Nymphaeaceae, *Nymphaea belophylla* Trickett: New state record

Gisaine de Andrade Amador 1, Geraldo Alves Damasceno-Júnior 1,2, Rosa Helena da Silva 2, Arnildo Pott 2 and Vali Joana Pott 3

2 Universidade Federal de Mato Grosso do Sul (UFMS), Centro de Ciências Biológicas e da Saúde. Laboratório de Botânica. Cidade Universitária s/n, Caixa Postal 549. CEP 79070-900. Campo Grande, MS, Brazil.
3 Universidade Federal de Mato Grosso do Sul (UFMS), Centro de Ciências Biológicas e da Saúde. Herbarium CGMS. Cidade Universitária s/n, Caixa Postal 549. CEP 79070-900. Campo Grande, MS, Brazil.

* Corresponding author. E-mail: gisaineaaa@gmail.com

**NOTES ON GEOGRAPHIC DISTRIBUTION**

The family Nymphaeaceae presents six genera containing 50 species (Burkart et al. 1987), of which 40 are *Nymphaea* L. (Cook 1990). However, the number of genera and species of this family may be different according to the author: Bosch et al. (2008) presents Nymphaeaceae with seven genera and 70 species and Judd et al. (2008) considers eight genera and 70 species. The wide distribution of species in the family encloses tropical and temperate regions, occurring in rivers, ponds, lakes, and other freshwater wetlands (Judd et al. 2008). Nymphaeaceae are aquatic plants fixed and rooted on the substrate with floating leaves, sometimes submerged, long petiolated (Pott 1998). The genus *Nymphaea* was divided into five subgenera: *Anechphya* Casp., *Brachyceras* Casp., *Hydrocallis* Planch., *Lotus* (L.) Willd. and *Nymphaea* (Conard 1905).


*Nymphaea belophylla* in the Pantanal wetland

*Nymphaea belophylla* (Trickett 1971) was considered restricted to Amazonia, where Amanda Bleher collected it in Guaporé river (1962). *Nymphaea belophylla* has very low number of collections (Wiersegna 1987) and was recorded for the first time for the Pantanal by Pott (1998), with only three collections in waterbodies of the Paraguay river floodplain, in Cáceres (V.J. Pott 2049), Poconé (V.J. Pott 3039) and Santo Antônio do Leverger (V.J. Pott 3065), in the State of Mato Grosso, kept in the Herbarium CPAP (Embrapa Pantanal), with duplicates in the Herbarium CGMS (UFMS). Other collections of *N. belophylla* in the State of Mato Grosso were performed by M. Schessl (5726) in Caceres (deposited in the Herbarium UB, UNB) and R.H. Silva (502) in Poconé (Herbarium CGMS, UFMS). *Nymphaea belophylla* is considered as a species of restricted or rare occurrence in the Pantanal (Pott and Pott 2000; Pott et al. 2011).

In spite of lack of geographic barriers which could hinder dispersal of *N. belophylla* from Mato Grosso (MT) to Mato Grosso do Sul (MS), there had been no previous record of this species so far South, although the Paraguay river floodplain had been lately rather well surveyed.

**New state record**

In May 2011, we collected *Nymphaea belophylla* (Figure 1) on a floodplain under approximately 110 cm of flood by the Paraguay river at Porto Esperança, municipality of Corumbá, Mato Grosso do Sul, Brazil (Figure 2) at the coordinates 19°37’22.70” S and 57°27’15.80” W. This is the southernmost record of the species. The vegetation is a floodable grassland savanna, with scattered trees of *Tabebuia aurea* (Silva Manso) Benth. and Hook. f. ex S.Moore.

The species identification was based on Wiersegna (1987) and checked by comparison in the Herbarium CGMS (UFMS). The main character of the species is the peculiar strongly sagittate leaf, twice or three times as longer than wide, elliptic-sagittate; with acicular trichosclereids and sclereids in the mesophyll, floating flowers with petals gradually changing to cream-colored stamens and cream-colored, slightly clavated carpel appendices up to 1.7 cm long (Wiersegna 1987, Pott 1998).

The collected material is consistent with the descriptions given by these authors. However, it is worth noting some of the characters observed in the study material, such as sagittate leaf on the base and acute...
on the apex with 20 cm long, to 7 cm wide, with acicular sclereides; flowers with sepals and petals in distinct whorls of four; sepals ca. 5-6 cm long and 2 cm wide, green, oblong-ovate; petals shorter than sepals, the inner ca. 2.6-3.2 cm long and 1.3-1.8 cm wide, creamy and light yellow; the outermost stamens ca. 3.0 cm long, creamy and light yellow; carpellar appendices ca. 1.3 cm long, cream-colored to light yellow. The collected specimens were kept in the Herbarium CGMS (UFMS) under the record numbers CGMS-30919 (G.A. Amador 234) and CGMS-30920 (G.A. Amador 235). New collection records are necessary for better characterization and documentation of *N. belophylla*.

Final Considerations

Porto Esperança is a remote microregion with low botanical collection index, probably for its difficult access, most part of the year only by boat plus long walks in marshy grassland, what has kept the area less attractive for research. Only few people live on the port embankment, where iron ore brought by train is stored and shipped downriver. This new record of *Nymphaea belophylla* emphasizes the importance of floristic surveys, as they may reveal new occurrence of various species and so contribute to the yet little known geographic distribution of plants in the region.

By low collection rates in the Amazon and the Pantanal few records, the occurrence of *Nymphaea belophylla* is an interesting aspect for an evaluation as to their geographical distribution, which can be disjunct. In this sense, for a better understanding of their distribution pattern, studies assessing environmental factors related to the biology of the species and that may determine its occurrence are needed. The knowledge of how species considered from the Amazon are distributed in extra-Amazonian context is an important biogeographic information as they could generate modeling of geographic distribution and even climate change.

**Acknowledgments**: To FUNDECT (Fundação de Apoio ao Desenvolvimento do Ensino, Ciência e Tecnologia do Estado de Mato Grosso do Sul), INAU (Instituto Nacional de Ciência e Tecnologia em Áreas Úmidas) and CPP (Centro de Pesquisa do Pantanal) for the financial support; to the owner of Inocêncio ranch, at Porto Esperança, for allowing entrance. A. Pott is supported by the Brazilian agencies CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior) and CNPq (Conselho Nacional de Desenvolvimento Científico e Tecnológico).

**Literature Cited**


Received: July 2012
Accepted: January 2013
Published online: May 2013
Editorial responsibility: Pedro V. Eisenlohr