

THE DISCOVERY OF *HYDROCOTYLE BOWLESIOIDES* (ARALIACEAE) IN TEXAS (U.S.A.) PRESENTED AS A LANDSCAPE WEED

Matthew P. Shipp

Shipp Research, LLC
Montgomery, Texas 77316, U.S.A.
matt@shippresearch.com

Joe Carrion

A-Perm-O-Green Lawn of the Quad Cities, Inc.
Conroe, Texas 77301, U.S.A.

ABSTRACT

We document the first reported identification of *Hydrocotyle bowlesioides* Mathias & Constance (Araliaceae) in Texas. Chronicled presence in nearby Louisiana within the past ten years lends itself to migration of this species to similar moist, shady habitats of southeastern Texas.

RESUMEN

Documentamos la primera identificación informada de *Hydrocotyle bowlesioides* Mathias & Constance (Araliaceae) en Texas. Su presencia se ha encontrado cerca en Louisiana en los últimos diez años, y ahora la migración de esta especie continúa hacia los hábitats húmedos y sombreados similares del sureste de Texas.

INTRODUCTION

Hydrocotyle bowlesioides Mathias & Constance (Araliaceae) has been located and documented for southeastern Texas in Montgomery and Walker counties in the cities of Conroe and Huntsville (Figs. 1–4).

In October 2020, the primary author was consulted to assist a local lawn care service, of which the secondary author is Field Manager, in the identification and subsequent control strategy of what appeared to be a new invasive weed species. The plant was growing in both consumer lawns and landscape beds occupying exclusively damp, shady areas coexisting with St. Augustinegrass (*Stenotaphrum secundatum* (Walt.) O. Ktze.) as well as other shade tolerant ornamentals (Figs. 1, 2). Similar in growth to that of ground covers, these plants tolerated frequent mowing of less than 5 cm within the turf sward.

Multiple specimens were collected from four different consumer lawns spanning some 60 km. In several instances, this creeping perennial, rooting at the nodes (Fig. 3), formed dense, carpet-like mats (Fig. 1). Reproduction was observed by rhizomatous spread as well as seed production. Similarities to *Hydrocotyle umbellata* L., another plant of this genus known to occupy the landscape, were noticed with respect to leaf shape and decumbent stems, although *H. umbellata* has peltate leaves (Diggs et. al 1999), and leaf margins were shallowly 5–7-lobed in *H. bowlesioides* (Ecroyd 2007). Furthermore, differences exist regarding dense pubescence as seen on the stems and both abaxial and adaxial leaf surfaces of *H. bowlesioides* (Ecroyd 2007). Mericarp fruits (Fig. 5) are ellipsoidal with raised ribs and slightly granular (Ecroyd 2007). The taproot is fleshy and swollen. (Ecroyd 2007; Konstantinova & Yembaturova 2010).

Voucher specimens (Figs. 2, 4): **TEXAS. Montgomery Co.:** 11 Stony Creek Drive, Conroe, growing on the north side of a house under semi-shady, moist conditions, 30°14'59"N, 95°32'41"W, elev. 200 ft, 23 Oct 2020, Shipp s.n. (BRIT); **Walker Co.:** 213 Evergreen Drive, Huntsville, growing in a flower bed using a nearby shrub as a trellis, 30°40'34"N, 95°31'42"W, elev. 400 ft, 23 Oct 2020, Shipp s.n. (BRIT).

The native range of the species is Central America, specifically Costa Rica and Panama. However, it has been logged as a non-native species in New Zealand, Honduras, Paraguay, Brazil, and Argentina (Ecroyd 2007) as well as several U.S. states, including Alabama, Florida, Georgia, Hawaii, Louisiana, North Carolina, and South Carolina (Anderson 1983, 2007; Thornhill & Krings 2012; Krings et al. 2017). The method of dissemination to the Gulf Coast states is unknown but hypothesized to include dispersal by tropical cyclonic storms. Further movement from lawn to lawn via mowing equipment and the transport of propagules cannot be rejected. Partial selective chemical control within the lawn aligns with that of *H. umbellata* and includes sequential applications of phenoxyalkane and sulfonylurea herbicides (J. Carrion, pers. comm., September 15, 2020). As yet, no viable organic options for selective removal are commercially available.



FIG. 1. **Top.** *Hydrocotyle bowlesioides* as a lawn weed, 11 Stony Creek Dr., Conroe, Texas 77384 (Montgomery Co.) 30°14'59"N, 95°32'41"W, 200 ft elev., 23 Oct 2020. **Bottom.** Fig. 2. *Hydrocotyle bowlesioides* growing in a flower bed using a nearby shrub as a trellis, 213 Evergreen Dr., Huntsville, Texas 77340 (Walker Co.) 30°40'34"N, 95°31'42"W, 400 ft elev., 23 Oct 2020.

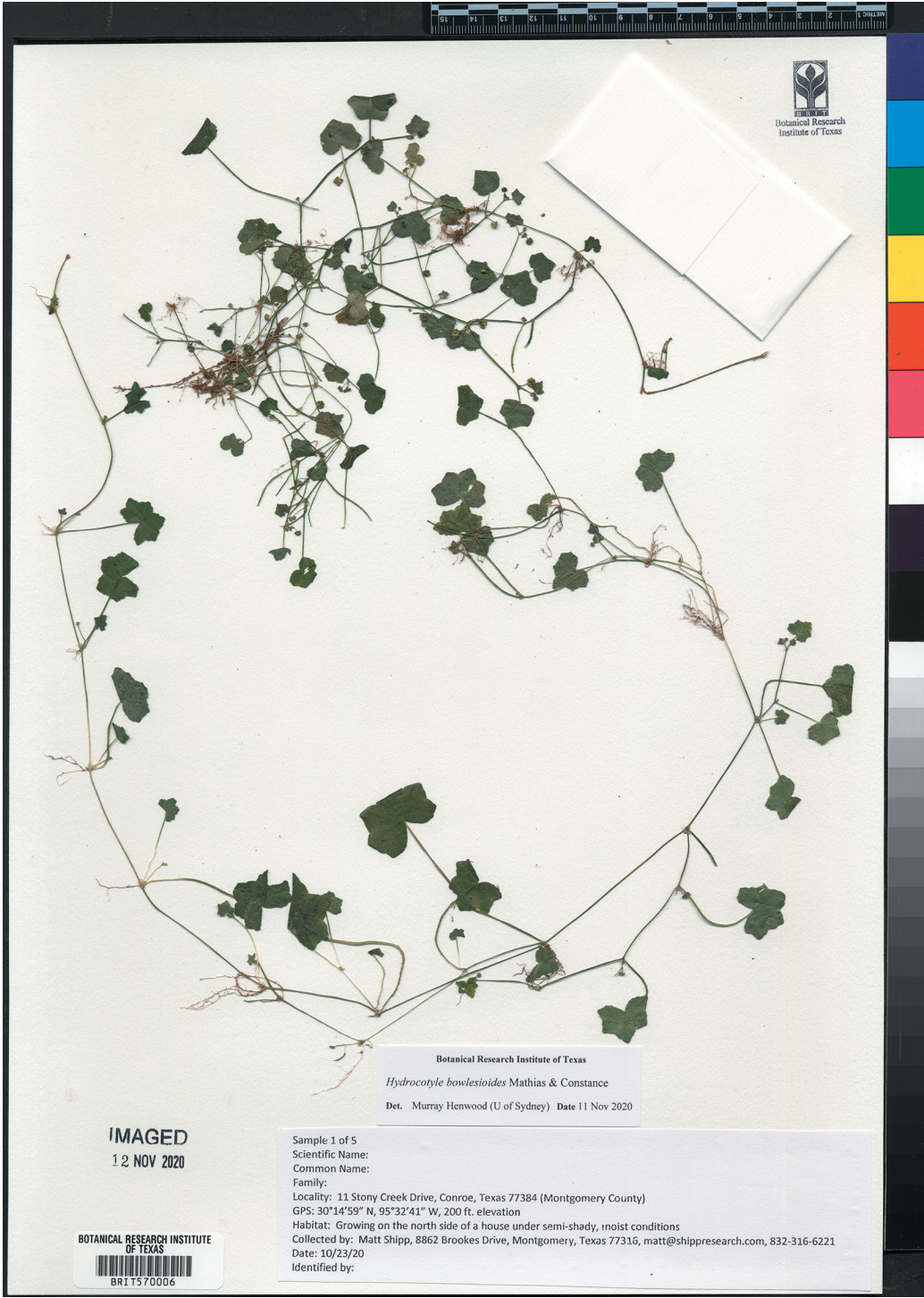


Fig. 3. Voucher specimen of *Hydrocotyle bowlesioides* from Montgomery Co., Texas (Shipp s.n., BRIT).

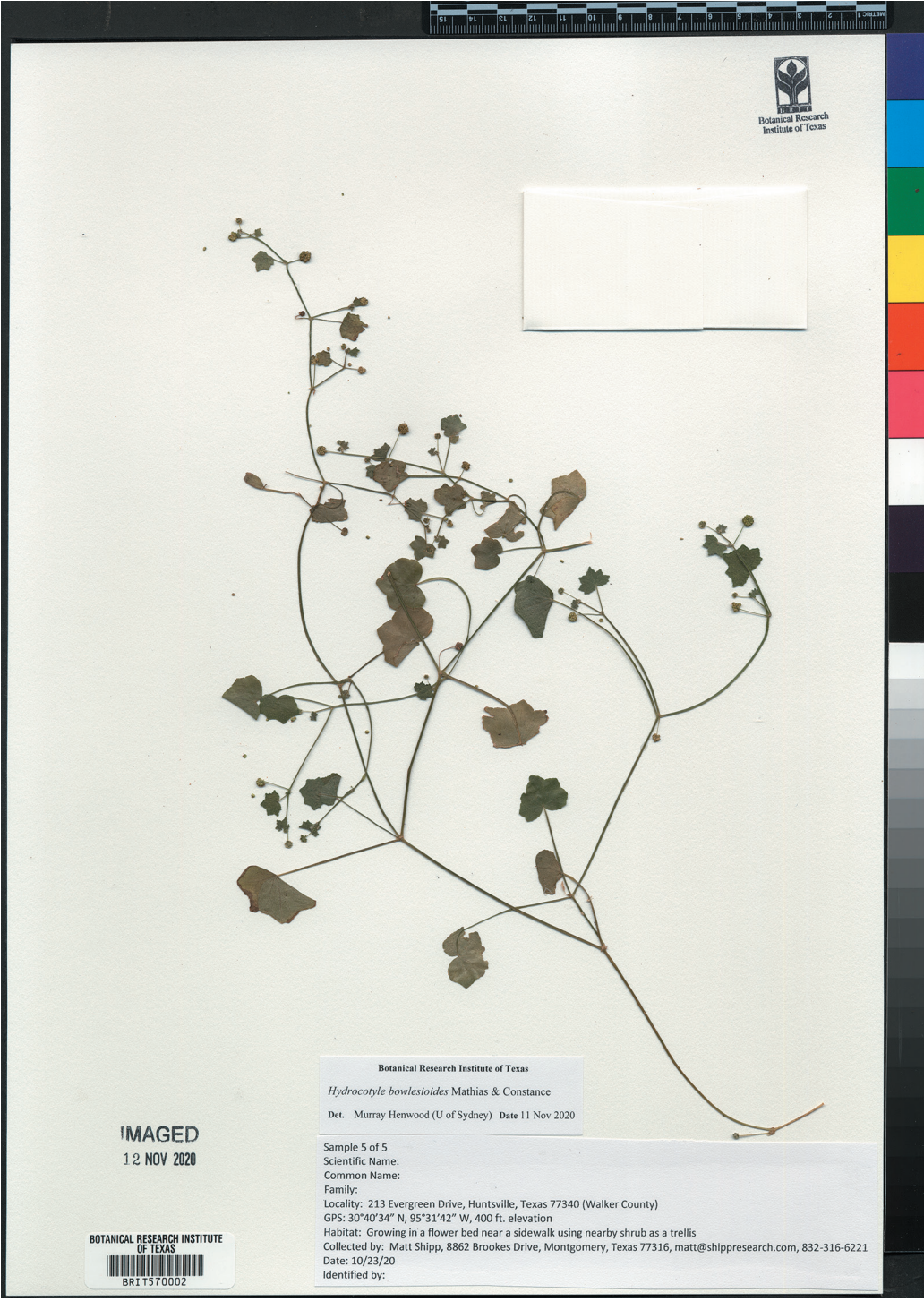


FIG. 4. Voucher specimen of *Hydrocotyle bowlesioides* from Walker Co., Texas (Shipp s.n., BRIT).



FIG. 5. Photo of *Hydrocotyle bowlesioides* fruit, Walker Co. specimen (Shipp s.n., BRIT). Ruler marks = 1 mm.

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