First Record of the Sphagnum Sprite (*Nehalennia gracilis*) for Oklahoma

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During a short visit on 3 June 2014 to The Nature Conservancy’s Boehler Seeps and Sandhills Preserve in Atoka County, Oklahoma, we captured one of two male Sphagnum Sprites (*Nehalennia gracilis*, OC 422877) that we saw. Even though the species was new for Oklahoma, it was predicted to occur in the state by Greg W. Lasley, who urged us to check boggy beaver ponds in the southeastern corner of the state, so it was not surprising that we found the sprite at this preserve. Subsequent visits to the site in June by the lead author and Michael A. Patten confirmed suspicions that a breeding population was present (6 June, 8♂, 5♀ including 1 pair, OC 422884, Fig. 1; 13 June, 7♂, 1♀). On 20 July 2014 only one female was noted and no others were seen during the subsequent and final visit to the site for the season on 26 September 2014.

The Sphagnum Sprite is an eastern species that does not come terribly far inland from the eastern seaboard or south from the Great Lakes region. Until our find in Oklahoma there were three occurrences of the species known west of the Mississippi River—all disjunct populations, one each for Missouri, Texas, and Louisiana. The Missouri population was originally discovered in 1930 by E.B. Williamson, the same Williamson who was the first to document odonates in Oklahoma in 1907. In July 1930 he found a small population in Shannon County (Williamson, 1932), but the species was not seen again until it was rediscovered in the neighboring county of Dent, near Salem, in July 2009 (Walker *et al*., 2009). Like the Oklahoma population, the Dent County population was associated with *Argia bipunctulata* (Seepage Dancer). The Texas population was initially found on 13 May 2009 by Terry Hibbitts at the Angelina National Forest, Jasper County (OC 313263), but it went unreported and unidentified until Lasley and others visited the site in early to mid-June. On the first visit Lasley collected a ♂ specimen and identified it as *Nehalennia gracilis* (Lasley and Abbott, 2009; OC, UTIC, JCA) after which time Hibbitts realized he had photographed the species in May. The Louisiana population was discovered on 15 May 2011 in Rapides Parish by Steve Shively (OC 327981). On that day, Shively collected two ♀ specimens and saw several other adults. Other specimens were collected by Steve and Micah Shively on 18 and 22 May 2011.

In both Oklahoma and Texas, the Sphagnum Sprite has been found in forested areas with beaver ponds containing sphagnum. In Texas the edges of the ponds were described as “liberally covered” in sphagnum moss. Walker *et al.* (2009: 19–20) described the Missouri location as a “deep-muck fen”, also saying that “Unlike the typical habit [sic] of sphagnum bogs, *N. gracilis* was observed in the Dent County fen flying among the sedges and other forbs typical for fens in the Missouri Ozarks.” The U.S. Fish and Wildlife Service’s National Wetlands Inventory (USFWS NWI) classified the Missouri fen as a palustrine area with emergent vegetation and saturated soils (Walker *et al*., 2009). The Louisiana location was described by Steve Shively as a “shady, swampy area below beaver dams.” This locality is classified as a temporarily flooded palustrine area containing deciduous, broad-leaved trees (USFWS NWI).

Boehler Seeps and Sandhills Preserve is a 235-ha site that contains marshes, streams, sandhills, acidic hillside seeps, and two beaver-formed, shallow lakes (Clark, 2011), one of which, Boehler Lake, is where the sprites were found. Boehler Lake, classified as a semi-permanently flooded palustrine environment with broad-leaved deciduous scrub-shrub and persistent emergent vegetation (USFWS NWI), is found within the watershed of the Muddy Boggy and Clear Boggy Creeks and has a surface area...
of <3 ha (McKnight et al., 2012). The lake is open at its center but it has “dense stands of emergent and floating-leaved species” at its edges; the “dominant taxa include [narrowleaf southern cat-tail] Typha angustifolia, [yellow water lily] Nuphar lutea, and [fragrant water lily] Nymphaea odorata. Often quite abundant, free-floating species are [Carolina mosquito fern] Azolla caroliniana and [two-flowered bladderwort] Utricularia biflora (Clark, 2011: 5).” The sponginess one feels when walking in the lake is from the carpets of vegetation that are dominated by Lescur’s sphagnum (Sphagnum lescurii) and common haircap moss (Polytrichum commune) (Clark, 2011).

Visits to Boheler Seeps produced rather large numbers, for Oklahoma at least, of the Seepage Dancer (Argia bipunctulata; highest count was 50♂, 10♀, including 5 pairs, on 13 June) and Gray Petaltail (Tachopteryx thoreyi; 15♂, 13 June). Other species recorded were: Ebony Jewelfly (Calopteryx maculata), Azure Bluet (Enallagma aspersum), Fragile Forktail (Ichnura posita), Citrine Forktail (I. hastata), Cyrano Darner (Nasiaeschna pentacantha), Common Green Darner (Anax junius), Arrowhead Spiketail (Cordulegaster obliqua), Mocha Emerald (Somatochlora linearis), Common Whitetail (Platthemis lydia), Widow Skimmer (Libellula luctuosa), Yellow-sided Skimmer (L. flavida), Spangled Skimmer (L. cyanea), Slaty Skimmer (L. incesta), Great Blue Skimmer (L. vibrans), Golden-winged Skimmer (L. auripennis), Eastern Amberwing (Perithemis tenera), Eastern Pondhawk (Erythmecis simplicicollis), Band-winged Dragonlet (Erythrodiplax umbrata), Blue-faced Meadowhawk (Sympectrum ambiguum), Blue Dasher (Pachydiplax longipennis), Black Saddleglides (Tramea lacerata), and Wandering Glider (Pantala flavescens). The dancer and emerald were new to Atoka County, as was a species of special note for this preserve: the Regal Darner (Coryphaeschna ingens). Prior to 20 July 2014 (OC 424926), the Regal Darner was only known to occur in Oklahoma at and nearby Red Slough Wildlife Management Area, McCurtain County. All of these species taken together are a testament of the quality of habitat at Boheler Seeps.

Abbreviations

UTIC = University of Texas Insect Collection
JCA = John C. Abbott Collection

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Literature cited


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