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RESEARCH ARTICLE

The identity of the violet flowered water lily (Nymphaeaceae) and its hybrid origin in the wetland ecosystems of Sri Lanka

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Abstract: The Sri Lankan violet water lily (Dam-manel) that is widely spread in natural water bodies of the country has been erroneously identified as *Nymphaea nouchali* (Nil-manel) in literature. Further the image of this flower, which has been erroneously used to depict the national flower of the country for nearly three decades, has not been taxonomically described and therefore does not have a botanical identity. Many scientific studies have been conducted on different aspects of the violet coloured water lily under either the erroneous identification or without a proper scientific name. The present study was conducted with the aim of clarifying its confused identity with *N. nouchali*, and also elucidating the parentage of the hybrid origin of Sri Lankan violet water lily using morphological and *matK* and *psbA-trnH* molecular sequence data. The morphometric analyses and the results of the BLAST search confirmed the identity of the native *N. nouchali*, and recognised the Sri Lankan violet water lily as a hybrid of *N. micrantha* and *N. caerulea*. Therefore, the plant is named and described as a new hybrid, *Nymphaea* × *erangae* Yakandawala, Guruge & Yakandawala. A taxonomic description is also provided for the newly described hybrid.

Keywords: Hybrid *Nymphaea* × *erangae*, *Nymphaea nouchali*, violet water lily.

INTRODUCTION

The water lilies or 'Nymphaeas' are one of the most conspicuous and eye catching plant groups inhabiting the waterbodies of the lowlands in Sri Lanka together with *Nelumbo* (E: Lotus, S: Nelum). They belong to the genus *Nymphaea* of the family Nymphaeaceae and three *Nymphaea* species have been recorded as occurring in the island; *N. nouchali* Burm. f. (syn: *N. stellata* Willd.) (S: Nil-manel or Manel), *N. pubescens* Willd. (S: Olu) and *N. rubra* Roxb. ex Andrews (S: Rathu-olu or Rathberaliya) (Dassanayake, 1996; Guruge *et al*., 2014). In addition to the native water lilies, a few ornamental exotic *Nymphaea* species have also been introduced in the past for aquatic landscapes. Among these, a large violet flowered water lily, 'Dam-manel' (S) has got extensively established in natural water bodies. This plant has been erroneously identified as *N. nouchali*, the native water lily, in literature both locally and internationally (Yakandawala & Yakandawala, 2011 and reference therein). There are no records of the era when this violet water lily was introduced to the country, but according to the prevailing evidence, its initial introduction would have been well over 50 years. Interestingly, it is an image of this flower that was erroneously used to depict the national flower of Sri Lanka, *Nymphaea nouchali* in the official publication (CEA, 1992), and thereby the mistake was widely continued in other documentations for three decades until the error was rectified in June 2015. This provides evidence for its fame and abundance in natural waterbodies even at the time of declaration of the national flower in 1986.

The large attractive flowers of the violet water lily are popular in aquatic landscapes and aquatic cut flower industry, especially as they are offered at Buddhist

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temples and shrines throughout the country. According to Subashini *et al*. (2014), the violet water lily has a high demand as a cut flower in Sri Lanka and is the second aquatic cut flower species in demand of Buddhist religious places after white lotus. Initially the plant would have been restricted to controlled landscapes, but now it has escaped from the controlled environments and is naturalised and occurrs in all parts of the island except at higher elevations (Yakandawala & Yakandawala, 2011). Further, due to its ornamental value, ornamental plant growers would have been involved in importing and distributing this exotic plant in the past. Therefore, it is probable that many successive introductions occurred where they got naturalised. Compared to the native *N. nouchali*, the exotic violet *Nymphaea* has a rapid mode of vegetative reproduction, where it is capable of producing proliferous leaves (Yakandawala & Yakandawala, 2011). The mature leaves of this violet *Nymphaea* are capable of developing a young plantlet at the leaf base where the petiole meets the lamina. This has contributed to its rapid spread in local water bodies while the flawed identification as the national flower, together with the demand as a cut flower has contributed to its popularity throughout the country.

The validity of a scientific study where organisms are involved, solely depends on the identity of the organism concerned. Further, the correct scientific name would also provide the key for a wealth of information. Although the violet water lily has been present in the island for over a half century, the plant was not taxonomically described during the revision of the Nymphaeaceae in the 'Revised Handbook to the Flora of Ceylon' (Dassanayake, 1996), and therefore currently this exotic violet water lily does not have a botanical identity. Many scientific studies have been conducted on different aspects of the violet water lily under either the wrong identification or without a proper scientific name due to the unavailability of a taxonomic placement to the plant (Samarakoon & Peiris, 2005; Tetali *et al*., 2008). According to morphological evidence the violet water lily is a hybrid taxa involving either *N. capensis* Thunb. or *N. caerulea* Savigny as one parent and *N. micrantha* Guill. & Perr. as the other during its parentage history (Yakandawala & Yakandawala, 2011).

Therefore, the present study was conducted with the objective of clarifying the identity of native *N. nouchali* and the violet water lily that is naturalised in the lowlands of Sri Lanka using morphological and *matK* and *psbA-trnH* molecular sequence data. This is important not only taxonomically, but also for other areas of biology, since many studies have been conducted on this plant with reference to an erroneous identification or without referring to a scientific name.

METHODOLOGY

Morphological studies

Sample collection

As the identity of the violet water lily was linked with the native *N. nouchali*, both plants were included in the study. Field visits were made covering all three major climatic zones of the island, *viz.* Wet, Intermediate and Dry zones from 2006 – 2015 (Figure 1). Hundred and thirty two individuals were collected from different populations, and each individual was denoted by a unique acronym to facilitate its reference. Morphological characters were studied in detail in the laboratory. Voucher specimens and live collections were maintained at the Department of Botany, University of Peradeniya, Sri Lanka and the Wayamba University of Sri Lanka during the study.

Character coding

Data were obtained from the individuals of both species randomly selected from each population and qualitative and quantitative characters were examined in the laboratory, either with the naked eye, or under a dissecting or a stereomicroscope (Leica, 10446322, 2X WD). The colour of the flower, leaf abaxial and adaxial surfaces and petiole was determined using the Royal Horticultural Society Colour Chart (RHS Colour Chart, 2001). Special attention was paid to the characters with distinct variations. Fruit and seed data were collected from the individuals of the same population. Fruits were never encountered from the violet water lily species. Therefore, ten individuals each representing four different populations were observed for seed set by bagging the flowers 3 – 4 days after the initial blooming, just before they move under water. The list of characters together with the character states employed in the morphometric analyses is given in Table 1.

Data analysis

Principal coordinate analysis (PCoA) and hierarchical cluster analysis (CA) were carried out using the statistical software PAST (ver. 2.15) (Hammer *et al*., 2001). The cluster solution was selected from the best suitable algorithm, where Gower distance was used to calculate the similarity measures with the un-weighted pair-group method with arithmetic mean (UPGMA) option and the single linkage algorithm with the highest cophenetic correlation value. The ordination analysis was performed with the Gower distance (transformation exponent C = 2) to generate a distance matrix for using in

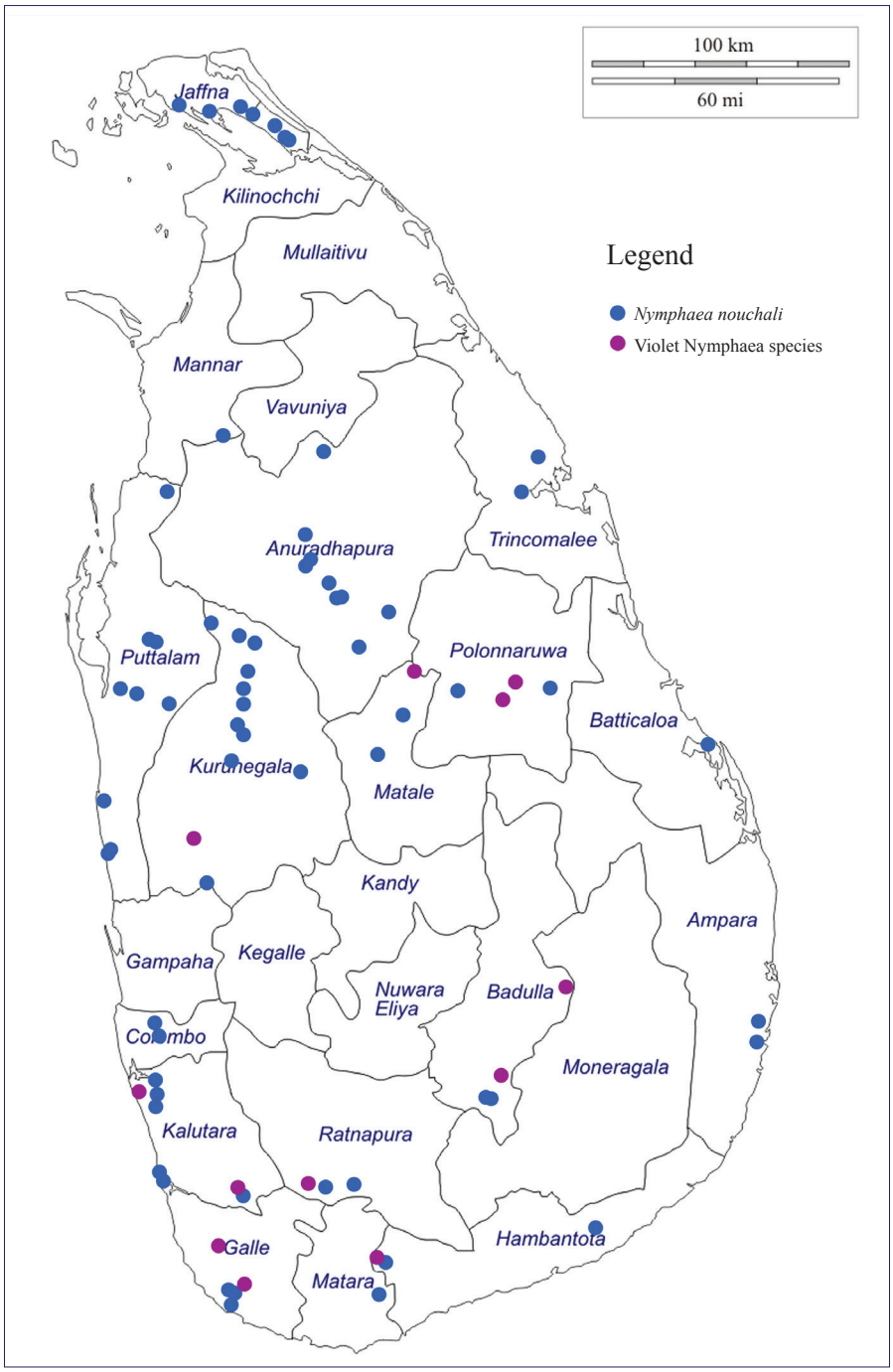

Figure 1: Map of Sri Lanka indicating the locations of sample collection

the PCoA. Following the results of these analyses, each major, consistently recovered cluster was identified.

Molecular studies

Genomic DNA was extracted from fresh young leaf samples, dried and stored with desiccated silica gel, using the Qiagen plant DNA extraction kit (Qiagen, Valencia, CA). The two chloroplast gene regions *matK* [(*matK*-390f 5′-CGATCTATTCATTCAATATTTC- 3′, *matK*-1326r 5′-TCTAGCACACGAAAGTCGAAGT- 3′) (Cuenoud *et al*., 2002)] and *psbA-trnH* [(*psbA*-F 5′ -GTTATGCATGAACGTAATGCTC- 3′ (Sang *et al*., 1997), *trnH-R* 5′- CGCGCATGGTGGATTCACAATCC-3′

(Tate & Simpson, 2003)] were amplified using the polymerase chain reaction (PCR) technique. All the amplifications used Promega GoTaq® Flexi DNA polymerase (Madison, WI, USA) according to manufacturer's recommendations. The PCR amplifications were carried out in 50 µL reaction solutions that contained 1× PCR reaction buffer, 2.5 mM $MgCl_2$, 0.2 mM deoxynucleotide triphosphate (dNTPs), 0.2 µM each forward and reverse primer, 1 U of Taq DNA polymerase and 0.75 – 1.5 µL unquantified DNA extract. The PCR programme was run on Eppendorf mastercycler thermal cycler (Hauppauge, NY, USA). The programme consisted of 3 min of initial denaturation at 94 °C, 35 cycles of 30 s denaturation at 94 °C, 30 s annealing at 48 °C and 57 °C for *matK* and *psbA-trnH*, respectively, 1 min primer extension at 72 °C, followed by a final extension for 10 min at 72 °C. The PCR products were run on 1 % agarose gel stained with ethidium bromide and visualised on a UV illuminator. The molecular mass of the resulted bands was estimated with a 1 kb DNA ladder and the amplification of the primer was confirmed. The obtained PCR products were submitted for sequencing reactions using Applied Biosystems, 3500 genetic analyser (Department of Molecular Biology and Biotechnology, Faculty of Science, University of Peradeniya, Sri Lanka). *matK* amplified PCR products were sequenced for both forward and reverse primers using the same primer pairs as in the PCR amplification, while only one sequence was obtained for all the PCR products with amplified *psbA-trnH* with forward primer.

Table 1: List of characters together with their character states used in the morphometric analyses

Character	Character state
Shape of the flower bud	Linear, oblanceolate
Flower diameter	cm
Diameter of the receptacle	cm
Receptacle height	cm
Flower colour	
Petal apex	Pink, white, pale blue, violet
Petal base	Pink, white, pale blue, yellowish
Number of petals	
Petal length (outer petals)	cm
Petal width at the base (outer petals)	cm
Petal width (maximum) (outer petals)	cm
Petal shape	Linear-lanceolate, ovate-lanceolate, ob-lanceolate
Number of veins per petals	
Petal apex-shape and angle	Acute, obtuse
Number of stigmatic segments	
Diameter of the stigmatic disk	cm
Length of central projection	mm
Width of central projection at base	mm
Number of sepals	
Sepal length	cm
Sepal width (maximum)	cm
Sepal width at base	cm
Sepal shape	Linear-lanceolate, ovate-lanceolate
Sepal colour-inner surface – middle	Pink, white, pale blue, violet
Sepal colour-inner surface – base	Pinkish white, white/pale blue, yellowish violet
Sepal colour-outer surface – middle	Light green, green
Sepal colour- outer surface – base	Light green, green
Sepal apex – shape and angle	Acute, obtuse, curved
Sepal striation	Low, high
Number of stamens	
Diameter of stamen whorl	cm
Stamen length (outer most whorl)	mm

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Character	Character state
Leaf width	cm
Distance of leaf apex	cm
Appendage length (outer most whorl)	mm
Appendage width (outer most whorl)	mm
Anther length (outer most whorl)	mm
Anther width (outer most whorl)	mm
Filament length (outer most whorl)	mm
Filament width (outer most whorl)	mm
Pedicel diameter	cm
Pedicel colour	Green, brown, red
Pedicel shape in cross section	Round, slightly flat, oval
Pedicel – cross section	No. of lacunae
Petiole – cross section	No. of lacunae
Leaf shape	Round, ellipsoid
Leaf length	cm
Lamina colour (adaxial)	Dark green, light green, green
Lamina colour (abaxial)	Reddish-brown, violetto deep blue-violet, light green, brownish green
Leaf margin	Dentate, wavy, smooth
Leaf sinus and lobe tip	V shape, overlapping
Leaf adaxial surface streaks	Present, absent
Leaf abaxial surface – dots	Absent, present
Leaf venation (abaxial)	Strongly visible, visible, faintly visible
Leaf apex	Division present, absent, not clear
Petiole diameter	cm
Petiole shape in cross section	Round, elliptic
Petiole colour	Light green, reddish green
Leaf – cross section	Curved shape, flattened shape
Vivipary	Present, absent

The raw sequences were screened and assembled and consensus for the resulted sequences of forward and reverse primers were compiled using Bioedit version 7.1.11 (Hall, 2011). Basic local alignment search tool or the BLAST (Altschul *et al*., 1997) was used to search the most similar sequence deposited in the GenBank, which would match the obtained sequence. The resulted sequences list was checked for the species identity of the respective species.

RESULTS AND DISCUSSION

Morphological analyses

The UPGMA dendrogram (cophenetic correlation coefficient = 0.9147) resolved two discrete clusters of operational taxonomic units (OTUs) (hereafter referred to as phenetic group 1 and 2), which is separated at an approximate distance of 0.45 units (Figure 2). The OTUs within the phenetic group 1 grouped together closely, as none of them exceeded a distance of more than 0.05 distance units within any given cluster (Figure 2). Further, the phenetic group 2 has shown internal clustering where two major sub clusters could be identified.

The first four (principal) eigenvalues recovered from the PCoA accounted for 98.6739 % of the total variance (94.427, 2.8568, 0.86526, and 0.52484 %, respectively). A plot of the first and the second coordinates (which provided the greatest separation of OTUs) resulted in a separation similar to that obtained by the cluster analysis. Further, the PCoA also resolved two discrete clusters (Figure 3), with each corresponding exactly to one of the clusters indicated by the UPGMA dendrogram (Figure 3).

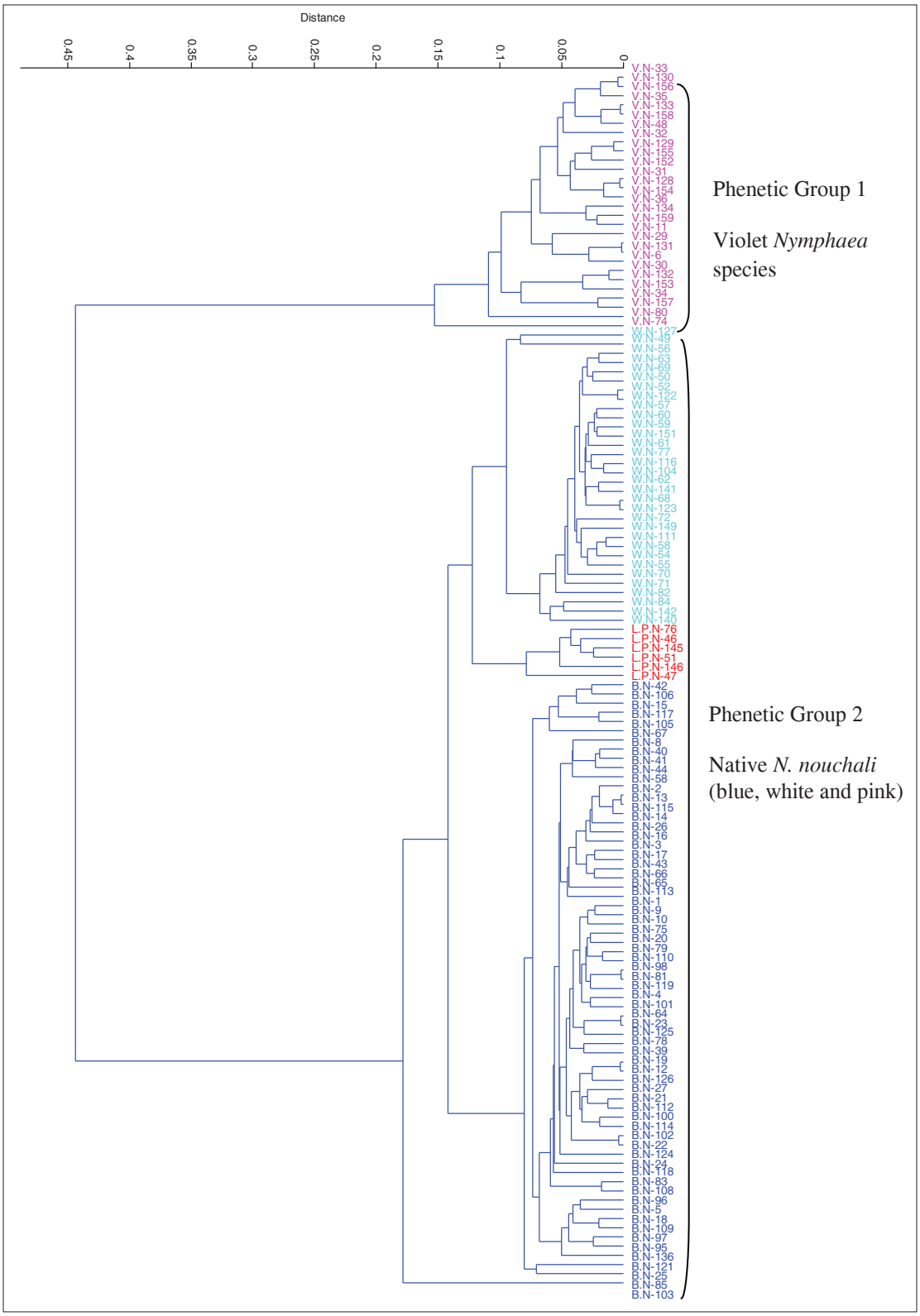

Figure 2: The dendrogram that resulted from the cluster analysis that was carried out to determine the identity of the violet flowered *Nymphaea* species using morphological characters. Phenetic group 1: violet *Nymphaea* species (OTUs = VN); phenetic group 2: native *N. nouchali* (OTUs WN = white flowers; LPN = pink flowers; BN = blue flowers)

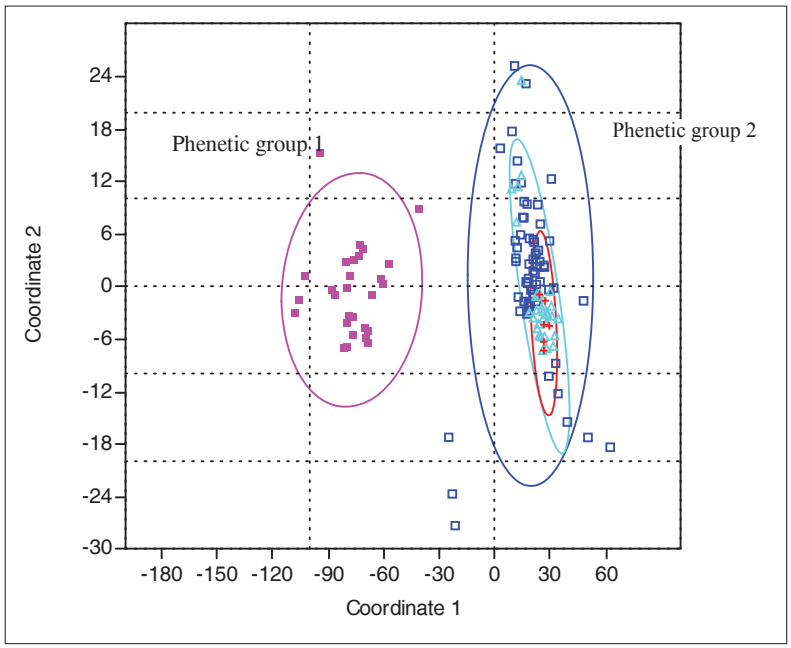

Figure 3: The scatter plot obtained from the PCoA that was carried out to determine the identity of the violet flowered *Nymphaea* species. Phenetic group 1: violet flowered *Nymphaea* species; phenetic group 2: native *N. nouchali*

Figure 4: Different stages in the development of epiphyllous plantlets in *Nymphaea* with violet colour flowers. A: development of leaf primodia in the mucilaginous-nub at the leaf base where the petiole meets the leaf lamina; B: plantlets, still attached to the mother plant

The flowers of the violet water lily do not develop into mature fruits with seeds but degrade underwater; hence the attempts to collect fruit and seed characters were not successful. The plants reproduce viviparously. The term vivipary has been adopted by Cornad (1905) to refer to *Nymphaea* species that are capable of developing epiphyllous plantlets (in Greek epiphyllous mean ‘upon a leaf ’).

Development of epiphyllous plantlets or vivipary

A spongy textured nub that is initiated at the point at which the leaf stalk and stem join, signals the initiation of vivipary. After about a week it becomes gelatinous, covered with mucilage, and soon shows a sign of developing leaves. As the leaf lamina of the mother plant becomes old, the plantlets develop

further (Figure 4). Once detached from the deteriorated lamina, it is a miniature of the parent and is capable of floating away and establishing as an independent plant. Further blooming of these plants while still attached to the mother plant has also been observed.

Molecular analyses

After editing the raw sequences the resulted lengths were 896 bp and 488 bp for the *matK* and *trnH-psbA* gene regions, respectively. The comparison of the *matK* and *trnH-psbA* gene regions between *N. nouchali* and the violet flowered *Nymphaea* showed 0.334 % and 49.18 % variations, respectively.

According to the results of the BLAST hit lists for the *matK* sequences, all native *N. nouchali* sequences showed a 100 % sequence identity to *N. nouchali* (gene accession number FJ597752.1) (Dkhar *et al*., 2010). All the sequences obtained for the violet flowered *Nymphaea* showed a 100 % match with *N. micrantha* with a query coverage of 100 % (gene accession number DQ185541.1) (Loehne *et al.*, 2007). Further, the three populations of the violet flowered *Nymphaea* matched with the gene accession number GQ468658.1, *N. caerulea* with a score of 100 %, 99 % and 98 % (Dkhar *et al*., 2013) with a query coverage of 100 % for each, respectively.

The *psbA-trnH* sequences of *N. nouchali* showed the highest similarity scores of 97 % and 95 % for *N. cyanea* (gene accession FJ527753.1) (Chaveerach *et al.*, 2011) and *N. nouchali*, respectively, while the purple flowered *Nymphaea* showed 95 % and 94 % similarity scores for *N. cyanea* (gene accession FJ527753.1) (Chaveerach *et al.*, 2011) and *N. nouchali*, respectively (gene accession FJ527754.1) (Chaveerach *et al.*, 2011).

The results of the morphometric analysis clearly separate two phenetic groups within the studied OTUs. The comparison of morphological characters with described literature re-confirms the identity of phenetic group 2 (OTUs WN = white flowers, LPN = pink flowers and BN = blue flowers) as *N. nouchali* (Conard, 1905; Jacobs, 1994; Dassanayake, 1996; Fu & Wiersema, 2001; Jacobs & Hellquist, 2006; Jacobs & Porter, 2007), whereas the specimens of the violet water lily - phenetic group 1 (OTUs of acronym VN), unequivocally stands out. A fewer number of petals (average 14) and light yellow stamens (average 32); reddish brown or deep blue violet leaf abaxial surface and the absence of epiphyllous plantlets, are distinct morphological characters of native *N. nouchali* as opposed to the large number of petals (average 29) and yellow stamens (average 128); green leaf abaxial surface with purplish streaks and the ability to produce epiphyllous plantlets, of the violet water lily. The taxonomic position of the two sub-clusters within the phenetic group 2 corresponding to three flower colours, blue, white and pink (infraspecific level taxa of *N. nouchali*) has been discussed in details in a separate research article (Guruge *et al*., 2017).

Results of the BLAST search indicated 100 % similarity for *matK* and 95 % similarity for *psbA-trnH* gene sequences obtained for the three native *N. nouchali* that were sampled for the study.

Based on the morphological features, especially of the flower, it is similar to either *N. capensis* Thunb., *N. cyanea* Roxb. ex G. Don or *N. caerulea* Savigny. However the possibility is ruled out as the violet *Nymphaea* does not produce seeds as the other three species, but reproduces by developing epiphyllous plantlets or vivipary. The ability of the Sri Lankan violet *Nymphaea* to develop plantlets while still attached to the mother plant, provides the strongest clue on the identity of the possible other parent and its hybrid origin. Among the approximately 55 known species of *Nymphaea* in the world, the viviparous condition is rare and known only in three species; *N. micrantha* Guill. & Perr., *N. lasiophylla* Mart. & Zucc., and *N. prolifera* Wiersema (Monteverde, 2009). All three are tropical in distribution and *N. micrantha* is a day-bloomer while the other two exhibit nocturnal anthesis. *Nymphaea micrantha* belongs to Brachyceras while *N. lasiophylla* and *N. prolifera* belong to Hydrocallis (Slocum, 2005; Monteverde, 2009). The two species, *N. lasiophylla* and *N. prolifera,* exhibit vegetative propagation by means of abortive tuberiferous flowers (Monteverde, 2009). Proliferating leaves are recorded only in *N. micrantha* of West Africa (Wiersema, 1988; Slocum, 2005; Monteverde, 2009). The fact that this proliferating leaves appearing in the *Nymphaea* with violet flowers with a morphological resemblance to *N. capensis*, *N. cyanea* or *N. caerulea* provides a sturdy evidence of a hybridisation link to *N. micrantha*. Developing epiphyllous plantlets is a popular feature that has been incorporated during breeding of *Nymphaea* by horticulturists as it provides an easy means of propagation. Over thirty popular tropical day-blooming viviparous hybrids have been developed with *N. micrantha* as a parent and are popular in aquatic landscaping (Knotts, 2003). The parentage of many water lily hybrids and cultivars were kept hidden as trade secrets in the past, as new cultivars became profitable financially (Conard 1905; Les *et al*., 2004).

According to the results, the *matK* gene sequences of the three populations of violet *Nymphaea* species indicated a 100 %, 99 % and 98 % similarity respectively with *N. caerulea* [under certain circumscription it is considered a synonym of *Nymphaea nouchali* var. *caerulea* (Savigny) Verdc.] while they all matched 100 % with *N. micrantha*. There were no sequences deposited for *N. capensis* for *matK*, and *psbA-trnH* gene region for *N. caerulea* and *N. micrantha*, for comparison.

According to the present study, the tentatively identified parents; *N. caerulea* and *N. micrantha*, based on morphological characters of the violet water lily has been supported by the molecular studies, where *N. micrantha* has provided strong supportive evidence to conclude the hybrid origin. The other speculated parent was either *N. capensis*, *N. cyanea* or *N. caerulea* (Yakandawala & Yakandawala, 2011). The molecular evidence supports this identification where *N. caerulea* has high similarity scores (100 %, 99 % and 98 %) with the *matK* gene region for the three populations. Therefore, the results confirmed the hybrid origin of the violet flowered *Nymphaea*, and propose the parentage as *N. micrantha* and *N. caerulea.*

As stated before this exotic hybrid violet water lily that was introduced for ornamental purposes has escaped from the controlled environments a long time ago and is now naturalised in the lowlands of the country. According to research, many of the species that turn out to be successful in a new environment only do so, either

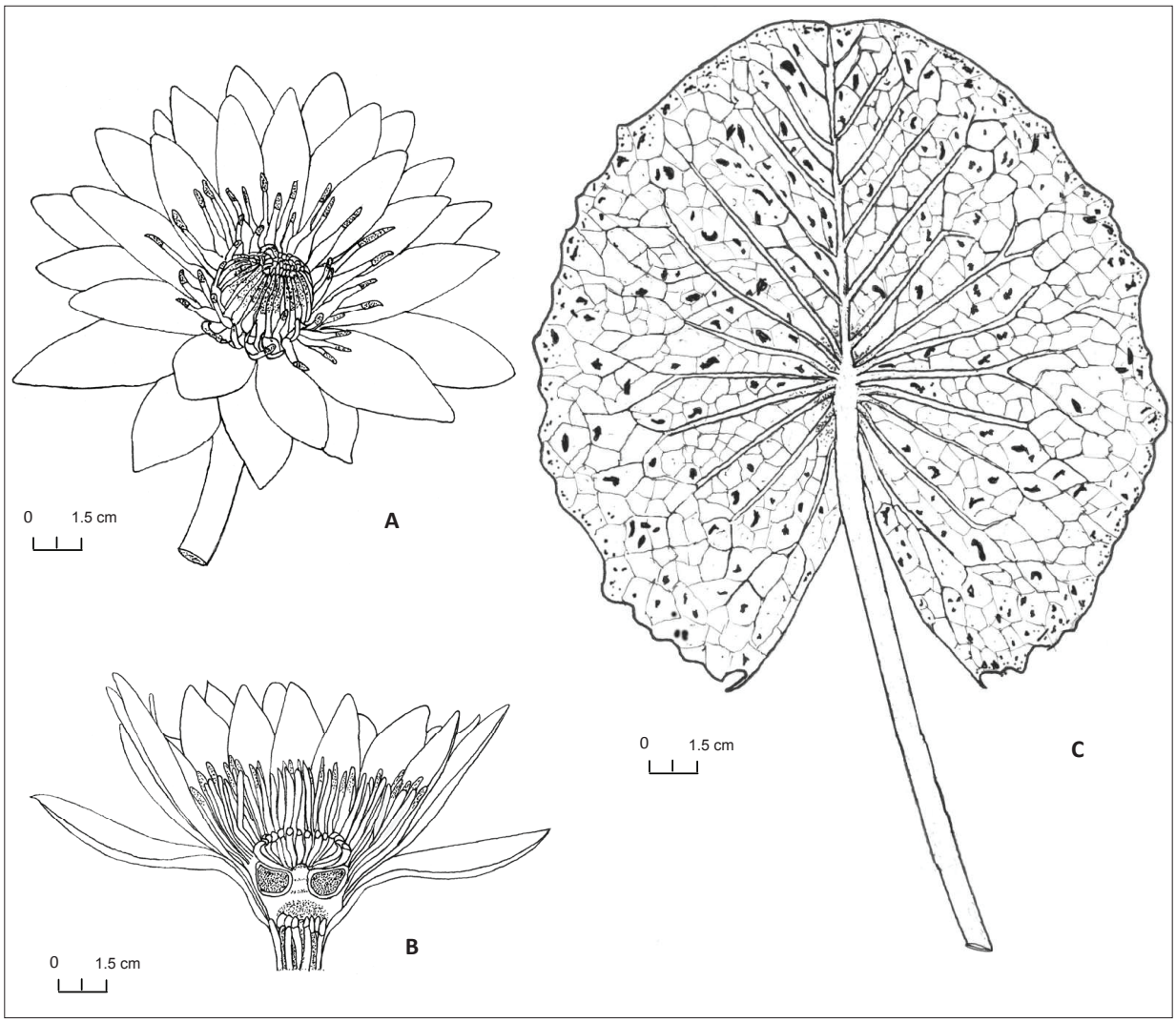

Figure 5: *Nymphaea* × *erangae* Yakandawala, Guruge & Yakandawala. (A) flower; (B) half flower and (C) leaf abaxial surface

following an unusually long lag time after the initial arrival, and/or after multiple introductions (Ellstrand & Schierenbeck, 2006; Tiebre *et al.*, 2007). The violet *Nymphaea* may have had multiple introductions and it is also possible that these introductions were not all the same hybrid but could have introgressed into a new hybrid. Such hybrids can be very successful invaders (Ellstrand & Schierenbeck, 2006). Natural hybridisation often occurs whenever two or more species of *Nymphaea* occur together in the same waterbody. At present this plant has silently invaded the lowlands of the country (Yakandawala & Yakandawala, 2011).

Figure 6: *Nymphaea* × *erangae* Yakandawala, Guruge & Yakandawala. (A) flower; (B) sepals; (C) leaf adaxial surface; (D) leaf abaxial surface and (E) a natural population

Reference to taxa with correct identification is very important in scientific studies, and the Sri Lankan violet water lily (Dam manel) has been occurring in the country over decades under either the wrong identity or without a proper identification. Therefore, the Sri Lankan naturalised violet water lily, which is widespread in major climatic zones of the country without identified parents growing in the surrounding, is described in the present study as a new hybrid taxon.

Nymphaea × *erangae* Yakandawala, Guruge & Yakandawala, Hybr. Nov. (Figures 4, 5 and 6)

Type: Holotype: Sri Lanka, Kurunegala District, Kuliyapitiya. Yakandawala, Guruge & Yakandawala 11, 21/06/2012 (PDA). Isotype: PDA.

Description: Rhizomes 5 – 15 × 3.2 – 5 cm. Leaves large or medium-sized, usually floating, stipulate, viviparous. Petioles 0.4 – 0.8 cm in diameter, terete, glabrous, brownish red. Lamina 13 – 30 × 12 – 29 cm, floating on the surface, coriaceous, smooth, glossy bright dark green above, green with purplish spots beneath, with prominent green veins, somewhat peltate, rotund, orbicular or suborbicular, incised-cordate at base. Sinus V-shaped at the base but sometimes lobes overlapping. Pedicel erect, stout, smooth, 0.8 – 2 cm in diameter, terete, reddish brown. Bud broadly conical. Sepals 3.5 – 6.5 × 1.5 – 2.5 cm, lanceolate but broader towards base, acute and rounded towards apex, glabrous, coriaceous, outer purple towards margin, dark purple-green at the center and with purple narrow streaks all over, inner surface purple, greenish towards the base and smooth within. Petals 21 – 30, outer few petals somewhat similar to sepals; the outer petals 3 – 6 × 1 – 2.2 cm, inner smaller, lanceolate or narrowly elliptic, acute or subobtuse at apex, violet. Stamens 100 – 160, the outer longer. Filaments flat, bright yellow, 0.8 – 1 cm long, 2 – 4 mm broad, the inner 0.5 – 0.8 mm long, c. 2 mm broad. Anthers 1 – 1.5 cm long, c. 2 – 3 mm broad, bright yellow, with a violet tongue-shaped appendage, this in the outer stamens 5 – 8 mm long, in the innermost c. 1 mm long. Ovary 1.5 – 2 cm broad, yellow. Carpels 18 – 28. Ovules embedded in mucilage. Stigmas bright yellow, rays acute, appendages curved upwards at the ends. The fading flower retracting under water and decaying without developing seeds.

Vernacular names: Violet water lily, 'Dam manel'
Phenology: Flowers throughout the year
Habitat: Occurs naturally in large to small water bodies and in ditches. Often grown as an ornamental aquatic.
Distribution: Distributed in the Wet, Intermediate and Dry zone of the country.

Derivation: The hybrid name is in reference to our only son, Eranga Yakandawala, who has accompanied us on fieldwork since his childhood.

CONCLUSION

The Sri Lankan violet water lily that occurs widespread in natural water bodies and identified as *N. nouchali* in literature, which was depicted as the national flower of the country for nearly three decades is not *N. nouchali*. It is a hybrid between *N. micrantha* and *N. caerulea*. Therefore, the plant is named and described as a new hybrid, *Nymphaea* × *erangae* Yakandawala, Guruge & Yakandawala.

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