

## *Bartonia paniculata* (Michx.) Muhl.

Screw-stem



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**Family:** Gentianaceae

**Synonyms:** *Centaurella paniculata* Michx.

**Description:** Annual, stems up to 4 dm tall often erect or sometimes scrambling or almost twining; flowers 4-merous with yellowish petals.

**Flowering:** August to October

**Fruiting:** Late August to October (rarely into November)

**Similar Species:** This species is very similar to the more frequent *Bartonia virginica* but differs in leaves mostly alternate, not opposite and the petals are lanceolate compared to oblong.

**Total Range: USA:** AL, AR, CT, DC, DE, FL, GA, IL, IN, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, WI; **CAN:** NB, NF, NS, ON.



**Ohio Range:** Clermont County

**Ohio Status:** [www.ohiodnr.com/dnap](http://www.ohiodnr.com/dnap)

**Habitats:** Acidic seepage meadows.

**Threats:** Changes in hydrology, overshadowing by trees and shrubs, invasive species and disturbances from all-terrain vehicles.

**Conservation Potential:** The only known sites are located on state lands. Original site at East Fork State Park is a large viable population. It can endure moderate disturbances as the East Fork site had been modified for agricultural practices.

**Inventory Guidelines:** Collect flowering and/or fruiting plants. Species cannot be determined from photos.

**Comments:** *Bartonia paniculata* is generally segregated into two varieties or subspecies. Ohio plants are the typical subspecies. Recent research by Mathews et al. (2009) suggests including *B. texana* as a subspecies of *B. paniculata*.

*Bartonia paniculata* was discovered in 2003 at East Fork State Park, growing in a wet, acidic meadow. This population is in the thousands of plants covering several acres (Gardner et al. 2005). It grows typically on sphagnum hummocks with the following associates: *Aronia arbutifolia*, *Lygodium palmatum*, *Osmunda regalis*, *Scirpus cyperinus*, *Spiraea tomentosa*, and *Woodwardia aerolata*. Another site was found in 2004 in a wet, open area with *Onoclea sensibilis*, *Juniperus virginiana*, and *Acer rubrum*.

*Bartonia paniculata* grows in wet areas typically in peaty soils or sphagnum moss. It can flower into October and fruit as late as November (Hill 2003). The species has a similar seed dispersal strategy to orchids producing 100s of tiny seeds that are dispersed by wind and water. *Bartonia paniculata* appears to have some association with mycorrhizal fungi for nourishment (Nilsson and Skvarla 1969).

The Ohio sites occur in the Illinois tillplain region of southwestern Ohio. This species may be more frequent in this region than currently known. Limited surveys have been conducted for this species to date. It should be sought in wet, open flats in Brown and Clermont counties especially.

#### **Selected References:**

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### **Ohio Natural Heritage Program**

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Last Updated: March/2009