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# Discovery of a Second Record of Seaside Heliotrope (*Heliotropium curassavicum* L.) (Boraginaceae) in Arkansas

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*Heliotropium curassavicum* L. (seaside heliotrope; Fig. 1) is a small, succulent, prostrate to decumbent, annual or short-lived perennial from a rhizomatous rootstalk. It is generally found in alkaline or highly saline soils (often in coastal areas) under both dry and wet conditions – and is often weedy (Godfrey and Wooten 1981, Correll and Correll 1975). It is generally considered native to the New World from the southern United States through Central America and the West Indies and into South America (Correll and Johnston 1970). However, it also is naturalized in other areas of the world, including Australia (possibly also native there) and Europe (Correll and Correll 1975, Hussey et al. 1997). The fruits and seeds of *H. curassavicum* possess a thick-layered, vesicular exocarp, which apparently acts as a float-organ in water dissemination of the seeds (Correll and Correll 1975). Three varieties of *H. curassavicum* occur in the continental US: (1) var. *curassavicum*, (2) var. *obovatum* DC, and (3) var. *oculatum* (Heller) Johnston (Correll and Correll 1975). Only variety *curassavicum* is currently documented in Arkansas (Arkansas Vascular Flora Committee 2006). Prior to the discovery in 2007 reported here from Clark County, the only previous record of *H. curassavicum* from Arkansas was from Drew County in southeastern Arkansas (UARK, D. M. Moore 4023). Varieties *obovatum* and *oculatum* differ from variety *curassavicum* in their larger, often purple-tinged corollas and wider leaves, whereas the corollas of *H. curassavicum* var. *curassavicum* are white and 1.5 to 3 mm in diameter, and the leaves are 8 mm or less wide (Correll and Correll 1975).

A population of these plants was discovered on a sandy bar in Saline Bayou, Clark County, Arkansas adjacent to the old salt-making works that had been used by the Caddo Indians for several hundred years before European settlers began a salt factory there (Rose 1952). The salt-processing site was populated by few plants other than scattered individuals of *H. curassavicum*. A salt-work pool at the site, near which grew several individual plants of *H. curassavicum*, had a salinity of about 1.8% (freshwater from other local creeks had less than 0.3% salinity), and crusts of salt were apparent on rocks and sand in the immediate area. Individual plants of the heliotrope did not occur upstream of the salt-work site (where salinity also was much lower), and the *H. curassavicum* population did not extend beyond 100 m downstream of the salt-works site, as salinity of the water decreased downstream.

We also sampled the other plants that grew in association with the heliotrope within the small segment of Saline Bayou on 22 October 2006, 30 March 2007, and 9 August 2007. Specimens representing 1 non-vascular and 73 vascular plant

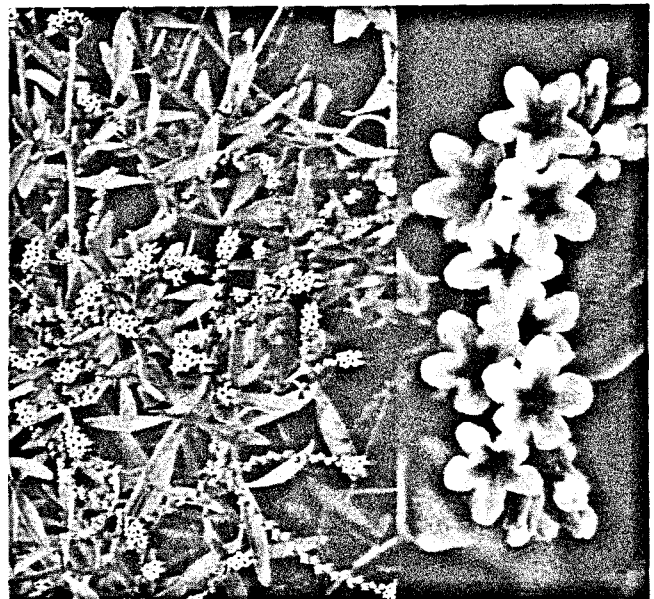


Fig. 1. Seaside heliotrope (*H. curassavicum* var. *curassavicum*) plant (left) and details of inflorescence (right) at Saline Bayou, Clark County, Arkansas.

species distributed over 42 families were collected (Appendix).

Specimens of *H. curassavicum* as well as vouchers for the associated taxa from Saline Bayou have been deposited in the Henderson State University Herbarium (HEND, Serviss 7095).

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Appendix. List of plant species collected from Saline Bayou on 22 October 2006 and 30 March 2007. Species that are not native to Arkansas are indicated with an asterisk (\*). Voucher specimens have been deposited at Henderson State University (HEND). Nomenclature follows that of Arkansas Vascular Flora Committee (2006).

## Acanthaceae

*Dicliptera brachiata* (Pursh) Spreng. (dicliptera)  
*Justicia americana* (L.) Vahl (water willow)

## Aceraceae

*Acer saccharinum* L. (silver maple)

## Alismataceae

*Echinodorus cordifolius* (L.) Griseb. (creeping burhead)

## Apiaceae

*Hydrocotyle umbellata* L. (water pennywort)

## Aquifoliaceae

*Ilex decidua* Walter (deciduous holly)

## Asteraceae

*Baccharis halimifolia* L. (saltbush)  
*Boltonia diffusa* Elliot (smallhead doll's daisy)  
*Conoclinium coelestinum* (L.) DC. (mist flower)  
*Eclipta prostrata* (L.) L. (false daisy)  
*Eupatorium serotinum* Michx. (late boneset)  
*Iva annua* L. (marsh elder)  
*Mikania scandens* (L.) C. Willd. (climbing hempweed)  
*Packera glabella* (Poir.) Jeffrey = *Senecio glabellus* Poir. (cressleaf groundsel)  
*Pluchea odorata* (L.) Cass. (sweetscent)  
*Symphotrichum lateriflorum* (L.) Á. Löve and D. Löve = *Aster lateriflorus* (L.) Britt. (white woodland aster)  
*Symphotrichum subulatum* (Michx.) G. L. Nesom = *Aster subulatus* Michx. (annual saltmarsh aster)

## Boraginaceae

*Heliotropium curassavicum* L. var. *curassavicum* (seaside heliotrope)  
*Heliotropium indicum* L. (Indian heliotrope)

## Brassicaceae

*Cardamine pennsylvanica* Muhl. ex Willd. (Pennsylvania bitter cress)

## Campanulaceae

*Lobelia cardinalis* L. (cardinal flower)

## Caprifoliaceae

\**Lonicera japonica* Thunb. (Japanese honeysuckle)

## Celtidaceae

*Celtis laevigata* Willd. (sugarberry)

## Commelinaceae

*Commelina diffusa* Burm. F. (spreading dayflower)  
*Commelina virginica* L. (Virginia dayflower)

## Convolvulaceae

*Ipomoea lacunosa* L. (whitestar morning glory)

## Cyperaceae

*Carex* sp.  
*Cyperus erythrorhizos* Muhl. (redroot flatsedge)  
*Rhynchospora macrostachya* Torr. ex A. Gray (beakrush)

## Dryopteridaceae

*Onoclea sensibilis* L. (sensitive fern)

## Euphorbiaceae

*Acalypha rhomboidea* Raf. (rhombic copperleaf)  
*Chamaesyce humistrata* (Engelm. ex A. Gray) Small (prostrate spurge)

## Fabaceae

\**Aeschynomene indica* L. (Indian jointvetch)  
*Gleditsia triacanthos* L. (honey locust)

## Hydrophyllaceae

*Hydrolea uniflora* Raf. (blue waterleaf)

## Juglandaceae

*Carya aquatica* (F. Michx.) Nutt. (water hickory)

## Lamiaceae

*Lycopus* sp. (water horehound)

## Lythraceae

*Ammania coccinea* Rottb. (toothcup)

## Malvaceae

*Hibiscus laevis* All. (rose mallow)  
*Hibiscus moscheutos* L. (rose mallow)

## Nyssaceae

*Nyssa aquatica* L. (tupelo)

## Oleaceae

*Fraxinus pennsylvanica* Marshall (green ash)

## Onagraceae

*Ludwigia decurrens* Walter (winged seedbox)  
*Ludwigia palustris* (L.) Elliot (water purslane)

## Poaceae

*Chasmanthium latifolium* (Michx.) H. O. Yates (river oats)  
 \**Cynodon dactylon* (L.) Pers. (bermudagrass)  
*Echinochloa walteri* (Pursh) A. Heller (coast barnyard grass)  
*Elymus virginicus* L. (Virginia wildrye)  
*Leersia oryzoides* (L.) Sw. (rice cutgrass)  
*Panicum gymnocarpon* Elliott (savannah panicum)  
*Panicum rigidulum* Bosc ex Nees (redtop panicum)  
*Paspalum repens* P. J. Bergius (water paspalum)

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*Sphenopholis obtusata* (Michx.) Scribn. (prairie wedgescale)  
*Zizaniopsis miliacea* (Michx.) Döll and Asch. (southern wild rice)  
 Polygonaceae  
*Brunnichia ovata* (Walter) Shinnery (buckwheat vine)  
*Persicaria punctata* (Elliott) Small = *Polygonum punctatum* Elliott (water smartweed)  
 Primulaceae  
*Samolus valerandi* L. (water pimpernel)  
 Ranunculaceae  
*Ranunculus hispidus* Michx. var. *nitidus* (Chapm.) T. Duncan (swamp buttercup)  
 Rosaceae  
*Rubus trivialis* Michx. (southern dewberry)  
 Rubiaceae  
*Cephalanthus occidentalis* L. (buttonbush)  
 Salicaceae  
*Salix nigra* Marshall (black willow)  
 Saururaceae  
*Saururus cernuus* L. (lizard's tail)

Scrophulariaceae  
*Bacopa rotundifolia* (Michx.) Wettst. (water hyssop)  
*Lindernia dubia* (L.) Pennell (false pimpernel)  
*Mimulus alatus* Aiton (monkey flower)  
 Smilacaceae  
*Smilax bona-nox* L. (greenbrier)  
 Solanaceae  
*Physalis angulata* L. (cutleaf groundcherry)  
 Sphenocleaceae  
 \**Sphenoclea zeylanica* Gaertn. (chicken spike)  
 Ulmaceae  
*Planera aquatica* J. F. Gmel. (water elm)  
 Urticaceae  
*Boehmeria cylindrica* (L.) Sw. (false nettle)  
*Pilea pumila* (L.) A. Gray (clearweed)  
 Verbenaceae  
*Phyla lanceolata* (Michx.) Greene (frog fruit)  
 Violaceae  
*Viola sororia* Willd. (wood violet)  
 Vitaceae  
*Ampelopsis arborea* (L.) Koehne (pepper vine)