Southern Sprite

Photo credits: *Steve Walter*

Scientific Name *Nehalennia integricollis* Calvert, 1913

Family Name Coenagrionidae Pond Damsels

Did you know?
Southern Sprites measure about an inch long and are one of the tiniest odonates in New York (Lam 2004).

Summary

Protection Species of Special Concern in New York State, not listed federally.

This level of state protection means: A native species at risk of becoming Threatened; does not qualify as Endangered or Threatened, but have been determined to require some measure of protection or attention to ensure that the species does not become threatened. NYSDEC may regulate the takin

Rarity G5, S1

A global rarity rank of G5 means: Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
A state rarity rank of S1 means: Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology makes it especially vulnerable in New York State.

Conservation Status in New York

In New York, there are at least five older records for *N. integricollis* in Suffolk county (Donnelly 1999), and two extant locations in Suffolk county (1995 and 2005) (New York Natural Heritage Program 2010). Despite increased survey efforts on Long Island in recent years for the New York Dragonfly and Damselfly Survey (2005-2009), one new location has been documented during those years.

Short-term Trends

No estimation of population size for this species has been made based on observations from 1995 and 2005 in Suffolk county (New York Natural Heritage 2010). There are observations made prior to this at five other locations in Suffolk county (Donnelly 1999), but information prior to the late 1990s is limited (Donnelly 2004). Therefore, any new location information on Southern Sprite in New York may reflect heightened interest in surveying for this species rather than a population increase or a range expansion (NYS DEC 2005).

Long-term Trends

Recent observations have been noted in Suffolk county in 1995 and 2005. Long-term information regarding population size is not available prior to the late 1990s (New York Natural Heritage Program 2010). Since observations are fairly recent, and the full extent and size of the populations have not been determined, long-term trends are unclear.

Conservation and Management

Threats

Any activity which might lead to water contamination or the alteration of natural hydrology could impact Southern Sprite populations (NYS DEC 2005). Such threats might include roadway and agricultural run-off, ditching and filling, eutrophication, changes in dissolved oxygen content, and development near their habitats (NYS DEC 2005). Groundwater withdrawal is a potential threat in lentic habitats, as are invasive plant species replacing native plants required for oviposition (New York Natural Heritage Program 2010). Both emergence rates and/or species ranges may shift for odonate species as a result of climate change (Kalkman *et al.* 2008).

Conservation Strategies and Management Practices

Any efforts to reduce roadway and agricultural run-off, eutrophication, development of upland borders and resulting increased groundwater withdrawal, and ditching and filling activities should be considered when managing for this species (NYS DEC 2005).

Research Needs

Further research is needed to define the distribution and population size of the Southern Sprite. In addition, research is required to understand the habitat requirements and threats to this species, and to create appropriate management guidelines for its persistence in known locations (NYS DEC 2005).

Habitat

In the northeast, Southern Sprites are found on the coastal plain at grassy ponds, lakes, marshes, and bogs (Lam 2004, Bangma & Barlow 2010). In New York, known habitats are coastal plain ponds on Long Island (New York Natural Heritage Program 2010).

Associated Ecological Communities

Coastal Plain Atlantic White Cedar Swamp
A swamp that occurs on organic soils along streams and in poorly drained depressions of the coastal plain. Atlantic white cedar makes up over 50% of the canopy cover. In mixed stands in New York, red maple is the codominant tree.

Coastal Plain Pond
The aquatic community of the permanently flooded portion of a coastal plain pond with seasonally, and annually fluctuating water levels. These are shallow, groundwater-fed ponds that occur in kettle-holes or shallow depressions in the outwash plains south of the terminal moraines of Long Island, and New England. A series of coastal plain ponds are often hydrologically connected, either by groundwater, or sometimes by surface flow in a small coastal plain stream.

Pine Barrens Shrub Swamp
A shrub-dominated wetland that occurs in shallow depressions in the coastal plain, often as the transition zone between a coastal plain pond shore and either pitch pine-scrub oak barrens or pitch pine-oak forest.

Associated Species

Lilypad Forktail (*Ischnura kellicotti*)
Blue Corporal (*Ladona deplanata*)

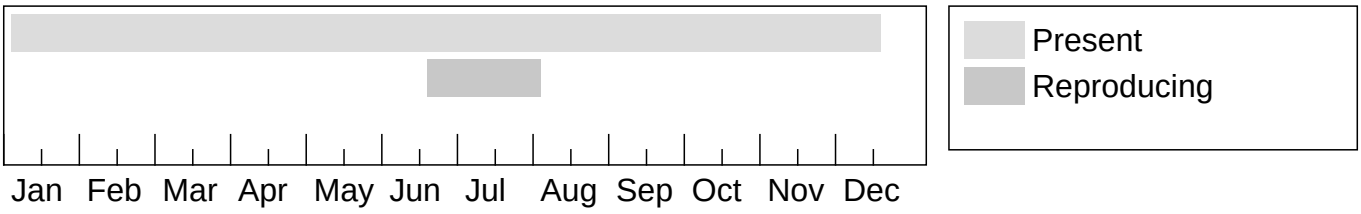
Identification Comments

Identifying Characteristics

Male Southern Sprites are metallic green on top of their thorax and a dark, iridescent green on the top of their abdomen. The exceptions are abdominal segments 9 and 10, which are mostly blue, with a dark, "fang-like" pattern on segment 9. They are 0.8-1 inch long and are the smallest sprites in the northeast, on average (Lam 2004). Females are also metallic green on top, with yellow or blue thoracic sides, and pale blue on the top of abdominal segment 10. The rear edge of the prothorax is smoothly rounded and lacks any lobes.

The Best Time to See

New York records indicate that the species may be observed on Long Island between June 27 and July 27 (Donnelly 1999, New York Natural Heritage Program 2010). In New Jersey, they have been documented from June 8 through August 11 (Bangma & Barlow 2010).



The time of year you would expect to find Southern Sprite in New York.

Similar Species

Sedge Sprite(Nehalennia irene): Abdominal segments 8 and 9 of the Sedge Sprite are mostly blue, while segment 8 is dark above in male Southern Sprites and segments 8 and 9 are dark above on the female. The female Sedge Sprite has three distinct lobes on the rear edge of the prothorax, while the female Southern Sprite has a smooth, rounded prothorax without lobes.

Sphagnum Sprite(Nehalennia gracilis): Abdominal segments 9 and 10 are blue, and 8 is blue with a dark base for male Sphagnum Sprites,while the female has segments 8-10 blue with 8 & 9 showing dark spots at the segment bases. In Southern Sprites,segment 8 is dark above and segments 8 and 9 are dark above on the female. Female Sphagnum Sprites have a rear edge of the prothorax with two wide lobes, while the female Southern Sprite has a smooth, rounded prothorax without lobes.

Taxonomy

Kingdom Animalia
└─ **Phylum** Mandibulates (Mandibulata)
  └─ **Class** Insects (Insecta)
    └─ **Order** Dragonflies and Damselflies (Odonata)
      └─ **Family** Coenagrionidae (Pond Damsels)

Additional Resources

Links

Google Images
http://images.google.com/images?q=NEHALENNIA+INTEGRICOLLIS

NatureServe Explorer
http://natureserve.org/explorer/servlet/NatureServe?searchName=NEHALENNIA+INTEGRICOLLIS

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