

Southern Gray Treefrog, *Hyla chrysoscelis*

Status:

State: Endangered

Federal: Not listed

Identification

The southern gray treefrog is an arboreal amphibian equipped with large toe pads enabling it to cling to trees. Also known as Cope's gray treefrog, this species has a robust body, stubby limbs, and a short rounded head with large eyes. Ranging in pigment from dark gray, brown, and light gray to nearly white, these treefrogs can alter their coloration based on their activities or environmental conditions. Dark blotches that speckle the warty gray skin of the upperside



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resemble bark and help camouflage the treefrog when it is perched upon a trunk or branch. Although the underside is white, the inner thigh is brilliant orange or gold with black speckling, radiating a flash of color when the frog jumps that may startle potential predators. Gray treefrogs also have a white or yellow mark beneath each eye. The male has a dark throat while that of the female is white. The largest treefrog in the state, the southern gray measures 3.2 to 5.1 centimeters (1.25 to 2.0 inches) in length (Conant and Collins 1991).

In New Jersey, two species of gray treefrogs occur -- the northern (*Hyla versicolor*) and the southern (*H. chrysoscelis*). Nearly identical in appearance, these treefrogs can be differentiated only by vocal or chromosomal analysis. The call of the southern gray, a resounding trill, is faster and higher pitched than that of the northern gray treefrog.

Habitat

Southern gray treefrogs require both aquatic and terrestrial habitats, relying on small freshwater ponds, old fields, and hardwood forests throughout their annual cycle. Accepting both natural and man-made basins, they breed in vernal ponds, gravel pits, retention basins, floodplain corridors, bogs, weedy lakes, cattail (*Typha* spp.) or sedge (*Carex* spp.) marshes, and farm ponds. Breeding pools must contain water long enough to ensure metamorphosis but often dry up by the end of summer, thereby prohibiting the establishment of predatory fish.

Breeding ponds are located within or near deciduous or mixed woodlands such as climax oak/pine forests. Tree species found in the forest overstory at New Jersey southern gray treefrog locales may include scarlet oak (*Quercus coccinea*), willow oak (*Q. phellos*), white oak (*Q. alba*), scrub oak (*Q. ilicifolia*), blackjack oak (*Q. marilandica*), red maple (*Acer rubrum*), sweet gum (*Liquidambar styraciflua*), black gum (*Nyssa sylvatica*),

pitch pine (*Pinus rigida*), shortleaf pine (*P. echinata*), Virginia pine (*P. virginiana*), willow (*Salix spp.*), white cedar (*Chamaecyparis thyoides*), and American holly (*Ilex opaca*). Low shrubs and brushy wet thickets consisting of buttonbush (*Cephalanthus occidentalis*), huckleberry (*Gaylussacia spp.*), highbush blueberry (*Vaccinium corymbosum*), alder (*Alnus spp.*), inkberry (*Ilex glabra*), greenbrier (*Smilax spp.*), and cattail may comprise the understory. Ground cover may consist of sphagnum moss (*Sphagnum spp.*), star moss (*Mnium spp.*), club moss (*Lycopodium spp.*), sundew (*Drosera spp.*), and pitcher plant (*Sarracenia purpurea*), as well as various species of forbs and grasses.

Status and Conservation

Because of its limited distribution in the state and the destruction of its habitat, the southern gray treefrog was listed as an endangered species in New Jersey in 1979. The New Jersey Natural Heritage Program considers the southern gray treefrog to be “demonstrably secure globally,” yet “imperiled in New Jersey because of rarity” (Office of Natural Lands Management 1992).

Over the past 20 years, biologists have conducted research to determine the distribution, habitat use, and breeding ecology of the southern gray treefrog in New Jersey. Currently, efforts are being made to protect treefrog habitats on a comprehensive landscape level as well as on an individual wetland basis. Documented breeding ponds, as well as surrounding buffers of 150 to 300 feet, are protected under New Jersey land use regulations, including the Freshwater Wetlands Act and the Coastal Area Facilities Review Act (CAFRA).