange patches on the sides, wings and tail (Fig. 1). The female and immature males of this species are mostly grey with a more subtle yellow colouring. In both male and female the belly area is white. The American redstart is a relatively small bird of average length 11-14cm and wingspan of 16-23cm; the length is increased due to its relatively long tail. Male average weight is 8.6g in summer and 7.2g winter whilst females average 8.7g in summer and 6.9g in winter (Sherry and Holmes, 1997). The age and sex of the bird affects their colour and brightness. The orange-yellow areas on the bird are due to the effect of carotenoids; male redstarts have the red carotenoid called canthaxanthin as well as canary xanthophyll A and B (the yellow carotenoids) which combine to form the bright orange colour. The female redstarts possess only the yellow carotenoids hence their pale yellow colour.

**ECOLOGY.** The American redstart breeds in moist forested areas where shrubs are very abundant. Its habitat is usually situated in an area where there is a ready supply of water. The redstart prefers the interior woodland to construct their nests across Canada and North America. They can be found feeding on the lower to mid region of trees and shrubs. They spend winter in forest habitats in Florida, California and Central and South America and the Caribbean (Fig. 2). During this winter period they occupy a wide range of habitats which may include mangroves, wet forests, citrus plantations and isolated trees.

**COURTSHIP.** *Setophaga ruticilla* display three stages of courtship: pair-formation, pre-nest building, and nest building. Pair-formation occurs immediately after females land on the breeding grounds, the males chase them in flight for a short distance after which they perform a tail display and chirp high-pitched notes. After the pair has been established the male would show the female potential nest sites within his territory. The female would choose a site she is most comfortable with and then construct her nest.

**BREEDING.** American restarts breed in woodlands close to waterways, once per year from mid-May to late June. They lay approximately 2-5 eggs in a round concave nest built by the female, the eggs are incubated for 10-13 days by the female. The nest measures 5-8cm in width and depth to hold eggs that are approximately 1.6cm long and 1.2cm wide. The male shows the female potential nest sites during their early stages of courtship. Flight feathers develop approximately 9 days after hatching; however juveniles may stay with parents for up to three weeks. Most restarts are monogamous (one mate at a time) however there is a small minority that is polygynous (having more than one female mate at one time). Male redstarts are very territorial, with superior males occupying the best habitats. American redstarts live to approximately five years of age, however the oldest redstart recorded was 10 years old. This species is highly vulnerable to predation, especially during their first stage of life right after hatching. The helpless nestlings are preyed upon by squirrels, fox snakes, domestic cats, hawks and blue jays.

**FORAGING BEHAVIOUR.** The American redstart can be seen foraging between the top canopy of a tree and ground level. They would feed on prey mostly on leaves, twigs and branches. They feed mostly on caterpillars, beetles, wasps, spiders, moths and some small berries and fruits. American redstarts are known for fanning out their tails and drooping their wings, this allows them to display their bright yellow/orange colour. It is believed that this display of colour startles their prey which results in a successful catch. Overall, this species displays dietary flexibility which allows them to adapt to the insects easily available to them as prey; should insects be in short supply they thrive on berries.

**COMMUNICATION.** *Setophaga ruticilla* mostly use vocal and visual forms of communication. They use different sound types to communicate in different ways; a male would use one call to defend his territory whilst using another call to attract a mate. The redstarts are extremely territorial and so the male would use sounds and displays to defend his territory and the female would also use sound to defend the territory from other females. Repeated songs with accented endings are used by males to attract mates; after attracting a mate they switch to serial sound to defend their territories against neighboring birds (Ficken, 1962).

**APPLIED BIOLOGY.** *Steophaga ruticilla* are visitors to shade-grown coffee plantations in Central and South America during their migration period. During their visit to these fields they consume large amounts of crop pests resulting in a reduction of farmers' reliance on pesticides (Sherry and Holmes, 1997). According to the IUCN (2016) *Setophaga ruticilla* is of Least Concern. However some population data show that the species is on a slight decline and should be monitored closely. It is believed that this is a result of loss of wintering and breeding grounds, due to logging and conversion of rural to urban areas. The species also suffers from man-made structures; over four fall migratory periods two towers in Florida recorded over 1,600 American redstart deaths. Few efforts have been made to increase the redstart population, however in Jamaica farming practices such as shade-grown coffee provide habitats for the birds (Sherry and Holmes, 1997)

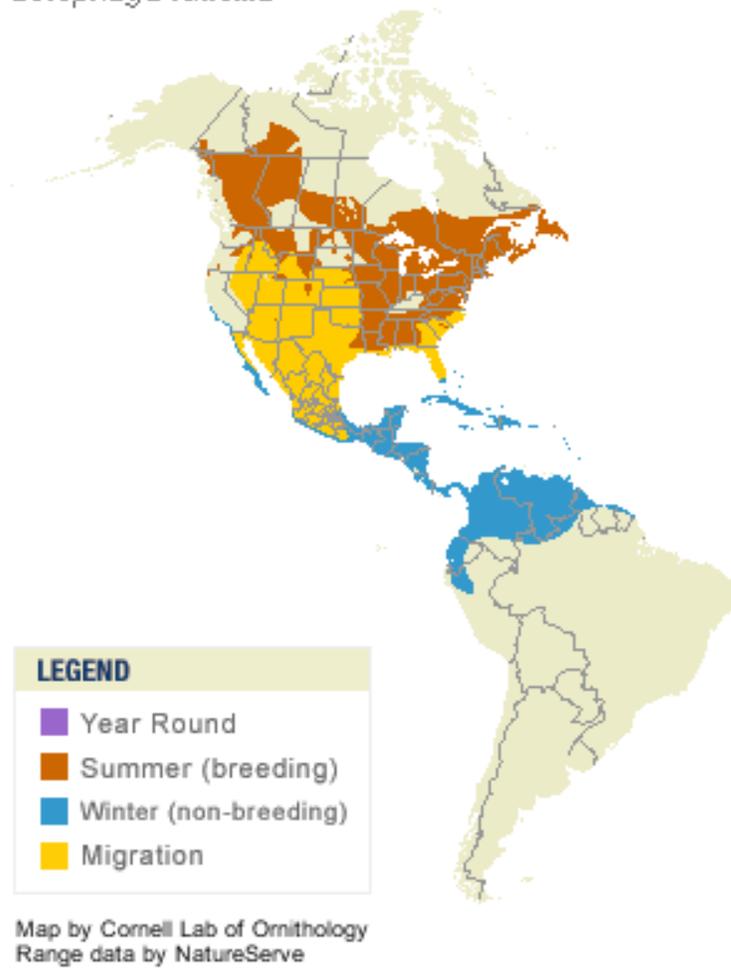
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*Setophaga ruticilla*



**Fig. 2.** American redstart geographic distribution.

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