



Alopecurus aequalis sobolewski (Poaceae): A new generic record for the state of Rajasthan (Indian Thar Desert)

Radhe Shyam¹, Amit Kotiya^{2*}, Yogita Solanki³, N.C. Aery⁴

¹ Department of Botany, Shri Khushal Das University, Hanumangarh Junction, Rajasthan, India

^{2,3} Department of Botany, University of Rajasthan, Jaipur, Rajasthan, India

⁴ Department of Botany, Mohanlal Sukhadia University, Udaipur, Rajasthan, India

Abstract

Alopecurus aequalis Sobolewski belongs to the family Poaceae. So far, the distribution of this species has been recorded from Kashmir, Uttar Pradesh, Punjab, Madhya Pradesh, Gujarat and parts of southern Indian states. It is the first report of *Alopecurus aequalis* Sobolewski from the state of Rajasthan, India. Present paper visualizes a brief citation, detailed taxonomic description, phenological data, photographs, distribution maps and identification key of the species.

Keywords: *Alopecurus*, Poaceae, Grass, Hanumangarh, Thar desert, Rajasthan

1. Introduction

The genus *Alopecurus* Linn. comes under the tribe Aveneae Dumort. of family Poaceae. The genus includes around 39 species in the world, among these only 6 species occur in India [1, 2, 3, 4, 5]. So far there are no publication or distribution records of this genus from Rajasthan [6, 7, 8, 9, 10, 11, 12, 13, 14].

Alopecurus aequalis Sobolewski grows along water channels and shallow waters, mostly seen to form small patches on drying sludge.

2. Material and Methods

During botanical exploration in different parts of Rajasthan, the plant specimens were collected from the places around village Amar Pura Jalu (16 AMP), tehsil Sangaria, District Hanumangarh, Rajasthan, India (Fig.1). Two specimens were collected from a spot (Latitude: 29°48'34.93"N; Longitude: 74°19'55.74"E and Latitude: 29°48'34.98"N; Longitude: 74°19'58.96"E) along a small water canal (nallah) made for irrigation of crop fields. After critical examination of the species with the help of various literatures it has been concluded that these specimens belong to *Alopecurus aequalis* Sobolewski. For identification, detailed taxonomic description, key to species, phenological data, field photographs (Fig. 2) are mentioned in this paper. The specimens have been deposited in the Rajasthan University Botanical Laboratory (RUBL), Jaipur (Rajasthan).

3. Taxonomic description

Alopecurus aequalis Sobolewski Fl. Petrop. 16, 1799; Sultan & Stewart, Grasses W. Pak. 2: 310, 1959; Bor in GBCIP 392, 1960; Bor in Rech.f., Fl. Iran. 70: 277, 1970; Tzvelev, Poaceae URSS 379, 1976; Clarke in Tutin *et al.*, Fl. Eur. 5: 242, 1980.

A. aequalis Sobolewski subsp. *amurensis* (Komarov) Hultén Circumpol. Pl., 1: 108, 1964.

Annual, short-lived perennial. Culms decumbent and tufted, loosely tied, 100-350 mm long, without nodal roots, or rooting from lower nodes. Ligule membranous, ciliate, 0.2-0.5 cm long. Leaf-blades 20-100 mm x 20-50 mm, leaf sheaths smooth abaxially, glabrous and scaberulous or closely rough surface adaxially. Inflorescences pale gray-green, panicle spiciform, narrowly cylindrical or linear, 10-60 mm x 3-6 mm, initial branches of panicle are accrescent to a central axis, with evident branchlets on axis. Panicle axis with rounded ribs, fertile spikelets pedicelled. Pedicels oblong. Spikelets solitary, consist of one fertile floret, without rhachilla extension, elliptic or oblong, 2-2.5 mm long, laterally compressed. Glumes obtuse, connate along margins below, similar, reaching apex of florets. Lower glume oblong, 0.2-0.25 cm long, membranous, 3-veined, 1-keeled, primary vein ciliate, surface pubescent, apex obtuse; Upper glume oblong, 0.2-0.25cm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3-veined, primary vein ciliate, surface pubescent, apex obtuse, mucous. Fertile lemma is membranous, elliptic, 0.2- 0.25 cm long, keeled, 4-veined, lemma margins connate below, lemma apex truncate, one-awned, main lemma awn dorsal, around 0.1- 0.15 cm long, not or scarcely exerted from spikelet. Palea absent or minute. Lodicules absent. Anthers 3, orange coloured, 1-1.3 mm long. Stigmas protogynous, terminally exerted, pubescent, ovary glabrous. Fruit is caryopsis, 1-1.8 mm in size.

Flowering & Fruiting: October-February.

Distribution: Assam, Pondicherry, Kashmir, Himachal Pradesh, Uttarakhand, Assam, Arunachal Pradesh.

Specimens examined: Dr. Amit Kotiya (RUBL- 211743, Date: 05/01/2020 and RUBL- 211744, Date: 08/01/2020), collected by Dr. Radhe Shyam, from the places around village Amar Pura Jalu (16 AMP), tehsil Sangaria, district Hanumangarh, Rajasthan, India.

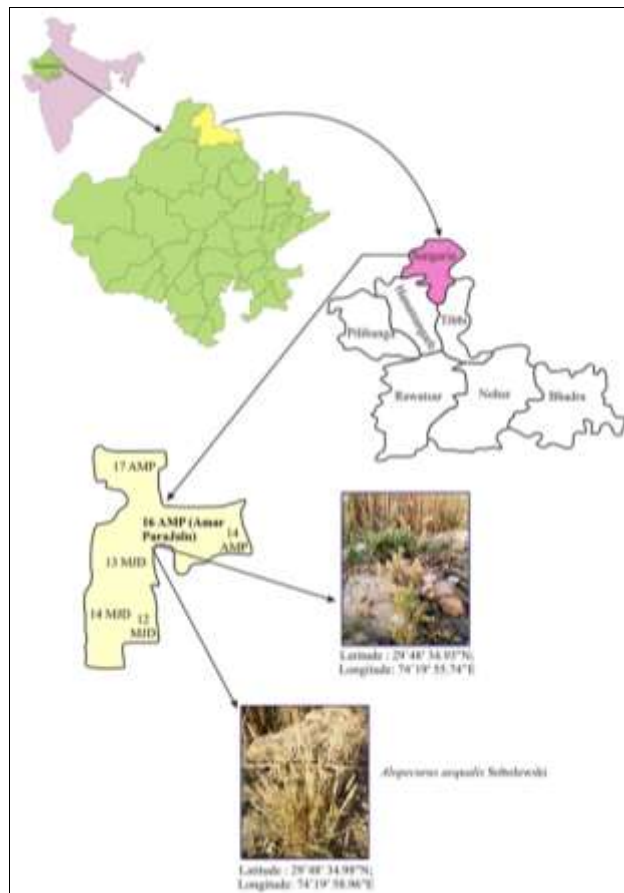


Fig 1: Map showing the location of the spots from where specimens of *Alopecurus aequalis* Sobolewski were collected



Fig 2: *Alopecurus aequalis* Sobolewski: a. Natural habitat; b. Dry specimen; c. Leaf; d. Panicle; e. Spikelets; f. Glume; g. Awn

4. Key to Species

1. Annual, underground stem absent, spikelets 2-2.5 mm long..... *A. aequalis*
2. Perennials, underground stem present, spikelets 3-8 mm long2
3. Glumes divergent at apex, lemmas truncate at apex.....*A. arundinaceus*
4. Glumes erect or a little converging at apex, lemmas acute at apex*A. pratensis*

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6. References

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