



## Two new taxa of *Nymphaea* (Nymphaeaceae) from Manipur, India

SAGOLSEM ASHARANI DEVI & BISESHWORI THONGAM\*

Plant Systematic and Conservation Lab, Institute of Bioresources and Sustainable Development (IBSD), Takyelpat Institutional Area, Imphal-795001, Manipur, India

e-mail: [asagolsem@yahoo.com](mailto:asagolsem@yahoo.com), [b\\_thongam07@yahoo.com](mailto:b_thongam07@yahoo.com)\*

Phone no. 0385-2446122 Fax no. 0385-2446120/2446121

### Abstract

Two new taxa of *Nymphaea*, *Nymphaea manipurensis* and *N. manipurensis* var. *versicolor* are described from Manipur, India. They resemble *N. tetragona* Georgi in their tetragonal-shaped receptacle, but are easily distinguished from the latter by their partial apocarp. In being partly apocarpous and having purplish leaf undersurfaces and erect rhizomes, they are similar to *N. nouchali* Burm. f. A comparison of these two taxa with *N. nouchali* is provided, along with a key to all *Nymphaea* known from India. The two new taxa have very similar characters, but differ in minor characteristics, and thus one is treated as a variety of the new species.

**Key words:** biodiversity, India, Nymphaeaceae, taxonomy, wetland

### Introduction

Nymphaeaceae is a family of aquatic plants with perennial or annual rhizomes, floating or submerged leaves, and solitary flowers, which comprises 5 genera and about 70 species. The genus *Nymphaea* is the representative type of Nymphaeaceae and is readily divided into two main groups, based on the partially free or fused carpel nature, viz., Apocarpiae and Syncarpiae, (Conard 1905). *Nymphaea* comprises about 50–55 species, distributed widely in freshwater areas of tropical and temperate regions of the world. Ten taxa of *Nymphaea* ie., *N. alba* L., *N. candida* C. Presl, *N. nouchali* Burm. f., *N. pubescens* Willd., *N. rubra* Roxb. ex Andrews, *N. tetragona* Georgi, *N. caerulea* Savigny, *N. × marliacea* Hort. ex Lat.-Marl., *N. micrantha* Guill. & Perr., and *N. alba* var. *rubra* Lönnroth, were reported from India by Mitra (1990).

During the course of our botanical exploration in the wetlands of Manipur, two very interesting specimens of *Nymphaea* were collected. After a perusal of the literature, comparison with the herbarium collections at BSI, Kolkata (CAL) and our own field observations, the specimens were found to be quite distinct from other known species of *Nymphaea* in India and hence have been described as new taxa.

### *I. Nymphaea manipurensis* Asharani & Biseshwori, spec.nov. (Fig. 1)

Similar to *N. nouchali* Burm. f., but differs in having tetragonal shape thalamus, sepal thick and leathery; petals 4–7, white; stamens 21–34, sterile appendage 0.8–1.0 × 0.3–0.5 cm; very short growing period, only for three months i.e., July to September.

**Type:**—INDIA, Manipur: Imphal West district, Narankonjin, c. 726 m, 24°43'49.7"N, 93°55'17.5"E, 19 July 2011, S. Asharani, IBSD/N-10 (holotype: CAL!; isotype: Institute of Bioresources and Sustainable Development, Imphal!).

**Description:**—Annual aquatic, rooted, floating-leaved herb. Rhizomes erect; short, 4–8 cm, white with greyish dots inside. Leaf blades subpeltate, elliptic-orbicular, broadly acute, slightly undulate along margins, 11–25 × 10–24 cm, deep green above, purplish brown below, glabrous on both surfaces, cleft to petiole apex; basal lobes equal or subequal, diverging, acute or acuminate; sinus about 10 cm long; primary veins raised beneath, 10–14, radial. Petiole: 40–80 cm

	12–14; stamens 20–30 .....	6. <i>N. manipurensis</i>
b.	Leaves mottled on both surfaces; sepals outer surface mottled; flowers creamy white; petals 6–9; carpels 15–20; stamens 30–40 .....	6. <i>N. manipurensis</i> var. <i>versicolor</i>
8a.	Rhizome densely covered with black hairs; leaves 3–7 cm across; petioles c. 1.5 mm across, filiform .....	8. <i>N. tetragona</i>
b.	Rhizome interfoliar hairs not black; leaves 10–28 cm across; petioles 3–10 mm across .....	9
9a.	Flowers white; fruits present .....	10
b.	Flowers yellow; fruits absent .....	11
10a.	Flower buds obtuse at apex; receptacles cylindrical; sepals as long as or shorter than petals; filaments of innermost stamens filiform, narrower than anthers; stigma almost flat .....	9. <i>N. alba</i>
b.	Flower buds acute at apex; receptacle weakly tetragonous; sepals longer than petals; filaments of innermost stamens lanceolate, never narrower than anthers; stigma strongly concave .....	10. <i>N. candida</i>
11a.	Leaves dark green above, pale green with reddish brown blotches towards margin beneath, glabrous; petioles glabrous; flowers up to 20 cm across .....	11. <i>N. × marliacea</i>
b.	Leaves green with brown patches above, coppery green with purple blotches beneath, sparsely hairy at under surface; petioles sparsely puberulous; flowers up to 12 cm across .....	12. <i>N. cf. mexicana</i>

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