



Notes on the distribution of *Hemarthria longiflora* (J. D. Hooker) A. Camus (Poaceae) in the Indian subcontinent

KEYWORDS

Hemarthria longiflora (J. D. Hooker) A. Camus, status, rediscovery, Maldah, distribution.

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ABSTRACT

Collection of *Hemarthria longiflora* (J. D. Hooker) A. Camus from the wetland area of Maldah district of West Bengal. It is an extremely rare in occurrence recorded from the lower Gangetic plains of India. Only Three specimens so far were collected from Indian sub-continent.

Introduction:

The Genus *Hemarthria* R. Brown (Poaceae: Andropogonaceae – Rottboelliinae) represented by fourteen species and distributed mostly in tropical and subtropical regions of the Old World and also introduced in America (Bixing and Phillips, 2005). Species of this genus are aquatic or semi-aquatic i.e., concentrated around the wetlands in South East Asia. Detail investigation of literature revealed that five species of *Hemarthria* R. Brown are reported to grow in different parts of the Indian subcontinent. Among these, *Hemarthria compressa* (Linnaeus f.) R. Brown (Assam, Bihar, Madhya Pradesh, Andhra Pradesh, Jammu & Kashmir, Gujarat, Maharashtra, Manipur, Meghalaya, Nagaland, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal), *Hemarthria vaginata* Buesse (West Bengal, Nagaland, Meghalaya, Bihar, Assam) are very common and reported from various parts of India (Bor, 1960; Heuvel and Veldkamp, 2000; Tropicos, www.tropicos.org). *Hemarthria hamiltoniana* Nees ex Steudel is an endemic to India and only reported from the Khader region of upper gangetic plain in Uttar Pradesh (Singh, 2012). *Hemarthria longiflora* (J.D. Hooker) A. Camus is reported from Assam in British India and later on from West Bengal by Dey and Pati (1997) (Map 1) and *Hemarthria altissima* (Poiret) Stapf & C.E. Hubbard is from Tamil Nadu only (Hooker, 1897; Bor 1940, 1960; Heuvel and Veldkamp, 2000).

The present work is focused on the distribution of *Hemarthria longiflora* (J. D. Hooker) A. Camus in the Indian subcontinent. Hooker (1897) recorded his *Rottboellia longiflora* from Malaysia, Myanmar and Assam (Herb. Munro). Specimens under his reference was actually from Sylhet (Bor 1940) of undivided Assam (in British India), which is now a part of Bangladesh. After the partition of India in the year 1947, the species was first reported from the present Indian territory by Dey & Pati in 1997. So far, that was the only report of occurrence of the species in this large country. They recorded the plant in August from rice field and from Sylhet (in Bangladesh) to Kharagpur (in India) the entire area is famous for growing rice during monsoon. The species appears to be very rare. Though Dey and Pati (1997) commented that 'it is a fodder grass in this district (i.e. Paschim Medinipore)' but there was no other collection from that area even when we know the floristic studies are quite popular in the southern part of West Bengal (Mitra and Mukherjee, 2009). It was recorded from rice field by Dey & Pati (1997) but it is similar to paddy plant neither in habit nor in its overall structure. After 9 years in 2005 another specimen (Figure 1) was collected while exploring the wetland flora of Maldah district of West Bengal from a bulk collection mixing with *Hemarthria compressa* from the Belatuli wetland which is seasonal waterlogged palustrine. There the species was growing associated with *Hemarthria compressa* (Linnaeus f.) R. Brown, *Rottboellia colchinchin-*

ensis (Loureiro) W.D. Clayton, *Cyperus difformis* Linnaeus, *Schoenoplectus juncooides* (Roxburgh) Palla, *Digitaria ciliaris* (Retzuis) Koeler etc. The identity of *Hemarthria longiflora* collected from Maldah was confirmed through different literature including Flora of China (Bixing and Phillips, 2005), the Flora of British India (Hooker, 1897) and also by matching at CAL. The present locality lays almost midway between Sylhet and Kharagpur. It is expected that proper survey during its flowering period (i.e. August – September) in the wetlands of entire Bangladesh and some Indian states like West Bengal, Orissa and Bihar will expose its proper distribution pattern in the Indian subcontinent. However, large scale modification of wetlands and the rampant use of fertilizers and herbicides in crop fields are probably adversely affecting the population of this rare grass along with numerous other rare and/or interesting plants of such habitat.

For proper recognition, a description and a photograph of the specimen are provided below:



Map 1: Distribution of *Hemarthria longiflora* (J. D. Hooker) A. Camus in India

Hemarthria longiflora (J. D. Hooker) A. Camus in Lecomte, Fl. Indo-Chine 7: 380. 1922. *Rottboellia longiflora* J. D. Hooker, Fl. Brit. India 7: 154. 1897; *R. longiflora* var. *tonkinensis* (A. Camus) A. Camus; *Rottboellia tonkinensis* A. Camus in Bull. Mus. Hist. Nat. Paris 25: 369. 1919.

Annual, wetland grass. Culms loosely tufted, erect from decumbent base, 20 – 70 cm tall, 2 – 4 mm in diam., glabrous, spongy, nodes usually pubescent. Leaf sheaths loose, sub-compressed; leaf blades linear-lanceolate, 6 – 18 × 0.5 – 0.8 cm, slightly flaccid, glabrous, base subcordate; ligule 0.8 – 2 mm. Racemes solitary or fascicled, 11 – 14 cm, stout, articulation line oblique, disarticulating tardily. Sessile spikelet twice as long as adjacent internode, 7 – 13 mm; callus triangular, 0.1 – 0.6 mm; lower glume lanceolate, back flat, margins scabrid, apex acuminate-caudate to awnlike; upper glume 10–12 mm, acuminate-caudate; lower floret 3–7 mm; upper floret ca. 4 mm, palea very short. Pedicelled spikelet 8–20 mm.



Figure 1: Photograph of Herbarium Specimen of *Hemarthria longiflora* (J. D. Hooker) A. Camus Deposited at NBU

Herbarium, University of North Bengal, Darjeeling, India

Flowering and Fruiting: August – September

Exsiccatae: Belatuli wetland (Beel), Old Maldah, AP Das & Monoranjan 0550 dated 16.10.2005.

Location: N 25°02'46.63" & E 88°12'24.66".

Ecological Note: Aquatic or semi-aquatic in habit and grown along with paddy or in the periphery of paddy fields.

Indian distribution: West Bengal (Kharagpur, Paschim Medinipore and Belatuli wetland Maldah).

General Distribution: Eastern India (W Bengal: Medinipur, Maldah), Bangladesh, Myanmar, Thailand (Chiangmai, Bangkok, Nakhon Ratchasima, Chanthaburi), Vietnam, China (Hainan, Yunnan), Malaysia (Males), Pen (Kedah, Kelantan), Borneo (Banjarmasin).

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