

## CONTRIBUTION TO THE AQUATIC AND WETLAND FLORA OF JAMMU AND KASHMIR STATE (FAMILY SPARGANIACEAE AGARDH)

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Two species of *Sparganium* (Tourn.) Linn. were collected from an aquatic habitat at Awantipora and from the Nehru Botanical Garden, Chashmashahi, Kashmir (J&K). On critical examination these have been identified as *S. ramosum* Huds and *S. simplex* Huds. *S. simplex* is new record for J&K state.

**Keywords :** Monotypic; New record, *Sparganium simplex*.

Family Sparganiaceae is monotypic with a solitary genus *Sparganium* (Tourn.) Linn. having 20 species distributed in temperate and frigid regions of northern as well as southern parts of the world<sup>1</sup> Hooker f.<sup>2</sup> described two species of *Sparganium* namely *S. ramosum* Huds from north-west Himalaya and *S. simplex* Huds. from Sikkim Himalaya and placed them in the family Typhaceae. Stewart<sup>3</sup> reported *S. ramosum* Huds. from Swat (West Pakistan). Singh and Kachroo<sup>4</sup> reported *S. ramosum* Huds. from Srinagar, Kashmir. A few years later Kak<sup>5</sup> has also reported it from Kashmir Himalaya. Deam<sup>1</sup> has described 6 species of genus *Sparganium* in flora Indiana (U.S).

During various forays in different parts of Kashmir between 2000 and 2001, and parts of Jammu division of Jammu and Kashmir state between 1988 and 1999, the authors collected two species of *Sparganium* (Tourn) Linn. from an aquatic habitat at Awantipora and from the Nehru Botanical Garden, Chashmashahi, Kashmir. On critical examination these have been identified as *S. ramosum* Huds. and *S. Simplex* Huds.

Brief description of the specimens, diagnostic key to species and sketches of plant habit and floral parts form the text of this communication.

*Sparganium* (Tourn.) Linn.

Key to species

1+ Plants 1 - 1.2 m tall; leaves 1.5 m long, leaf margins concave on the dorsal

side; heads sessile on branches of panicles; drupe sessile, beak short ..... 1. *S. ramosum*  
Plants 0.4 - 0.6 m tall; leaves  $\pm$  0.5m long, leaf margin flat; heads racemose spicate; drupe shortly stipitate, beak long..... 2. *S. simplex*

1. *S. ramosum* Huds, Fl. Angl. ed 2, 401. 1778; Hooker f., FBI, 6 : 489. 1893; *S. erectum* Kurz in Journ. Bot 5 : 96. 1867; *S. carinatum* Ham. ex Royle III 408. 1833-1840.

Aquatic, erect, perennial herbs (Fig.1); rhizome creeping; stem 1-1.2 m tall, leafy; leaves  $\pm$  1.5 m long, margin concave, triquetrous at base, base sheathy; inflorescence a globose head, sessile or in panicles; flowers unisexual subtended by leafy bracts; male flowers olive brown, 1.4-2 cm in dia., tepals 3 - 6, membranous, deciduous; stamens 3 - 6, anthers oblong, connective hardly produced at tip, alternate with tepals when equal in number; female heads 2 - 2.5 in dia; scale linear; tepals 3 - 6, membranous, deciduous, ovary 1 rarely 2 - celled, style very short, persistent, stigma unilateral, linear, ovule 1 or 2, drupe obovoid, beak short, tip perforated, spongy.

Grows at aquatic habitat

Fls. & Frs : May - July

Species examined : Kashmir, Awantipora, Bhellum 762 (JUH.)

Distribution: India (North west Himalaya, Kashmir) Burma and North temperate regions.

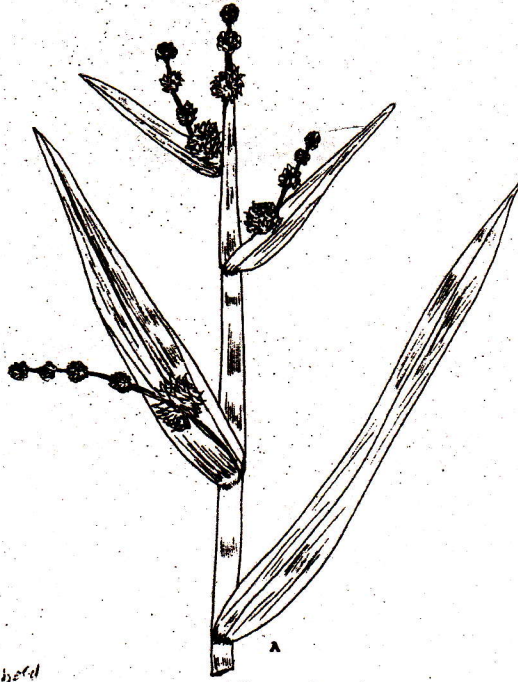


Fig. 1. *Sparganium ramosum* Huds. : A, Habit.



Fig. 2. *Sparganium simplex* Huds. : A, plant habit; B, Stamen with tepal; C, Pistillate flower; D, fruit.

2. *S. simplex* Huds., Angl. ed.2, 401. 1778; Hooker f., FBI 6 : 489: 1893.

Perennial, aquatic, marshy herbs; (Fig. 2) stem leafy 0.4 - 0.5 m tall; leaves  $\pm$  0.5 m long, linear, triquetrous at base, margin flat, male heads spicate, yellow subtended by linear bracts, tip toothed; tepals 3- 6, membranous; stamens 3-6 membranous anthers oblong, alternate with the tepals with equal in number, connective hardly produced at tip, female heads racemose, tepals 3 - 6 membranous; ovary 1 rarely 2 - celled, style short, persistent, stigma unilateral; drupe shortly stipitate, fusiform, beak elongated spongy.

Grows at aquatic habitat.

Fls. & Frs : May - July

Specimens examined : Kashmir, Srinagar Chashmashahi, marshes in Nehru Botnical

Garden Bhellum, 406 (JUH).

Distribution : India (Sikkim Himalaya, Khasia hills) Burma and north temperate region.

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