

***Spiranthes sinensis* (Persoon) Ames [Orchidaceae] – a new record for Tripura in NE India**

Dipti Das¹ and B. K. Datta

Plant Taxonomy and Biodiversity Laboratory, Department of Botany, Tripura University,
Suryamaninagar-799022, Tripura, India

¹Communicating author, Email: diptiagt@rediffmail.com

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Abstract

Spiranthes sinensis (Persoon) Ames of Orchidaceae is collected from a marshy area located behind M. B. B. College building at Agartala, Tripura which is an addition to the orchid diversity of this Northeast Indian state. This plant is the only aquatic member of Orchidaceae in the state.

Key words: *Spiranthes sinensis*, Orchidaceae, Aquatic orchid, New record, Tripura

INTRODUCTION

Spiranthes L.C. Richard, commonly called Ladies'-Tresses, belonging to sub-tribe Spiranthininae of Spirantheae under Spiranthoideae of Orchidaceae is almost a cosmopolitan genus and comprises of approximately 45 species (Argue 2012). The name is the combination of two Greek words – “speira” means a screw and “anthos” a flower. It is represented by only two species in India namely, *S. spiralis* (Linnaeus) Chevallier and *S. sinensis* (Persoon) Ames (Vij & Vohra 1974). In Orchidaceae, great majority of plants are epiphytes or lithophytes, some are terrestrial, and several others are saprophytes. In addition, there are few others those grow in swamps or marshy lands and *Spiranthes sinensis* is one such wetland orchid (Shapoo *et al.* 2014).

An orchidaceous plant was collected from the swampy area situated behind the seminar-building of M.B.B. College at Agartala, Tripura in the Northeastern region of India, which was, after close observation and perusal of available literatures identified as *Spiranthes sinensis* (Persoon) Ames. In India this species is distributed in North Eastern States like Arunachal Pradesh, Assam, Sikkim, West Bengal and North Indian states like Himachal Pradesh, Uttarakhand, Jammu & Kashmir and Hariyana (Rao 2010; Gogoi *et al.* 2010; Medhi & Chakraborty 2009; Kant *et al.* 2013; Jalal 2012; Shapoo *et al.* 2014). However, the occurrence of this species in Tripura was not reported earlier (Deb 1983). So, the present collection of *S. sinensis* from Agartala is a new record and an addition to the orchid flora of Tripura State in India. The voucher specimens are deposited in Tripura University Herbarium (TUH).

A detailed morphological description, photographs, root-stem anatomy, ecological notes and distribution of the species has been provided in the present paper.

Spiranthes sinensis (Persoon) Ames, *Orchidaceae* 2: 53. 1908; *Fl. Bhutan* 3(3): 116 – 118. 2002.



PLATE - I. *Spiranthes sinensis* (Persoon) Ames:
A. Plants in their habitat [one spike in inset]; **B.** Entire uprooted plants; **C.** Roots; **D.** part of spike; **E.** T.S. of stem; **F.** T.S. of root
G & **H.** Pollinia

Erect marshy herbs, 10 – 50 cm high. Roots adventitious, cylindrical with numerous long hairs. Stem long, unbranched, solid, cylindrical. Leaves 3 – 5 in basal rosette and alternate in aerial stem; lamina 5 – 15 x 0.5 – 1 cm, oblong-elliptic or lanceolate, acute, leaf-base sheathing. Spikes with many spirally arranged flowers. Bracts boat shaped, green, glandular hairy, slightly larger than ovary. Flowers fragrant, 0.8 – 1 cm long, sessile, white, glandular hairy. Outer 3 tepals lanceolate; two inner tepals united at posterior side, lip recurved, without spur, obovate, margin undulate; stamen- 1; pollinia-2; column small. Capsule ovoid.

Flowering & fruiting: January – March

Exsiccatae: Agartala, College Tilla, Das & Datta, DD-475, dated 08.02.2014 (TUH)

Distribution: The species is widely occurring in China, Japan, Korea, Russia, Siberia, Afghanistan, Iran, Iraq, India (Assam, Arunachal Pradesh, Sikkim, West Bengal, Uttarakhand, Himachal Pradesh), Bangladesh, Nepal, Pakistan, Malaysia, Philippines, Tasmania, Myanmar, Thailand, Vietnam, Australia and Europe.

Notes:

1. *Anatomy:* Presence of numerous air spaces in the cortical region of the stem, vascular tissues less developed and copious long hairs in the root reveals the aquatic nature of the plant, velamen *Spiranthes* type (Porembski & Barthlott 1988).

2. *Ecology:* Due to over grazing in the area, the population of the species is very much disturbed. Earlier, it was collected from the same area in the year 2008, and now collected again in February, 2013 from the same location. The species is not reported earlier from the state of Tripura and it is the only aquatic orchid of Tripura state.

3. *Medicinal importance:* Tubers of this plant are used as tonic. Decoction of plants is used in intermittent fever; paste of stem and roots used in sores (Phondani 2011; Pant 2013).

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