

SECOND POPULATION OF *HEXASTYLIS ROSEI* (ARISTOLOCHIACEAE) DISCOVERED IN NORTH CAROLINA

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ABSTRACT

Recent field work has resulted in the discovery of a second population of the recently described *Hexastylis rosei*, apparently endemic to the Wilson Creek area of Caldwell Co., North Carolina. The newly discovered population is approximately 8.8 air kilometers southeast of the type locality.

In 1998, Mark Rose discovered a population of *Hexastylis* with unusual white sepal lobes, unassignable to any known species (Sinn 2017). The population occurs on a sloped road bank above Wilson Creek in Caldwell Co., North Carolina, near the Blue Ridge Escarpment. In 2017, using a broad concept of *Asarum*, Sinn described this species as *Asarum rosei* B.T. Sinn — it was transferred to the genus *Hexastylis* with the combination *Hexastylis rosei* (B.T.Sinn) Weakley & D.B. Poind. (Weakley et al. 2020). For this paper, I follow Weakley’s (2020) treatment of the genus in the Southeast. NatureServe (2021) and the North Carolina Natural Heritage Program (Robinson 2018) give *H. rosei* a rank of S1/G1 (Critically Imperiled). The presence of a second population is reported here, discovered by the author during survey work for the North Carolina Natural Heritage Program (NCNHP).

North Carolina. Caldwell Co.: Precise location information withheld due to the extreme global rarity of the species and potential collection pressure, 22 Jun 2020, Schaner (photos, Figs. 1–4).

Because of the rarity of species, no specimens were collected but the identity of the species is unambiguous given the vegetative and floral characters shown in Figures 1–3. The identification was confirmed during a return visit to the site by Wesley Knapp (NCNHP) and Gary Kaufmann (U.S. Forest Service) on 25 June 2020.

This second population of *Hexastylis rosei* occurs approximately 8.8 air km southeast of the type locality on a steep, north-northwest-facing slope above Wilson Creek in mature Canada Hemlock Forest (White Pine Subtype) (Schafale 2012) (Fig. 4). This community has been heavily impacted by Hemlock Woolly Adelgid (*Adelges tsugae* Annand.) and the canopy of *Tsuga canadensis* is now mostly standing dead trees. These canopy gaps have largely been filled by *Pinus strobus* with a smaller component of *Quercus alba* and *Acer rubrum*. The understory contains *Betula lenta*, *Halesia tetraptera*, and *Magnolia fraseri*. There is a moderate density of *Rhododendron maximum* and scattered *Clethra acuminata* in the shrub layer.

Within this community, *Hexastylis rosei* grows in the more mesic microsites and is often intermixed with *Galax urceolata*, which it superficially resembles in leaf morphology (Fig. 3, above), and the state-endangered *Hexastylis contracta* (Fig. 3, below). Other herb associates are *Chamaelirium luteum*, *Goodyera pubescens*, *Polystichum acrostichoides*, and *Viola blanda*. *Hexastylis rosei* grows densely at this site — 466 clumps were observed in an area of approximately 1.5 acres. Approximately 90% of plants observed at the time of visit were in flower, although the flowers were starting to deteriorate with age.

It seems likely that more populations of *Hexastylis rosei* exist in the Wilson Creek area. Effort should be made to search the area during the flowering period in late May–late June, focusing on steep, acidic slopes above Wilson Creek.



Figure 1. *Hexastylis rosei*, showing the deep basal sinus of the leaf and undulate leaf margins.



Figure 2. *Hexastylis rosei* flower, showing white trichomes covering sepal lobes.



Figure 3. *Hexastylis rosei* at the second population locality. Above: intermixed with *Galax urceolata*. Below: adjacent to North Carolina state-endangered *Hexastylis contracta*.



Figure 4. Habitat of *Hexastylis rosei* at the second population locality — a steep, acidic slope in Canada Hemlock Forest (White Pine Subtype).

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