

Cyperus michelianus subsp. *pygmaeus* (Rottb.) Asch. & Graebn: A New Record for the Flora of Nepal

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Abstract

Sedges are among the most diverse plants and also the most difficult plants to study owing to their minute flowers arranged in complex inflorescences. It makes them vulnerable to being improperly identified or being left out during collection. The present paper aims to report a taxon of the sedges from the central lowland *Cyperus michelianus* subsp. *pygmaeus* (Rottb.) Asch. & Graebn as a new addition to the Flora of Nepal. Detailed information on this plant with description and taxonomic treatment is presented here.

Keywords: *Cyperus michelianus*, Nepal flora, New taxon, Terai wetland

Introduction

Genus *Cyperus* belongs to the family Cyperaceae also known as the sedge family. Most of the species are cosmopolitan in distribution and generally grow in wet and marshes with concentration of species in tropics (Bouldjedri et al., 2022). The genus *Cyperus* has about 950 species (Pellizzari & Verloove, 2017; Plants of World Online [POWO], 2023). In Nepal, the genus *Cyperus* is represented by 52 species, nearly one-fourth of the total 222 species of Sedges reported from the country (Shrestha et al., 2022).

Cyperus michelianus Ascherson & Graebner species is very close to *C. Pygmaeus* Rottb., but differs from the latter in the phyllotaxy of the spikelets. The glumes in the spikelets of *C. pygmaeus* are arranged distichously while those in spikelets of *C. michelianus* are arranged in spirally. Owing to their similarity *C. pygmaeus* was later treated as a sub-species of *C. michelianus* (Ghosh et al., 2018). A specimen collected during a recent field trip from Gaidahawa Lake of Rupandehi District, Lumbini Province, Central Nepal is identified as *Cyperus michelianus* subsp. *pygmaeus* (Rottb.) Asch. & Graebn.

Materials and Methods

Two field visits were conducted in the periphery of Gaidahawa Lake first during February and then during May in the year 2023. The examined plant specimen was collected during the second visit in May 2023 along with proper photograph and detailed notes on the habitat. Gaidahawa Lake, one of the large wetlands of Rupandehi District, Lumbini Province, is the habitat of several flora, fauna and micro-organisms. The plant is only confined to the marshes where the water level is just down and the soil remains wet. Collected specimens were compared with herbarium deposited at TUCH

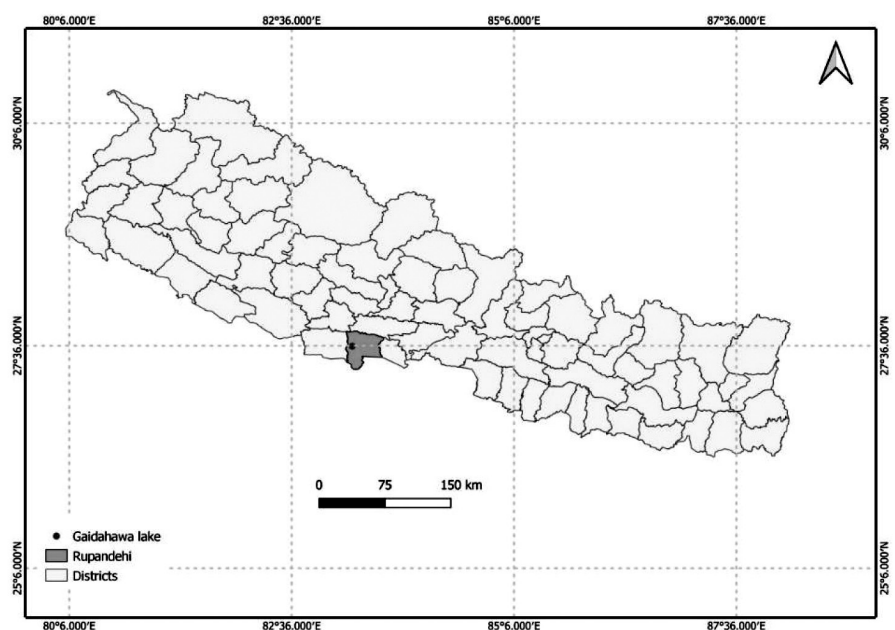


Figure 1: Map showing location of Gaidahawa Lake, Rupandehi District



Figure 2: *Cyperus michelianus* subsp. *pygmaeus*, (A) Habit, (B) A culm with inflorescence, (C) Distichous arrangement of glumes in a spikelet, (D) A glume, (E) A nutlet

and KATH and online available literature. After a thorough taxonomic examination of the sample specimen, it was concluded that the taxon is a new record for the Flora of Nepal.

Taxonomic Treatment

Cyperus michelianus subsp. **pygmaeus** (Rottb.) Asch. & Graebn., Syn. Mitteleur. Fl. 2(2): 273 (1904),

Cyperus pygmaeus Rottb., Descr. Icon. Rar. Pl.: 20 (1773)

Annual herbs. Roots fibrous. Culms tufted, 10-20 cm long, triangular. Leaves shorter than the culms, sheathing upto 1/5 of the culms, reddish brown; leaf blade 2-2.5 mm wide, flat, adaxially spinulose on apical margin and midvein. Involucral bracts 4-8, leaflike, unequal, longer than the inflorescence. Inflorescences capitate with numerous spikelets. Spikelets densely aggregated, ovoid, with more than 10 flowers. Glumes yellowish brown, partly striate, distichous, oblong-lanceolate, 2mm wide, 3 veined, midvein green, terminating in a keel like structure,

apex acute and excurved mucronate. Stamen 1. anther short, linear. Style short; stigma 2 (or 3), longer than the style. Nutlets oblong, brown.

Flowering and Fruiting: February-April

Distribution: Native to the Mediterranean basin, Canary Islands, Africa, Some south to east Asian countries including Pakistan, India, China, Sri Lanka, Myanmar, Thailand upto Australian subcontinent.

Ecology: Wet marshes, Wetlands

Specimen examined: Lumbini Province, Rupandehi District, Gaidahawa Rural Municipality, Gaidahawa Lake, 27. 59324° N, 83.280425° E, 80m, 3 May. 2023, S Bashyal, G01 (TUCH, KATH)

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