

## ***Murdannia keisak* (Hasskarl) Handel-Mazzetti (Commelinaceae): a new record for India**

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[Received 12.10.2015; Revised 17.12.2015; Accepted 21.12.2015; Published 31.12.2015]

### **Abstract**

Recent floristic exploration in the wetlands of sub-Himalayan Duars of West Bengal, India recorded the occurrence of *Murdannia keisak* (Hasskarl) Handel-Mazzetti (Commelinaceae) which was previously unknown to the flora of this country. The morphological features, phenology, ecological notes and photographs of the species are provided.

**Key words:** *Murdannia keisak*, New record, India.

### **INTRODUCTION**

Commelinaceae Mirbel is representing 41 genera and about 650 species (Faden 2000) which are either widespread or mostly distributed in Africa and Asia. *Murdannia* Royle is one of the larger genera with 55 species worldwide (Govaerts & Faden 2014) and mainly concentrated in the tropical and subtropical regions of Asia and Africa. Karthikeyan *et al.* (1989) enumerated 23 species of *Murdannia* for India and the number is subsequently reached to 27 with some recently established new species (Ramana *et al.* 2013; Nandikar & Gurav 2015), of these, seven species are reported as endemic to India. The genus *Murdannia* in India was described by various authors in different times and some major works include Dalzell (1851), Wight (1853), Hasskarl (1870), Clarke (1871, 1874, 1881), Hooker (1894), Fyson (1920) and Rao & Kammathy (1963 & 1966).

The occurrence of *Murdannia keisak* (Hasskarl) Handel-Mazzetti (Commelinaceae) in India was previously uncertain (Nandikar & Gurav 2015 2015). Karthikeyan *et al.* (1989) mentioned its occurrence in Nepal but, Nandikar & Gurav 2015 (2015) expressed doubt about its occurrence in this region and has excluded it from the Indian flora. *Murdannia keisak* is a weedy annual herb, native to eastern Asia (Faden 2000; Seward 1958). It was first reported from North America (South Carolina) in 1935 (Hotchkiss 1940, 1951), although there is one 1927 collection of the species from Louisiana deposited in NY (Dunn & Sharitz 1990). *Murdannia keisak* is also found in Europe (Faden 2000). It is thought to have been a contaminant of paddy and is frequently found in old paddy fields (Dunn & Sharitz 1990).



**PLATE - I.** *Murdannia keisak* (Hasskarl) Handel-Mazzetti: **A.** Plant in the habitat; **B.** A flower; **C.** Mode of flower and fruit bearing, also note the line of hairs on leaf sheath.

In September 2013 an herbaceous plant of Commelinaceae in full bloom was collected from the old paddy field of Nathuar Char nearby Bodaganj forest, Jalpaiguri, West Bengal. After critical investigation through the consultation of different literature (Dunn & Sharitz 1990; Faden 2000; Shui Zhu 2000) and matching with the image nos. TROY000010028 [442 dtd. 10.01.1997] from Tokyo University Herbarium and JSU00000100 [11073 dtd. 14.10.2001] from Jacksonville State University Herbarium, the plant has been identified as *Murdannia keisak* (Hasskarl) Handel-Mazzetti. The plant was first described by Hasskarl in 1870 with Type (in K) from Nepal. As Nandikar & Gurav (2015) has observed no specimen of this species is available in any Indian Herbarium. So, the present report of occurrence of *Murdannia keisak* from the Duars of Jalpaiguri is now treated for its first record for India.

***Murdannia keisak*** (Hasskarl) Handel-Mazzetti, *Symb. Sin.* 7: 1243. 1936. *Aneilema keisak* Hasskarl, *Commelin. Ind.* 32. 1870.

Perennial, thick mat forming herbs. Roots from nodes, fibrous. Lower stem horizontal, elongated. Stems creeping proximally, ascending distally, branched to 41 cm; internodes ca. 7.5 cm, with a line of dense, white hairs. Leaves sessile; leaf sheath with a line of hairs on 1 side; lamina spreading or slightly folded linear-lanceolate or linear-elliptic, entire, acuminate, ciliate only in proximal part. Cincinni terminal and axillary, usually 1-flowered; peduncle 1 – 3 cm, with linear bract at middle, sometimes with a flower in axil of bract; pedicels 1 – 2 cm. Sepals narrowly oblong, 6 – 12 mm. Petals blue-purple, or pale blue, obovate. Fertile stamens 3; filaments densely bearded; staminodes 3; antherodes sagittate. Capsules narrowly ovoid, trigonous, acute to subacuminate at both ends. Seeds 4 per valve, uniseriate, gray, slightly flattened.

**Flowers & Fruits:** August – October

**Exsiccata:** Nathuar Char nearby Bodaganj forest, Jalipaiguri, West Bengal, *Anurag et al 04147*, dated 12.09.2013.

**Distribution:** INDIA (Nathuar Char nearby Bodaganj forest, Jalipaiguri, West Bengal); Nepal (Karthikeyan *et al.* 1989), S. JAPAN, KOREA.

**Ecology:** In Bodaganj the plants were growing in ephemeral water bodies in an old paddy fields associated with *Limnophila aromatica* (Lamarck) Merrill, *Eichhornia crassipes* (Martius) Solms, *Hydrolea zeylanica* (Linnaeus) Vahl, *Cyanotis axillaris* (Linnaeus) J.A. & J.H. Schultes. Now it is only known from a single locality in India apart from its known Asiatic distribution in Nepal, China, S. Japan and Korea.

**Conservation status:** The only known habitat of *M. keisak* in India is Bodaganj area of Jalpaiguri, which is now increasingly facing several anthropogenic stresses and threatening its survival. The key factors may be cited here as the local dense human population, rapid urbanisation, and numerous other anthropogenic activities leading to the large scale degradation of different natural habitat conditions. Besides, unplanned fishing activities have degraded the wetlands and their resources, so, some sort of conservation strategies are to be developed to save this extremely rare species.

### Acknowledgments

Authors are thankful to the Director, Botanical Survey of India and Additional Director in-Charge of Central National Herbarium, Calcutta for their all possible assistance. University Grant Commission is highly acknowledged for the financial support to AC during the survey which helped to take up the said work.

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