

“TARGET FOR EXTINCTION: THE BUNCHED ARROWHEAD”

by Susan H. Young

The bulldozers are gone now. The little bend on the Enoree River is silent, its trees and vegetation scraped from its loamy soil. Where once the woodland animals and deer had bedded down by little seeps, now the bare clay lies baking. Clear seep wetlands in this area of Greenville and Spartanburg counties hold amazing unique treasures such as the bunched arrowhead, one of the world's rarest plants. (Placed on the Endangered Species List back in 1979.) And yet development and sprawl just bulldoze through these sensitive habitats, destroying them before the Conservation Bank could even purchase and preserve them. Dr. Gillian Newberry, curator of the USCS Herbarium, is disgusted by the lack of planning and awareness. “The bunched arrowhead now occurs naturally only within five square miles of Travelers Rest (and Furman.) It grows in clear creek drainage systems of the Enoree and Tyger Rivers. It needs clay-based drainage from the hills, moving down to an organic “sponge.” These wetlands help to maintain a constant flow of water in the drainage system. During droughts, water drains from these organic sponges increasing the river's flow. (This “stabilizer” action benefits us, too.) Degradation factors include nearby development and drainage ponds. Areas around Lake Cunningham have the habitat, but no longer have these plants,” she explains.



Mankind causes roadblocks in its distribution, too. The seeds have a reticulate surface that gloms onto deers' feet (and other animals) when they bed down in these seeps. Once the seep is disrupted (by people), nearby fences and roads stop the successful pattern. Seeps are actually transitory, moving very slowly upstream. “We've lost the dynamics,” states Dr. Newberry. “Reinoculation (animals moving seeds to other seeps) is important for the plant's survival.” Massive environmental disruption has been

the pattern in South Carolina. Planning for rare species has been “too little, too late.”

Only a few intact populations of bunched arrowhead are still struggling to exist. They used to live in piedmont springhead seepage forests, according to the Rayner and Porcher book. The best sites are near Travelers Rest, on coveted lands near riverbanks (Reedy, Enoree and Tyger.) These forests begin at seepages below hillsides. Year-round, slow-moving, cool groundwater slowly percolates out from pacolet sandy loam soils. Good examples of this community's diversity include cinnamon fern, Solomon's seal, running cedar, and partridge berry. More rare denizens might include the dwarf-flower heartleaf and the climbing fern. Putty-root orchid and pipsissewa dot the upslopes. Small green wood-orchids grace the seep's edges. The remaining seepage forests are threatened by non-point-source (NPS) pollution, upslope disturbance (bulldozers), and lack of conservation planning/easements. There is a bright spot: in 2001, the Reedy River Task Force stated that it planned to preserve four rare, threatened or endangered plant species: the piedmont ragwort, wild goldenrod, bunched arrowhead, and sweet pinesap. Dr. Dave

Hargett, a soil scientist, wrote that report. And a new note: Upstate Forever, a local conservation group, has just received a large grant to open a Spartanburg county office.

Two protected areas harbor populations of the bunched arrowhead: an SCDNR site, and Furman University. Both locations are perilously close to development and roads that could disrupt their flow and pollute them.

Bunched Arrowhead Heritage Preserve was purchased with the assistance of Nature Conservancy funds. Near Travelers Rest, the SCDNR manages it as a Heritage Trust Program site. They use small prescribed burns and bushhogging, and have placed many nest boxes for owls, bats, bluebirds, etc. The preserve is a great birdwatching locale, according to Harry Davis, president of the Greenville County Bird Club. Winter birds include fox sparrows, kinglets, and great blue herons. Summer residents include the tanager, common yellowthroat, woodpeckers, field sparrows, blue grosbeaks, and quail. Other standouts include indigo buntings, flycatchers, vireos and chats. When the rare plant blooms in May, a little wasp pollinates it. Kestrels and hawks soar above the open areas. This amazing diversity on 160 acres is supported by the upland slopes ecotones and the forested seeps. "This preserve represents the best chance for the bunched arrowhead's long-term survival. People don't realize that these unimportant-looking little wet places harbor some of the rarest creatures on Earth. These little seeps are so endemic. They are vulnerable. Please visit them carefully and gently," says Mary Bunch, their SCDNR manager.

Furman University's site was discovered by their botanist in the 1950's. Leland Rodgers was surveying the north end of the (future) Furman Lake and discovered a plant he couldn't identify. When he took a specimen to Duke, visiting botanist E.O. Beal identified it as the bunched arrowhead, already considered one of the world's rarest plants. Privately-owned Furman has an agreement with the SCDNR to protect and preserve its tiny colony. The little side path winds along near the Meditation Garden. A new observation deck overlooks the seepage stream. (Funded by the SC Governors and the National Wildlife Federation.) SCDNR signs caution that it's a protected site. The low-



key approach in the isolated area hopefully insures that it won't be overrun with visitors. Nearby, joggers and walkers trot across an arched stone bridge, most never knowing that little rare plants are peeking out of the mucky seeps just upstream. Biology professor Travis Perry says, "This deck will be an educational tool, raising awareness about the plant's existence here. The bunched arrowhead has educational and intrinsic value. We do not have the power to replace it, so we have a moral obligation to preserve it."

For more info: www.scwf.org, www.uscs.edu/academic/colla&s/herbarium/rare.htm, the Rayner and Porcher book, A Guide to the Wildflowers of South Carolina. www.furman.edu, www.endangered.fws.gov, www.dnr.state.sc.us (the Heritage Trust Program.)