

HYGROPHILA POLYSPERMA (ROXB.) T. ANDERS.

Acanthaceae/Water-Willow Family

- Common Name:** Hygro, East Indian hygrophila, Miramar weed
Synonymy: *Justicia polysperma* Roxb., *Hemidelphis polysperma* (Roxb.) Nees in Wall.
Origin: India, Malaysia

Botanical Description: Perennial aquatic herb with squarish stems ascending to creeping, mostly submersed, usually rooted in substrate; also roots freely at floating nodes. Leaves opposite, to 8 cm (3 in) long (aerial leaves smaller) and to 2 cm (0.8 in) wide, usually broader toward tip; sessile, with bases joined at node by ciliated flanges of tissue, the cilia (hairs) easily observed, to 1.5 mm long. Flowers small, solitary in uppermost leaf axils, nearly hidden by leaves, calyx 5-lobed, corolla bluish white, 2-lipped; 2 fertile stamens. Fruit a narrow capsule, splitting lengthwise to release tiny round seeds.

NOTE: May be confused vegetatively with small, opposite-leaved natives sometimes found submersed, such as *Ludwigia repens* and *Diodia* spp., but these without flanges at nodes (*Ludwigia*) or with flat-bristled flanges (*Diodia*). The native marsh species, *Hygrophila lacustris* (Schlecht. & Cham.) Nees is larger (aerial leaves to 15 cm long) and erect in habit, with larger flowers in axillary clusters along upper stems.

Ecological Significance: Appeared in the aquarium trade in 1945 as “oriental ludwigia” (Innes 1947). First collected in Florida near Tampa as an escapee from cultivation in 1965, but naturalized populations on east coast, especially one near the town of Miramar in Broward County, first brought to public and scientific attention in the late 1970s (Vandiver 1980, Les and Wunderlin 1981). Reported as an expanding problem in south Florida canals in 1980 (Vandiver); now replacing the well-known hydrilla as the most serious weed in these waterways (Sutton 1995), clogging irrigation and flood-control systems and interfering with navigation (Woolfe 1995). Able to compete with hydrilla (Vandiver 1980, Les and Wunderlin 1981); able to expand a population rapidly, in one case from 0.04 ha (0.1 acre) to over 0.41 ha (10 acres) in 1 year (Vandiver 1980). Difficult to control (Schmitz 1985). Found in a dozen public lakes and rivers by 1990 (Schardt and Schmitz 1991), and in 18 public water bodies by 1994 (Schardt 1997).



Stem rooting at nodes

Distribution: Native to East Indies. Naturalized in Florida from Dade and Lee counties north into the Panhandle (Wunderlin *et al.* 1995, Schardt 1997). Also naturalized in Texas (Angerstein and Lemke 1994), and reported for the Richmond, Virginia area (Reams 1953).

Life History: Stems brittle, easily fragmenting, easily developing new stands from rooted nodes of even small fragments (Les and Wunderlin 1981). Able to form dense monocultural stands with emerged stem tips from depths as great as 3 m (10 ft) or more (Hall and Vandiver 1990). Able to photosynthesize in lower light than most native submersed species (Spencer and Bowes 1984). Tends to grow more vigorously in flowing water (Van Dijk *et al.* 1986). Flowers in fall and winter, with a high percentage of seed set in Florida populations (Les and Wunderlin 1981).

KAL



In canal, Indian River County

DS



Flower