

NEW ENGLAND NOTE

*AMPHICARPUM PURSHII* (POACEAE), A GENUS AND SPECIES NEW TO NEW ENGLAND

BRUCE A. SORRIE AND PETER W. DUNWIDDIE

The annual peanut-grass *Amphicarpum purshii* Kunth is one of two species in the genus, both inhabiting the Atlantic Coastal Plain of North America. These species occupy seasonally wet or inundated pine savannas, flatwoods, exposed pond bottoms, depressions in pine barrens, cranberry bog margins, spoil banks, and the like. *Amphicarpum purshii* ranges from southeastern Georgia to the New Jersey pine barrens where it reaches its northern limit in Ocean County.

We wish here to report a major range extension to Nantucket Island, Nantucket County, Massachusetts. On 5 October 1988, the authors botanized several areas in the eastern part of the island, including a large area south of Sesachacha Pond recently acquired by the Massachusetts Audubon Society. In two kettle-hole pondlets, locally known as the Pine Knoll Ponds, populations of *Amphicarpum purshii* were found. Both pondlets were nearly dry, due to the below-average rainfall period extending since 1985. The populations occupied very small portions of the available habitat, at the ecotone between the more densely vegetated, shallowly sloping, exposed "shore" of the pondlets and the less densely vegetated, nearly flat bottom. Associates were *Agrostis scabra* Willd., *Calamagrostis canadensis* (Michx.) Nutt., *Eleocharis obtusa* (Willd.) Schultes, *E. olivacea* Torr., *E. smallii* Britt., *Fimbristylis autumnalis* (L.) R.&S., *Rhynchospora capitellata* (Michx.) Vahl, *Xyris difformis* Chapm., *Juncus canadensis* J. Gay, *J. pelocarpus* Mey., *Lycopus amplexans* Raf., *Gratiola aurea* Muhl., *Utricularia subulata* L., and *Euthamia tenuifolia* (Pursh) Nutt. There was no sign of the state endangered *Sabatia campanulata*, originally found here in 1899 and rediscovered in 1986, but the variable ecology of these groundwater wetlands makes species inventory a long-term affair. BAS had visited these ponds on at least three occasions back to 1980 without encountering *Sabatia* or *Amphicarpum*.

The distance from Nantucket Island to Ocean County, New Jersey, is about 400 km (240 mi.) and represents one of the most



striking of the New England disjuncts. Nearly all of the Coastal Plain species which inhabit New England also have been documented from Long Island, New York, notable exceptions being *Eleocharis microcarpa* Torr., *Scirpus etuberculatus* (Steud.) Kuntze, *Sabatia kennedyana* Fern., and *Sclerolepis uniflora* (Walt.) BSP.

On Nantucket, *Amphicarpum* plants were all less than 30 cm (one foot) tall, but distinct due to the long-exsert, strict inflorescence and ascending, two-ranked, hispid leaves. On collecting specimens, we noted that most plants possessed a small bud-like growth at the end of one to a few stoloniferous branches. These, of course, are the fertile subterranean spikelets which give the plant its generic and vernacular names. Dissection of several aerial spikelets yielded a viscous substance but no mature grains, indicating that they were not viable. Recently Cheplick and Quinn (1988) have shown that aerial fertile spikelets may be produced abundantly following fires and that such aerial seeds may have a higher rate of germination than subterranean ones. With the nearly complete lack of major disturbance factors such as fire and grazing, now extending for many decades (Dunwiddie, 1989), the Nantucket *Amphicarpum* populations have no doubt been forced to reproduce solely via cleistogamy. What effect, if any, this restriction has had on the species' gene pool and its ability to adapt at the northern limit of its range is unknown.

Apart from *Trichomanes* gametophytes discovered in 1976 in Massachusetts (McAlpin & Farrar, 1978), *Amphicarpum* is the first new genus of native vascular plants to be discovered in New England since *Collinsia* (1935, Vermont), *Valerianella* (1933, Connecticut), and *Sclerolepis* (1905, New Hampshire). This information was determined from specimens at NEBC, from Mehrhoff (1983), and from discussions with Les Mehrhoff (Connecticut) and Liz Thompson (Vermont).

Specimens of *Amphicarpum purshii* (Sorrie & Dunwiddie 4495) have been deposited at GH, NEBC, and MASS.

#### LITERATURE CITED

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B. A. S.

NATURAL HERITAGE AND ENDANGERED  
SPECIES PROGRAM

MASSACHUSETTS DIVISION OF FISHERIES  
AND WILDLIFE

100 CAMBRIDGE ST.

BOSTON, MA 02202

P. W. D.

MASSACHUSETTS AUDUBON SOCIETY

HUMMOCK POND ROAD

NANTUCKET, MA 02554



Sorrie, Bruce A. and Dunwiddie, Peter W. 1990. "AMPHICARPUM-PURSHII (POACEAE), A GENUS AND SPECIES NEW TO NEW-ENGLAND." *Rhodora* 92, 105–107.

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