

## FIRST NATURALIZED OCCURRENCE OF *NYMPHAEA CAPENSIS* (NYMPHACEAE) IN TEXAS

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### ABSTRACT

*Nymphaea capensis* Thunb. is reported newly naturalized to Texas, in a Liberty County pond surrounded by undeveloped pine-hardwood forest. This population was first observed in 2016 as five separate flowering plants, with three plants exhibiting purple variegated leaves and sepals and two plants with green adaxial leaf surfaces and sepals and purple abaxial leaf surfaces.

*Nymphaea capensis* (Cape blue waterlily) is a popular cultivated ornamental plant native to Zanzibar, an island off the coast of Tanzania (Conard 1905). It has been naturalized in Florida for decades and only known from there in the USA until now (Figure 1). The first collection may have been from near Vero Beach, Florida, in roadside ditches in August 1957 (*Kral 5553, FLAS*). In Florida *N. capensis* is classified as an introduced exotic and a waif (Wunderlin & Hansen 2008; Kartesz 2017).

The present paper documents the first recorded occurrence of *Nymphaea capensis* outside of cultivation in Texas (Figure 2) (Wiersema 1997; Turner et al. 2003; Kartesz 2017; USDA, NRCS 2017), about 460 miles west of the nearest known population in Florida. The population at the collection site consisted of five individual plants with three plants exhibiting purple variegated leaves and sepals and two plants with green adaxial leaf surfaces (completely purple abaxially) and sepals.

**Voucher. Texas.** Liberty Co.: 4.8 km ESE of Rye, 50 M pond, S of FM 787, WGS 84: 30.43976 - 94.72058, in association with *Cephalanthus occidentalis*, *Morella cerifera*, *Nymphoides aquatica*, *Panicum hemitomon*, *Rhynchospora corniculata*, *Steinchisma hians*, *Juncus effusus*, and other sedges and rushes, 17 Oct 2016, *Keith 1106* (variegated leaves and sepals), *Keith 1107*, (green leaves and sepals) (SHST). Figure 2.

The Texas plants may be relatively recent established — Keith has collected plants at locality three times between 2001 and 2012 without observing *Nymphaea capensis*. The property is over 600 acres of timber land owned by the same family for decades. The tract is in the J. Carriere Survey and encompasses the headwaters of Pine Island Bayou. The pond where collection was made is visible in historical aerial imagery back to 1938, when it appears to have been constructed as a borrow-pit for road construction. It has been surrounded by timberland since that time (Figures 3 and 4) (TNRIS 2017). The owners have communicated to the authors that this site has never been the location of a residence during their long tenure, nor have they ever introduced ornamental plants there.

The Cape Blue Waterlily brings the list of recorded native and naturalized Texas waterlilies to five, including *Nymphaea ampla* (Salisb.) DC., *N. elegans* Hook., *N. mexicana* Zucc., and *N. odorata* Ait. (Kartesz 2017). *Nymphaea capensis* can be distinguished from other species in North America by its sinuate to dentate leaves and dark blue to purple flowers (Wiersema 1997).

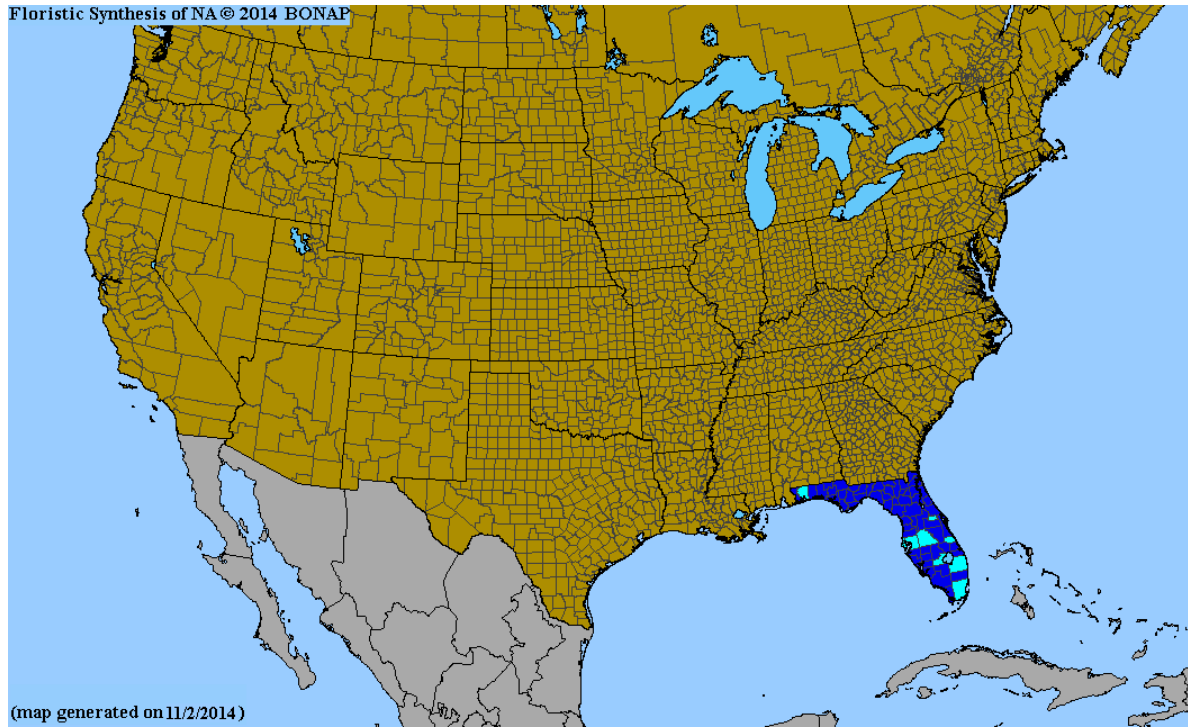


Figure 1. Recorded occurrences of *Nymphaea capensis* in the USA (Kartesz 2017).



Figure 2. *Nymphaea capensis* at site of collection in Liberty County. Photo by Eric Keith

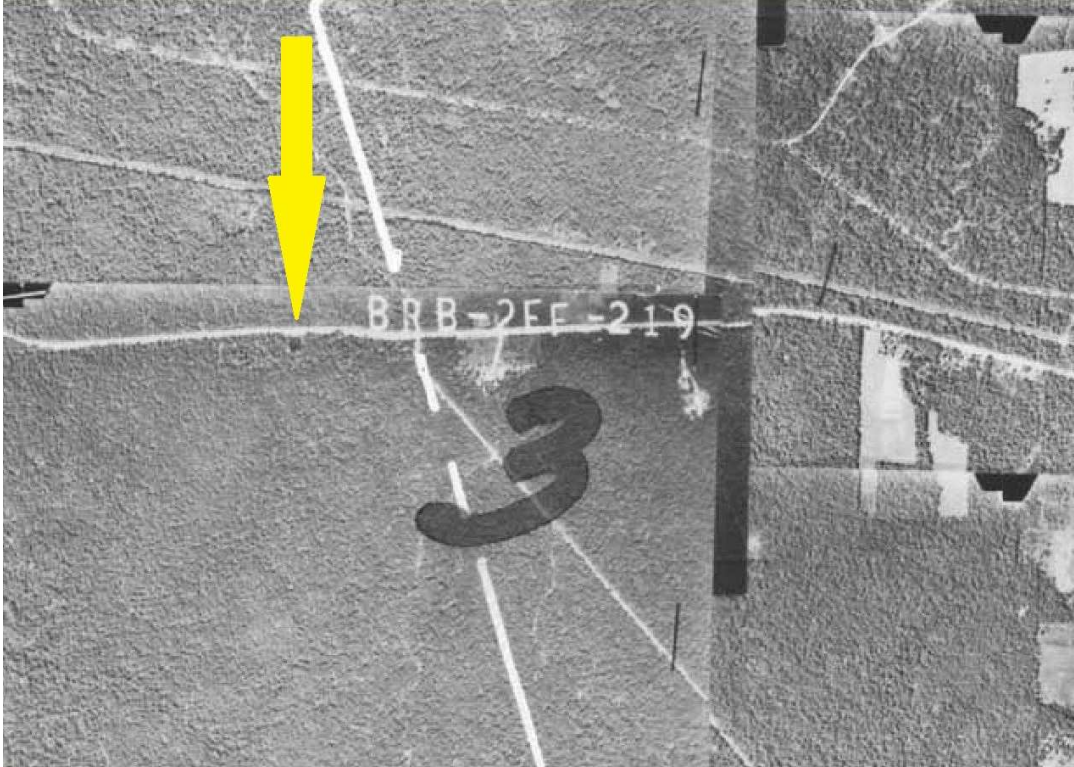


Figure 3. The collection locality is visible as a pond surrounded by forest in 1964. Courtesy of Texas Natural Resource Information System.



Figure 4. The Liberty County collection locality appears to have originated in 1938 as a borrow-pit for road construction. Courtesy of Texas Natural Resource Information System.

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### LITERATURE CITED

- Conard, H.S. 1905. The waterlilies: A monograph of the genus *Nymphaea*. Publ. Carnegie Inst. Wash. 4: 1–279.
- Kartesz, J.T. 2017. Taxonomic Data Center. The Biota of North America Program (BONAP). Chapel Hill, North Carolina. <<http://www.bonap.net/tdc>>
- Texas Natural Resources Information System (TNRIS). 2017. Maps and data. <<https://tnris.org/>>
- Turner, B.L., H. Nichols, G. Denny, and O. Doron. 2003. Atlas of the Vascular Plants of Texas. Vol. I–Dicots. Sida, Bot. Misc. 24.
- USDA, NRCS. 2017. The PLANTS Database. National Plant Data Team, Greensboro, North Carolina. <<http://plants.usda.gov>> Accessed January 2017.
- Wiersema, J.H. 1997. *Nymphaea* (Nymphaeaceae). Pp. 71–77, in *Flora of North America North of Mexico*, Vol. 3. Oxford Univ. Press, New York and Oxford.
- Wunderlin, R.P. and B.F. Hansen. 2008. Atlas of Florida Vascular Plants. [S.M. Landry and K.N. Campbell (application development), USF Water Institute.] Institute for Systematic Botany, Univ. of South Florida, Tampa. <<http://florida.plantatlas.usf.edu/>>