

## RIBBON SNAKE

*Thamnophis sauritus*

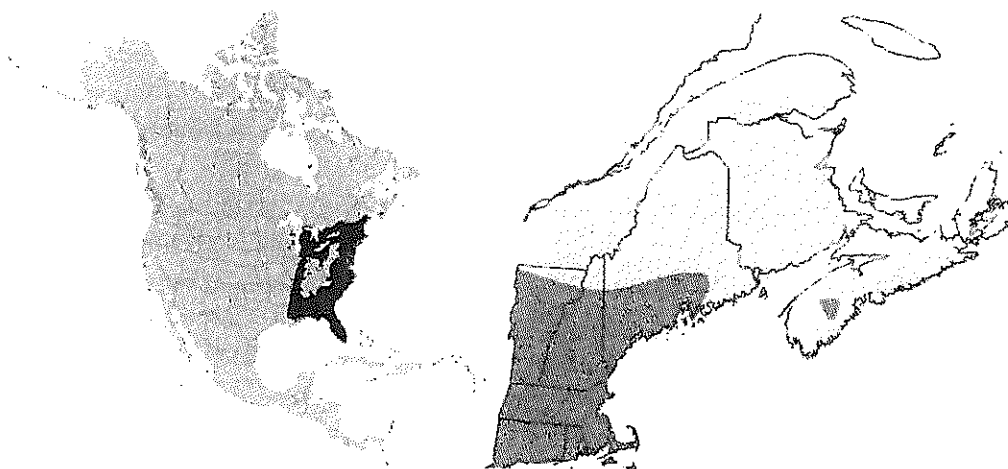
**R**ibbon snakes are sleek, boldly striped serpents that are equally at home roosting in shoreside shrubs or gliding swiftly across the water's surface. These agile semiaquatic creatures seldom are found far from dense cover, where they retire at the first sign of danger. In Maine they seem to be both elusive and rare. Garter snakes are quite similar in appearance, and this similarity may be part of the reason why so few reports exist for *T. sauritus*; observers may assume the snake they saw was just another garter snake, Maine's most common snake.

**DESCRIPTION:** Ribbon snakes are small thin snakes with longitudinally striped bodies. They are best distinguished from their close relative the garter snake by their long thin tails, which are about  $\frac{1}{3}$  of the total body length. Ribbon snakes also have 3 conspicuous yellow or buffy stripes. Some garter snakes may also have 3 stripes, but they usually contain alternating rows of dark brown or black blotches between the rows of stripes. In ribbon snakes the lateral striping occurs on scale rows 3 and 4 for the entire length of the body (Wright and Wright 1957). Garter snakes usually have stripes on scale rows 2 and 3, and may have stripes on their fourth row of scales, (Conant 1975). Ribbon snakes vary in size from 40 to 90 cm (16–35"), with the tail accounting for  $\frac{1}{3}$  or more of the total length (Wright and Wright 1957; Gilhen 1984).



**TAXONOMIC STATUS:** The eastern *T. s. sauritus* and northern *T. s. septentrionalis* ribbon snakes found in this region are part of a 4 subspecies complex, which also includes peninsula ribbon snakes (*T. s. sackeni*) and blue-striped ribbon snakes (*T. s. nitae*). Collectively they range from Nova Scotia (Gilhen 1984) to southern Florida (Conant 1975).

Eastern ribbon snakes can be confused with northern ribbon snakes, but the latter subspecies has a brownish-yellow dorsal stripe that contrasts with their greenish-yellow lateral stripes (Gilhen 1984). In the eastern ribbon snake the dorsal stripe and lateral stripes tend to be identically colored. In addition, northern ribbon snakes tend to be black or dark brown on the back, while eastern ribbon snakes are reddish-brown (Gilhen 1984). Northern ribbon snakes are usually slightly smaller than eastern and also have tails that are usually slightly less than  $\frac{1}{2}$  their total length (Conant 1975). Records gathered by MARAP were not sufficient for distinguishing the ranges of the 2 subspecies in Maine because most observers were not confident of their sub-specific identifications.



**DISTRIBUTION AND STATUS:** Southwestern and central Maine seems to be the northeastern extent of the ribbon snake's range except for a disjunct population in Nova Scotia. In Maine most records come from several York County towns. Ribbon snakes have been listed as a Species of Special Concern by the Maine Department of Inland Fisheries and Wildlife. Unless more populations are discovered in the future, they should be considered for designation as Endangered or Threatened.

**HABITAT:** Ribbon snakes prefer the edges of wetland habitats that contain bushes and abundant supplies of amphibians (Carpenter 1952). They have been reported from a diversity of wetland habitats including streams, ponds, lakes, swamps, marshes, and bogs (Wright and Wright 1957). In Maine, rib-

bon snakes have been observed along shores of lakes and ponds in herbaceous vegetation and scrubby swales.

Most sightings have been in wetlands found in coarse-grained glacio-marine deposits, often in outwash plain pond shores. These habitats are uncommon in Maine and are primarily restricted to portions of York and Cumberland Counties, although Washington County also contains some potential habitat. In 1996 an adult and 2 young of the year ribbon snakes were observed in a coastal plain pond shore dominated by an extensive herbaceous plot exposed during summer drawdown. Three-square sedge (*Dulichium arundinaceum*), a rush (*Juncus pelecarpus*), and grass-leaved goldenrod (*Euthania graminifolia*) were dominant in the drawdown.

Ribbon snakes swim readily along the surface of water when traveling or fleeing (Carpenter 1952, Scribner and Weatherhead 1995). Gilhen (1984) observed that northern ribbon snakes hid under water and among aquatic vegetation when they were approached by humans. Scribner and Weatherhead (1995) found that water snakes swam under water when fleeing more than ribbon snakes. They believe this behavioral adaptation may be due to habitat type preferences; water snakes use more open habitat than ribbon snakes. Carpenter (1952) reported that eastern ribbon snakes in Michigan hibernated in grassy pastures that were well-drained and contained clumps of sumac. He also reported ribbon snakes hibernating in an ant hill.

**REPRODUCTION:** Eastern ribbon snakes breed primarily in the spring and summer, although sometimes they will breed in the fall (Carpenter 1952). In Michigan, during June, July, and August, Carpenter (1952) found 65% of adult female eastern ribbon snakes to be gravid, and 22% of all females (juveniles plus adults) to be gravid. He reported an average litter size of 10 young, from 5 females. Ribbon snakes in southern Florida were found to be gravid in June and from August to October (Dalrymple et al. 1991). Ribbon snakes are viviparous and most young are born in mid- to late summer (Wright and Wright 1957). Northern ribbon snakes are believed to have reproductive strategies similar to eastern ribbon snakes. Minton (1972 cited in DeGraaf and Rudis 1986) reported that northern ribbon snakes probably breed in spring and fall and that young are born in July and August.

**DIET:** Ribbon snakes primarily eat amphibians (Carpenter 1952), although they will also eat insects, spiders, small mammals, and fish (Wright and Wright 1957). These snakes opportunistically feed on more abundant and easily captured metamorphosing amphibians (Carpenter 1952). In an in-depth ecological study conducted in Michigan, Carpenter (1952) reported

that amphibians formed 90% of the diet of ribbon snakes, with other identifiable food items consisting of fish and caterpillars.

#### INTERACTIONS WITH PEOPLE AND OTHER ANIMALS:

Specific information regarding predators of eastern ribbon snakes is not available. Predatory birds and mammals, particularly those species associated with wetlands, are probably the most common predators of ribbon snakes.

Activities that degrade water quality through pollution may affect ribbon snakes by decreasing the availability of prey items. In addition, the filling of wetlands removes available habitat for ribbon snakes. Automobiles may account for some mortality in Maine. In a study in southern Florida, where 29% of the individual snakes observed were ribbon snakes, 73% of the snakes seen on roads were either injured or dead (Bernardino and Dalrymple 1992).

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