

Candidate for TDA Noxious and Invasive Plant List

Presented to the Texas Invasive Species Coordinating Committee



GOLDEN BAMBOO

Phyllostachys aurea

Damon Waitt, PhD
Senior Director and Botanist
Lady Bird Johnson Wildflower Center
at the University of Texas at Austin

Phyllostachys aurea

Golden Bamboo



DESCRIPTION

- Perennial, 16 to 40 feet in height, with jointed cane stems and bushy tops of lanceolate leaves in fan clusters on grasslike stems, often golden green.
- A bamboo plant consists of two parts: the aboveground jointed stem called a culm, and the underground jointed rhizome which bears true roots.
- Stems are divided into inflated internodes; budding takes place at nodes.
- Spikelets are solitary with 8 to 12 flowers, but are rarely seen (maybe once every 7 to 12 years).



Phyllostachys aurea

Golden Bamboo



ECOLOGICAL THREAT

- Infestations of bamboo displace native vegetation, alter habitat, and upset food chains.
- For streams, bamboo leaf litter alters stream food webs starting with litter-feeding stream invertebrates.
- It is also known to attract roaches in urban areas.



Phyllostachys aurea

Golden Bamboo



BIOLOGY & SPREAD

- Native to Asia. Introduced in Alabama in 1882 as an ornamental.
- Infestations are commonly found around old homesites and can rapidly expand in size.
- Fast growing and will quickly spread via underground rhizomes...despite containment efforts.
- Continues to be introduced as a fenceline buffer in residential and urban areas. Widely planted as ornamentals and for fishing poles.



TEXASINVASIVES.ORGHELLO INVASIVE SPECIES.
GOODBYE TEXAS.

INVASIVES 101

TAKE ACTION

CITIZEN SCIENTISTS

PROFESSIONALS

RESOURCES

**INVASIVES
DATABASE**

GO



PROFESSIONALS

WELCOME PROFESSIONALS

TIPPC

STATE CONFERENCE

ABSTRACT DATABASE

CONTROL & MANAGEMENT

INVASIVE PLANT INVENTORY

[Return to List](#) | [Printer Friendly Version](#)

PHYLLOSTACHYS AUREA - GOLDEN BAMBOO

View record in [Invasive Plant database](#).Download Assessment: [PDF](#).

SUMMARY

RATING	ALERT	IMPACT	INVASIVENESS	DISTRIBUTION	DOC.
High	N	A	B	A	2.76

Comments:

Rating

- 1 = High
- 2 = Moderate
- 3 = Limited
- 4 = Evaluated, not listed

Alert

- Y = Yes
- N = No

Scores

- A = Severe
- B = Moderate
- C = Limited
- D = None
- U = Unknown

Documentation

- 4 = Reviewed scientific publications
- 3 = Other published material
- 2 = Observational
- 1 = Anecdotal
- 0 = No information

KEEP INFORMEDSign up for the iWire to get
breaking news, events and

The Texas Invasive Plant Inventory



Section 1. Ecological Impact – A (Severe)

1.1 Impact on abiotic ecosystem – C (Limited)

Golden bamboo leaf litter can alter stream food web structure by reducing forage for litter-feeding macroinvertebrates.

1.2 Impact on native plant community composition, structure, and interactions – A (Severe)

Creates a monoculture in secondary forest greatly reducing biodiversity of native plants. Stands can dominate up to 100% by this species.

1.3 Impact on higher trophic levels, including vertebrates and invertebrates – A (Severe)

In Central TX bamboo is invading into the endangered golden-cheeked warbler habitat, and in East TX it invades in potential habitat for the Red Cockaded Woodpecker. In general it creates a monoculture and reduces the biodiversity of food sources, nesting sites, and foraging sites.

1.4 Impact on genetic integrity of native species (i.e. potential for hybridization) – D (None)

There are no known accounts of hybridization with native flora.

The Texas Invasive Plant Inventory



Section 2. Invasive Potential – 16 (B) Moderate

2.1 Ability to establish without anthropogenic or natural disturbance – A (Severe)

Bamboo infestations increase with disturbance, and usually start from a point source introduction. But can quickly invade from point of introduction into undisturbed forests.

2.2 Local rate of spread with no management – A (Severe)

With no management stands can more than double every 10 years.

2.3 Recent trend in total area infested within state – U (Unknown)

Golden bamboo is spreading rapidly from point source introductions and is being used often in new places as a landscape screening. Citizen scientists have recorded in in several new counties, but the infestation could have very well been there. It could very well be doubling in total area infested every 10 years, but not enough evidence to support this claim.

The Texas Invasive Plant Inventory



Section 2. Invasive Potential – 16 (B) Moderate

2.4 Innate reproductive potential (based on multiple characteristics) – A (Severe)

- **Worksheet A**

- Reaches reproductive maturity in 2 years or less 1
- Dense infestations produce >1,000 viable seed per square meter 0
- Populations of this species produce seeds every year. 0
- Seed production sustained over 3 or more months within a population annually 0
- Seeds remain viable in soil for three or more years 0
- Viable seed produced with *both* self-pollination and cross-pollination 1
- Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes 1
- Fragments easily and fragments can become established elsewhere 2
- Resprouts readily when cut, grazed, or burned 1
- Total 6

- **High Reproductive potential (6 or more points)**

- **Note any related traits:** A single golden bamboo clump can produce up to 9.3 miles (15 km) of stems in its lifetime.

The Texas Invasive Plant Inventory



Section 2. Invasive Potential – 16 (B) Moderate

2.5 Potential for human-caused dispersal – A (Severe)

Golden bamboo is promoted and commonly sold throughout Texas and the US. Fragments can also be spread through yard waste.

2.6 Potential for natural long-distance (>1 km) dispersal – C (Limited)

In Texas, golden bamboo primarily spreads through division and transplant of rhizomes. Golden bamboo is capable of reproducing by seed, though it rarely comes to flower in the U.S. Once established vegetative growth spreads laterally; however, this is generally in close proximity to the point of introduction.

2.7 Other regions invaded worldwide that are similar to Texas – A (Severe)

In China, golden bamboo grows in deciduous and coniferous forests, which are common habitats in the Eastern Texas, but have already been invaded. Although rare in southwestern Louisiana, golden bamboo is reported in prairies and pine woodlands, which have not been invaded in Texas. On the Cumberland Island National Seashore in Camden County, Georgia, golden bamboo is spreading vegetatively from roadsides into hammock/pine-oak (*Pinus-Quercus*) forests. In South Carolina, golden bamboo occurs in Coastal Plain, which is similar to our coastal prairies.

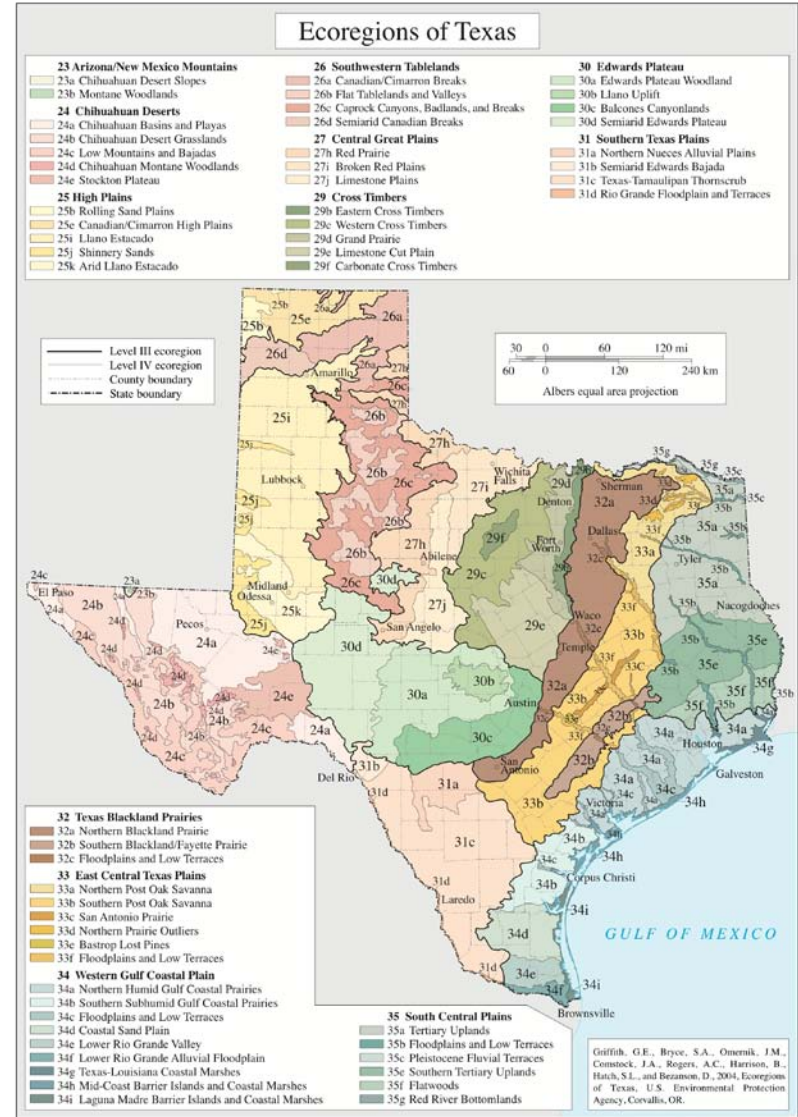
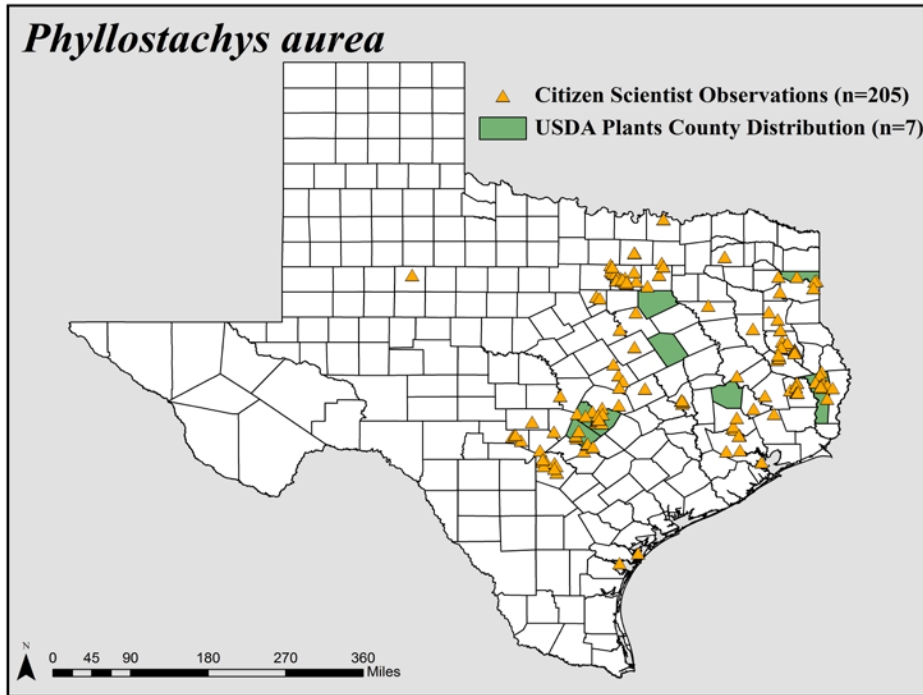
The Texas Invasive Plant Inventory



Section 3. Distribution – A (Severe)

3.1 Ecological amplitude (ecological types invaded in Texas) – A (Severe)

3.2 Ecological intensity (highest extent of infestation in any one ecological type) - A (Severe)



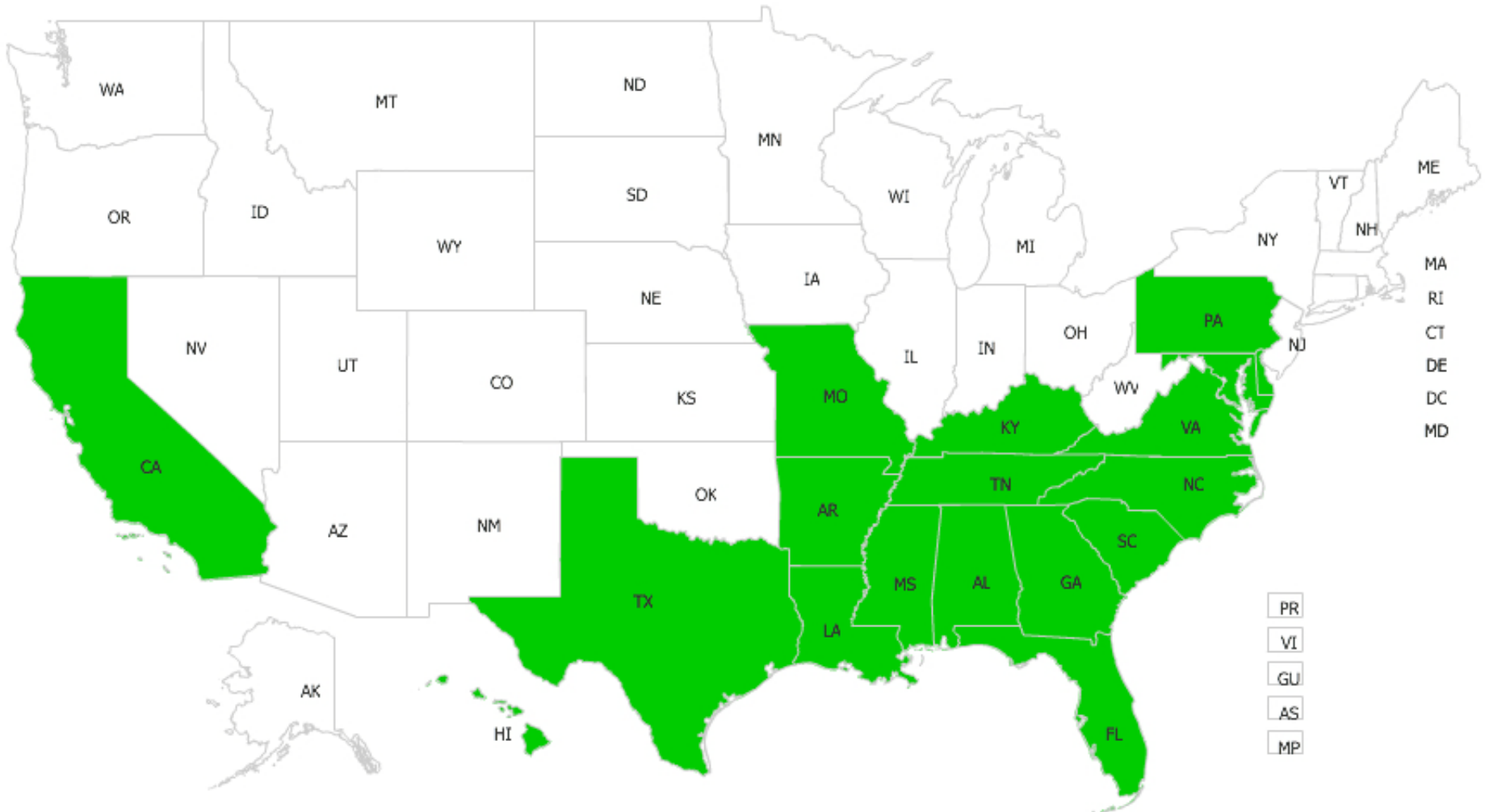
Griffith, G.E., Bryce, S.A., Omernik, J.M., Comstock, J.A., Rogers, A.C., Harrison, B., Hatch, S.L., and Beasom, D., 2004. Ecoregions of Texas. U.S. Environmental Protection Agency, Corvallis, OR.

The Texas Invasive Plant Inventory



Phyllostachys aurea - Golden Bamboo

EDDMapS. 2012. Early Detection & Distribution Mapping System. The University of Georgia - Center for Invasive Species and Ecosystem Health. Available online at <http://www.eddmaps.org/>; last accessed October 9, 2012.



Phyllostachys aurea

Golden Bamboo



Candidate for TDA Noxious and Invasive Plant List



Economic Evaluation of Golden Bamboo

- Golden bamboo was introduced in 1882 to the U. S., specifically Alabama and was primarily used as noise barriers. Still sold in garden centers and nurseries, golden bamboo has spread from Maryland throughout the east coast and along the Gulf coast.
- Golden bamboo is listed as a Category II invasive plant by Florida's Exotic Pest Plant Council and as Category II invasive by the Georgia Exotic Pest Plant Council for the invasion of native plant communities and displacement of native plant species. Additionally, South Carolina has listed golden bamboo as a "severe threat" to natural ecosystems and Connecticut is currently taken action on listing this species in attempt to contain infestations.
- Typical control efforts include cutting/mowing and chemical treatment which can become costly with a monitoring phase and re-application. There is little information regarding the costs to manage and control golden bamboo. Nurseries and garden centers are a large supplier of golden bamboo for landscape screening.
- The U. S. Forest Service is treating several infestations of golden bamboo in Texas National Forests; however, there is little treatment success with a high cost effort. Treatments typically consist of mowing and applying chemicals to the freshly cut golden bamboo stands. USFS estimates that a golden bamboo stand of approximately 5 acres costs roughly \$2,000 and is very labor intensive.

Pleioblastus virid-striata 'Chrysophyllus'



Dwarf Golden Bamboo

- *Pleioblastus* is a genus of small or medium-sized evergreen bamboo plants which includes many popular dwarf varieties of bamboo.
- *Pleioblastus* species characteristically have slender canes bearing several leafy branches at each node. Depending on the species and variety, leaves can be dark green or variegated.
- Because of their small compact size, *Pleioblastus* make excellent patio plants or container plants.

