

# A new distributional record of *Psammogeton canescens* subsp. *cabulicus* (Apiaceae) for Indian Flora

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## Abstract

*Psammogeton canescens* subsp. *cabulicus* Wagenitz (Apiaceae), a new distributional record for the Flora of India is investigated in this work from Jammu district Jammu and Kashmir. Some intriguing plants were collected from the district Jammu between 2010 and 2018 as part of a field survey in the south-west regions, district Jammu of the state of Jammu and Kashmir. The taxa differing from others subspecies of the species by having lateral branches far exceeding the main axis, bracts  $\pm 2$  mm long, bracteoles  $\pm 1.3$  mm long, fruit 1.4 to 2.0 mm long. For ease in identification, a brief description, a key to subspecies of *Psammogeton canescens* and photographs of the plant and its parts are provided.

## Introduction

*Psammogeton* Edgew. is a small genus with 14 species that are primarily found in Asia (Mousavi et al. 2022). There are currently only six species known to exist in India (Bhellum and Magotra 2023) and four of those are from Jammu and Kashmir. As part of the plant collections in the flora of Jammu and Kashmir, several intriguing sample specimens were collected during the plant exploration from the Jammu area of Jammu and Kashmir between 2010 and 2018.

This taxa has never been documented from India, according to a review of relevant taxonomic literature (Babu 1977, Ahmed and Koul 1980, Sharma and Kachroo 1981, Swami and Gupta 1998, Dhar and Kachroo 1983). After carefully examining the samples, it was eventually determined in the lab that these were new records for the flora for India. According to a review of the Indian floristic literature, the plant has not yet been recorded to the Flora of India and is thus *Psammogeton canescens* subsp. *cabulica* listed as a new taxa. The subspecies of the genus are recognised by sparsely to densely pubescent herb, T-shaped hairs on fruits, bracts ranging from four to seven and presence of trichomes; bracteoles five to seven, margin ciliate; peripheral branches longer than the central main axis. For ease of identification, a brief description of the subspecies, blooming and fruiting dates, distribution, photographs, photo plates, and a key to its closely related subspecies are provided. The taxonomic accounts of the subspecies under investigation. are also included.

## Material and Methods

The samples were collected in the district of Jammu's southwest. These samples were brought to the lab so that a stereoscope could be used to examine them. Standard techniques were utilised to prepare the specimens as herbarium specimens once they were gathered from their natural surroundings (Jain and Rao 1977). Using portable equipment to detect plants in the field has several beneficial applications. Together with a map showing the location of the specimen collection, images of the plants and their components are included. The samples were compared to existing literature and an investigation of the herbaria K, BM, RRLH and W collections. The language used to describe morphological characteristics was as follows: (Williamson et al. 2016). The fresh material was used to measure the different plants parts.



The degree of variation in morphology, the structure of the trichomes and fruits, and the kinds of hair are important characteristics in the taxonomy of angiosperms. Drude (1898), Heywood and Dakshni (1971), Nasir (1972), Arora (1976) and Pimenov et al. (2019) have all investigated these characteristics, including the stylopodium, the number of secretory ducts in the mericarps, and the main and secondary vallecule vittae. Micromorphological research has revealed that *Psammogeton* species differ noticeably from one another. When Rechinger awarded the designation of holotype to the specimens kept in the herbarium W, he established that Wagenitz's identification of *Psammogeton canescens* (DC.) Vatke subsp. *cabulicus* Wagenitz was accurate (1982). The type specimens were gathered in Bagrami, which is close to Kabul. In 1980, Nasir changed the name of this subspecies to *Psammogeton cabulicus* (Wagenitz) Nasir, giving it the status of a species. In my opinion, *Psammogeton cabulicus* described by Nasir is strikingly dissimilar from the *Psammogeton canescens* subsp. *cabulicus* Wagenitz described earlier. There is either error in keeping *P. canescens* subsp. *cabulicus* as synonym under *P. cabulicus* (Wagenitz) Nasir as confirmed through the specimens undertaken to study by authors. Perhaps this is the main reason that these taxa remained unresolved so long without knowing the current status of these taxa and data available related to these taxa being insufficient. The identity of the species *P. cabulicus* (Wagenitz) is in fact different, therefore combination as given by Nasir misidentified, therefore unacceptable. Furthermore, the illustration of these two taxa are so different from each other that these cannot be treated as same. The authors urge that holotype of *P. canescens* subsp. *cabulicus* should not be placed under synonym under *P. cabulicus* (Wagenitz) Nasir since *P. canescens* subsp. *cabulicus* is quite distinct supported by taxonomic characters.

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