



Natural Heritage & Endangered Species Program

Massachusetts Division of Fisheries & Wildlife

Route 135, Westborough, MA 01581

tel: (508) 389-6360; fax: (508) 389-7891

www.nhesp.org

Sunderland Spring Planarian

Polycelis remota

State Status: **Endangered**

Federal Status: None

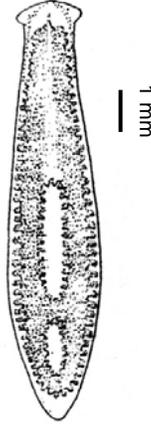
Description: The Sunderland Spring Planarian is a free-living, freshwater flatworm (Smith 2001). Like other freshwater flatworms, it is long and flat, but the Sunderland Spring Planarian can be distinguished by its several small eyes tightly arranged in an arc along the front end of its body. This species is uniformly pigmented on its back, ranging in color from light olive in smaller specimens to reddish brown in larger specimens. The underside is grayish-white in color. Mature specimens range from 10 to 17 mm in length (Smith 1988). Identification of flatworms is difficult because it requires knowledge of specific anatomical features of planaria.

Habitat: The Sunderland Spring Planarian is restricted to a cold spring in Sunderland, Massachusetts. This spring has water temperatures of 8.5 to 9.0 degrees Celsius throughout the year. The greatest concentration of this planarian can be found living in the spring, but some animals are found just downstream of the spring on the undersides of stones and cobbles.

Life History/Behavior: The life history and behavior are poorly known for this species. Like other free-living flatworms, the Sunderland Spring Planarian easily glides over the bottom substrate under water. Those specimens found downstream of the spring coexist with another flatworm *Phagocata morgani morgani* (D.G. Smith, personal communication 2003). Captive live specimens of the Sunderland Spring Planarian deposited cocoon-like structures, although copulation has not been studied for this species.

Threats: Pollution from development and gravel excavation operations near the spring site is a possible threat to this species. Any changes in water quality within the narrow habitat of this species could also pose a threat.

Range: The Sunderland Spring Planarian is known from only one location in western Massachusetts. There are other possible localities in the area that have not yet been explored (D.G. Smith, personal communication 2003).



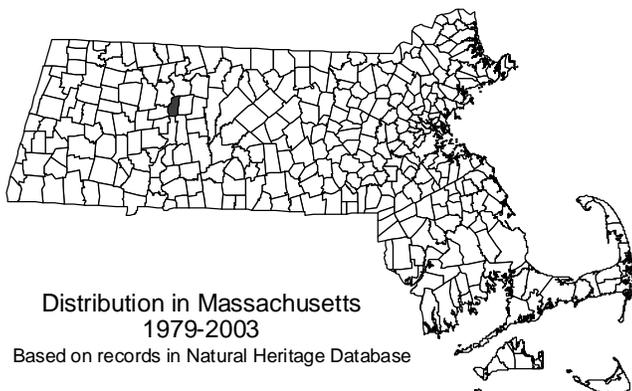
After Smith, D. G. 1988. A new, disjunct species of Triclad flatworm (*Turbellaria: Tricladida*) from a spring in southern New England. *Biol. Bull.* 175:246-252.

Population Status in Massachusetts: Little is known regarding the status of the Sunderland Spring Planarian. The population is known from only one site and continues to be found in the fall each year. It is listed under the Massachusetts Endangered Species Act as Endangered. All listed species are protected from killing, collecting, possessing, or sale and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. In addition, listed animals are specifically protected from activities that disrupt nesting, breeding, feeding, or migration. More information on the life history, distribution, and habitat requirements of this species would help in its preservation.

Similar Species: The Sunderland Spring Planarian is similar to many other flatworms. It can be distinguished from other Massachusetts flatworms by the several small eyes tightly arranged in an arc along the anterior region of the body. It occurs together with another flatworm, *Phagocata morgani morgani* that is whiter in color. Identification keys sufficiently illustrate the differences among the flatworms that are found in southern New England (Smith 2000).

References:

- Kawakatsu, M., and Mitchell, R.W. 1998. Redescription of a North American freshwater planarian, *Seidlia remota* (Smith 1988) with taxonomic notes on *Seidlia* and *Polycelis* species from the Far East and Central Asia (*Turbellaria, Seriata, Tricladida, Paludicola*). *Bull. Fuji Women's College* (36) Ser. II: 95-110.
- Smith, D. G. 2001. *Pennak's freshwater invertebrates of the United States: Porifera to Crustacea*. Wiley and Sons Inc. New York. 638 pp.
- Smith, D. G. 2000. *Keys to the freshwater macroinvertebrates of southern New England*. Published by author. Sunderland, MA. 243 pp.
- Smith, D. G. 1988. A new, disjunct species of Triclad flatworm (*Turbellaria: Tricladida*) from a spring in southern New England. *Biol. Bull.* 175: 246-252.



Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form as these donations comprise a significant portion of our operating budget.

Updated August 2008