

## On the occurrence of *Blyxa aubertii* in Allamparai hills (Kanyakumari District) of Southern Western Ghats

A Anami Augustus Arul<sup>1</sup>, S. Jeeva<sup>1</sup> and S Karuppusamy<sup>2</sup>

<sup>1</sup>Department of Botany, Scott Christian College (Autonomous), Nagercoil, Tamilnadu, India-629 003

<sup>2</sup>Department of Botany, The Madura College (Autonomous), Madurai, Tamilnadu, India-629 011  
ksamytaxonomy@gmail.com

### ABSTRACT

*Blyxa aubertii* L.C. Richard (Hydrocharitaceae) is extended its distribution in southern Western Ghats of Kanyakumari district, since it was reported in many parts of Northern and central Tamilnadu and plain districts of other states. The relevant notes with photograph are provided herewith for easy identification of this submerged aquatic species.

**Key words:** Allamparai hills, *Blyxa aubertii*, Hydrocharitaceae, Western Ghats.

### INTRODUCTION

*Blyxa* Noronha ex Thouars represented 9 species with two combinations (29 basionyms), is widely distributed in the tropical Old World and is naturalized in North America and Europe (Cook and Lüönd, 1983). Cook, (1996) reported four species of *Blyxa* and a variety from permanent or seasonal freshwater bodies in the Indian sub-continent south of the Himalayas. Four species of *Blyxa* (*Blyxa octandra*, *B. echinosperma*, *B. ceylanica* and *B. talbotii*) were reported in the Presidency of Madras (Gamble, 1915-1936); of these, three species have been reported in the *Flora of Tamilnadu* (Nair *et al.*, 1989; Matthew, 1991). While working on the flora of Kanyakumari hills, authors collected an interesting acaulescent, submerged, tufted, scapigerous herb from the perennial puddle of Allamparai hills of southern Western Ghats, Tamilnadu, India. On critical examination using relevant literature, the plant was identified as *Blyxa aubertii* L.C. Richard. This species is distributed in tropical and subtropical Asia, Australia, Madagascar and east Africa, and has been introduced in North America. In Indian subcontinent it is distributed in Bangladesh, Bhutan, Burma, Ceylon and Nepal (Walker, 1976; Hara *et al.*, 1978; Ohwi, 1984; Khan and Halim, 1985; Fosberg *et al.*, 1987; Karthikeyan *et al.*, 1989; Simpson, 1989; Noltie, 1994; Dassanayake, 1995; Lee, 1996; Kress *et al.*, 2003; Timberlake and Martins, 2009; Wu and Raven, 2010). In India it is widely distributed in Andaman Islands, Andhra Pradesh, Bihar, Jammu and

Kashmir, Karnataka, Madhya Pradesh, Orissa, Rajasthan, Tamilnadu and West Bengal (Cook, 1996; Pulliah, 2006). Mohanan and Henry (1994) reported this species in Trivandrum district, Kerala State. In Tamilnadu, Barber reported this species in stagnant water bodies of Udumanparai at Anamalai Hills and Bourne from Poombari valley of Pulney Hills (Gamble, 1915-1936). However, recent floristic surveys of aquatic and wetland plants of Tamilnadu have failed to document this species (Sukumaran and Raj, 2009; Udayakumar and Ajithadoss, 2010; Geetha *et al.*, 2010; Meena *et al.*, 2010; Sukumaran and Jeeva, 2012). The detailed botanical description and photograph of the species, which has been recorded to have an extended distribution, are provided to facilitate its easy identification.

***Blyxa aubertii*** Rich. in Mem. Cl. Sci. Math. Inst. Natl. France 12(2): 77. t. 4. 1812; Subramaniam in Aquat. Ang. 59. 1962; Cook, Aquat. Bot. 15: 10. 1983; Henry *et al.*, Fl. Tamilnadu India Ser. 1. 3: 1. 1989; Matthew Excur. Fl. Cen. Tamilnadu, India 489. 1991; Mohanan & Henry Fl. Thiruvananthapuram 1994; Cook, Aquat. Wetl. Pl. India 216. 1996. Pulliah, Biodiv. India 2: 118. 2006. *B. oryzetorum* (Decne) Hook.f. Fl. Brit. India 5: 661. 1888. *Diplosiphon oryzetorum* Decne. in Jacq. Voy. 167. 1884. *Blyxa ceylanica* Hook. f. Fl. Brit. India 5: 661. 1888; Fischer in Gamble, Fl. Pres. Madras 3: 1397. 1928. *Blyxa griffithii* Planch. ex Hook. f. Fl. Brit. India 5: 661. 1888 p.p.

A monoecious, acaulescent plant with radical leaves sheathing at the base, 2.5-60 cm or more long, 0.2-1.2 cm wide, linear but gradually attenuate to a fine point at the apex, midrib distinct and prominent with up to 10 secondary and up to 28 tertiary parallel veins, faint cross-veins often present; margin with microscopic, regularly spaced, unicellular spines. Spathes 1- or rarely 2-flowered; distinctly pedunculate; peduncle up to  $\pm 50$  cm long. Flowers bisexual, usually emergent but sometimes submerged. Petals linear, band-like, often remaining folded and twisted within the calyx. Stamens laterally papillose. Capsules 3-5 cm long. Seeds ellipsoidal, irregular, longitudinal ridges or ribs, long spines and apical and/or basal tails absent.

**Taxonomic synonyms:** *Blyxa ceylanica* Hook.f., *B. ecaudata* Hayata, *B. graminea* Steud., *B. griffithii* Planch. ex Hook.f., *B. malayana* Ridl., *B. muricata* Koidz., *B. oryzetorum* (Decne.) Hook.f., and *Diplosiphon oryzetorum* Decne.

**Common name:** Round fruit *Blyxa*

**Flowering and fruiting:** It flowers and fruits throughout, the year as long as water is present. Emergent flowers are strongly autogamous with pre-anthesis cleistogamy, whereas submerged flowers are totally cleistogamous. Seed set is usually good. The disseminules are seeds or complete capsules, dispersion unknown but it is probably transported in mud or the feet of wetland birds (Cook, 1996).

**Biotic association**

The taxa is growing in association with *Eriocaulon pectinatum* Ruhl., *Eriocaulon quinquangulare* L., and *Utricularia* sps.



**Figure 1:** Natural habitat of *Blyxa aubertii*

**Geographical distribution**

It is native to Africa, widely distributed in tropical and subtropical Asia and Australia, north America, Bangladesh, Cambodia, China (Anhui, Fujian, Guangdong, Guangxi, Hunan, Jiangsu, Jiangxi, Shaanxi, Shanghai, Sichuan, Yunnan, Zhejiang), Hong Kong, India, Indonesia (Jawa, Kalimantan, Maluku, Sumatera), Japan, Korea, Madagascar, Malaysia, Mozambique, Myanma, Nepal, Philippines, Sri Lanka, Taiwan, Tanzania, Thailand, and Viet Nam.

**Specimen examined:** India, Tamilnadu, Kanyakumari district, Alamparai hills, Anami 3112, 16-07-2012; Jeeva and Karuppusamy 3253, 12-1-2013 (Herbarium of Scott Christian College, Nagercoil, Tamilnadu).

**Notes:** The plant is usually annual submerged herb but may persist longer in permanent water bodies. It usually grows in temporary water and is often found in rice fields and irrigation ditches, but is not considered to be a weed. The species is cultivated as aquarium plant and also eaten locally in Indo-Burma region. The IUCN Red List of Threatened Species version 2012.2 placed this species as Least Concern (Gupta, 2011).

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**Figure 2:** *Blyxa aubertii* - habit

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