

Bay Boneset: A New and Very Rare Plant from the Carolinas

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A distinctive new *Eupatorium* (thoroughwort, boneset, eupatorium) species has been found growing in Carolina bays and similar wet depressions in North and South Carolina. Called bay boneset (*Eupatorium paludicola*), it has been identified from eight sites in the Carolina Coastal Plain. Botanist Richard Porcher of The Citadel was the first to notice that this eupatorium was different, while visiting a bay near Kingsburg, SC, with Patrick McMillan of Clemson University in 1998. The description of the new species was published in August 2007.¹ Specimens have been deposited in various herbaria, including the UNC Herbarium.

The species name, *paludicola*, is Latin for “a dweller in marshes.” Bay boneset favors isolated wet depressions with fluctuating water levels, and several of the sites are clay-based Carolina bays with perched water tables. The habitats are typically flooded in winter and spring, and sometimes well into summer. These conditions favor wildflowers, grasses, and sedges that are able to take advantage of an often short growing season, and discourage most shrubs and trees. However, pond cypress (*Taxodium ascendens*) has created an open canopy at some of these sites. Other inhabitants include the very rare awned meadow-beauty (*Rhexia aristosa*), Boykin’s lobelia (*Lobelia boykinii*), and Hirst’s witch grass (*Dichanthelium hirstii*).

What immediately sets bay boneset apart from other eupatoriums are its leaves: they are narrow (only 2–4.5 mm wide) and point upwards. The new species is now known to occur at five sites in North Carolina (Hoke, Onslow, and Scotland counties); at two sites in South Carolina (Barnwell and Florence counties); and at one additional site shared by both states (Scotland Co., NC, and Marlboro Co., SC).

To say a “distinctive” eupatorium has been found should be cause for relief. Expert as well as amateur botanists have agonized over the identity of individual eupatorium plants, and it is more than a little ironic that some members of the genus have been used to treat headaches! The genus is named for Mithridates VI Eupator (132–63 BCE), a king of the Black Sea region who reputedly developed a universal antidote, “Antidotum Mithridaticum,” composed of about three dozen botanicals.

Incidentally, Mithridates Eupator married his sister, Laodice—which leads me to the complicated sex life of the plant genus named in his honor. . . .

Twenty-six species of eupatoriums are known from North Carolina. Distinctions between species often involve sets of overlapping characters, and promiscuous sexual conduct adds to the difficulty. The genus is known for exuberant reproductive behavior, including plants with doubled, tripled, or more chromosomes, plants that reproduce asexually, plants that produce ephemeral or stable hybrids, and plants that backcross between hybrids, parents, and derivatives thereof. Next stop, Jerry Springer!

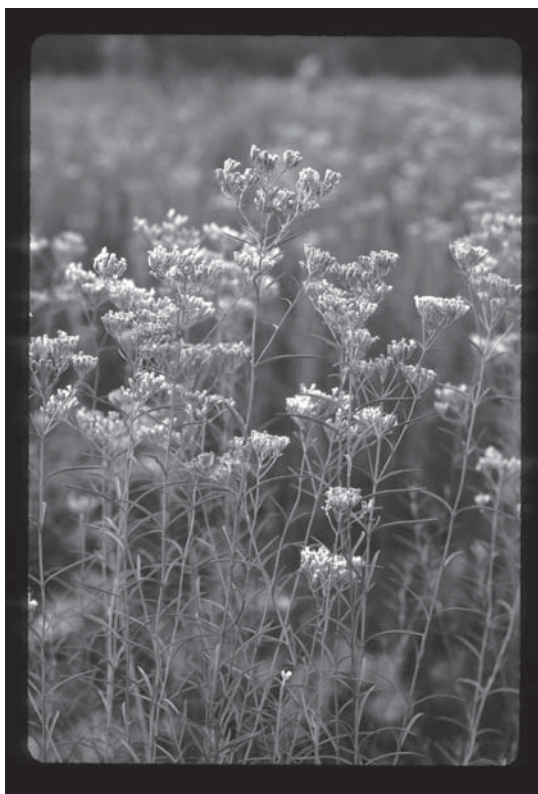
Bay boneset is no stranger to these antics. Molecular studies by Edward Schilling² have determined not only that the newly described plant is a distinct species, but that it also is very likely a parent of another very rare eupatorium, New England boneset, a species known from 15 sites in coastal Massachusetts and Rhode Island. The other parent of this plant is believed to be common boneset (*E. perfoliatum*).

Ominously, bay boneset and Mohr’s eupatorium (*E. mohrii*) have been producing a hybrid in the Carolinas. At some sites, the hybrid has far outnumbered bay boneset during recent surveys, and there is concern that the new species could be assimilated through hybridization at these sites.

On a more positive note, at least four of the known sites where bay boneset grows are protected from development on public land or in private preserves. Next time you are enjoying the flora of a Carolina Bay in mid-summer, take a minute to enjoy the bonesets, and to ponder the genetic gymnastics that are taking place!

References

1. LeBlond, R.J., E.E. Schilling, R.D. Porcher, B.A. Sorrie, J.F. Townsend, P.D. McMillan, and A.S. Weakley. 2007. *Eupatorium paludicola*, sp. nov. (Asteraceae): A new species from the coastal plain of North and South Carolina. *Rhodora* 109(938): 137-44.
2. Schilling, E.E., R.J. LeBlond, B.A. Sorrie, and A.S. Weakley. 2007. Relationships of the New England Boneset, *Eupatorium novae-angliae* (Asteraceae). *Rhodora* 109(938): 145-60.



New species, Bay Boneset, in Scotland County, NC.
Photo by Bruce Sorrie.