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continued on the back inside cover

Cover: Leaves and fruits of *Terminalia arjuna* in water colour artwork on cold pressed water colour paper by Bhama Sridharan.



Cyperus babakan Steud. (Liliopsida: Poales: Cyperaceae), a new record for southern India

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Cyperus L. is a cosmopolitan genus of the family Cyperaceae and has remarkable species richness in India with about 947 species worldwide (Govearts et al. 2021). Prasad et al. (2020) treated the genus in strict sense and included 82 species in the checklist of flowering plants of India. While conducting field survey on 29 September 2022, for the taxonomic revision of the genus *Cyperus* L. in Kerala, an interesting specimen allied to *Cyperus pilosus* Vahl was collected. On critical examination with reliable literature (Steudel 1855; Kern 1952, 1974; Dai et al. 2010), it was identified as *Cyperus babakan* Steud. This species can be readily distinguished by its simple inflorescence, dense spikes, scabrous nature of glumes and the larger size of achenes.

Steudel (1855) recognized *Cyperus babakensis* based on the collection of Zollinger (H. 693) from the swamp near Babakan in the Tijikoya region, Java (Indonesian Archipelago). There is no description of *C. babakensis* in Zollinger's work (Zollinger, 1854) and it was validly published by Steudel (1855) as *C. babakan* in his monumental work, *Synopsis plantarum glumacerum*. During the same period, Miquel (1855) described and validly published Zollinger's collection (H. 693) as *C. babakensis* and noted that *Cyperus babakan* Steud. is "nomen rectius adjective more adhip" (the name is

more correctly used as an adjective), hence, subsequent workers followed Miquel (Boeckeler 1868; Clarke 1893, 1909; Kuekenenthal 1935). While revising Malaysian *Cyperus*, Kern (1952, 1974) treated *C. babakan* as a valid name and cited "the form *C. babakensis*, accepted by nearly all authors, was still a nomen nudum when *C. babakan* was already validly published therefore it cannot be upheld." The latest authors such as Dai et al. (2010), Govearts et al. (2021) and Prasad et al. (2020) accepted the treatment of Kern (1952, 1974).

Cyperus babakan Steud. is included under the section Proceri (Kern, 1952) of subgenus *Cyperus*; earlier this well-characterized species was placed under the subgenus *Pycnus* by Steudel (1855) and Miquel (1855). The species is native to Asia, extending from Southeastern parts of Tibet, the Malay Peninsula and the Malay Archipelago. In India, the species has been recorded from a few localities from the eastern and northeastern states (Kern 1974; Rao & Verma 1982; Karthikeyan et al. 1989; Prasad et al. 2020). Therefore, the collection represents a new record for southern India. A detailed description along with, photographs and relevant notes are provided for its easy identification.

***Cyperus babakan* Steud., Syn. Plant. Glum. 2: 6. 1855.**

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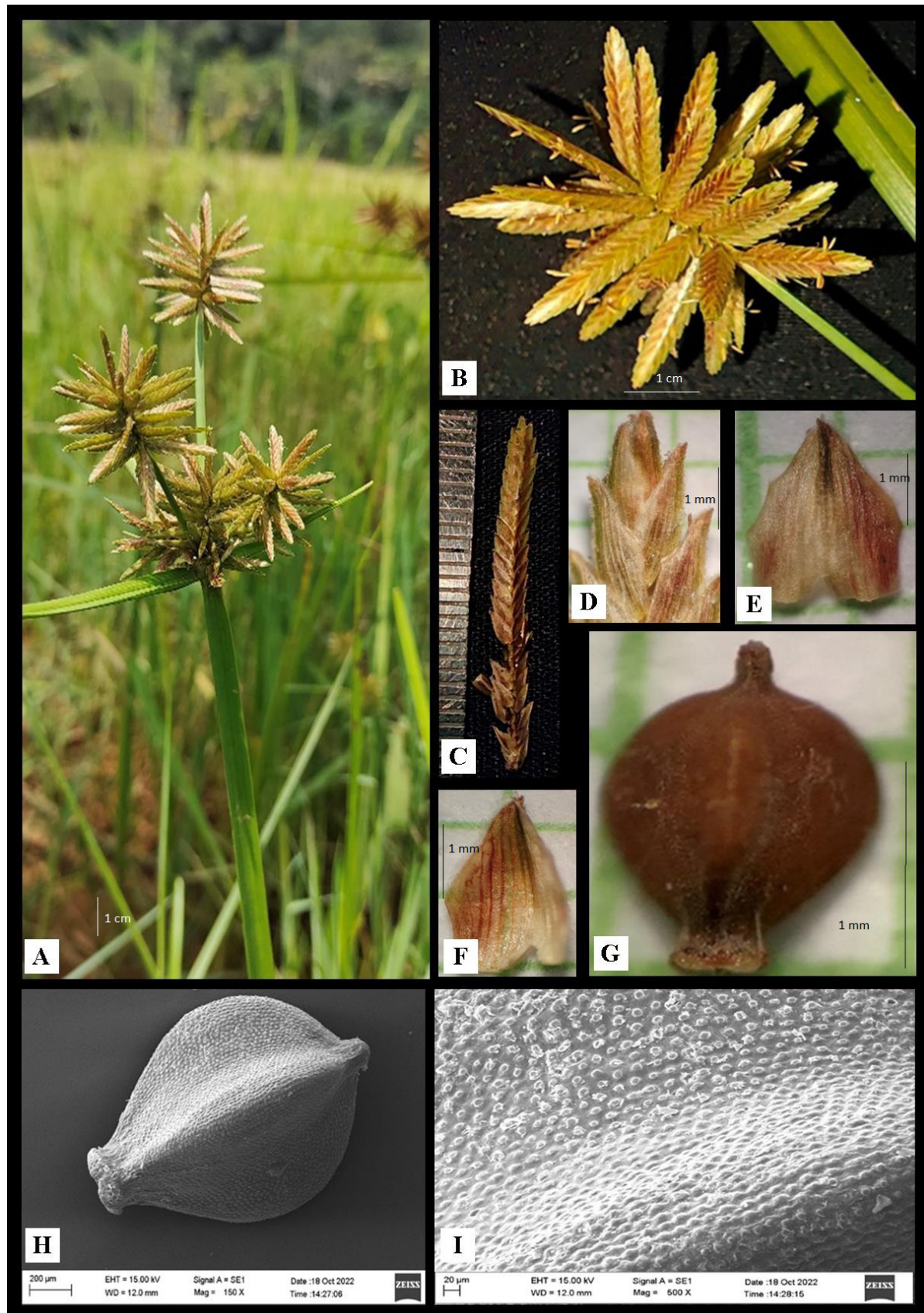


Image 1. *Cyperus babakan* Steud: A— Habitat | B—Spike | C & D—Spikelet | E & F—Glume | G—Achene | H & I— SEM images of achene.
© Anakha B.S. & Viji A.R.

Type: Indonesia, Java Zollinger, H. 693. (G00191583, image!); (Iso L0042364, Image!)

Synonyms: *Cyperus babakensis* Steud. ex Miq., Fl. Ned. Ind. 3: 257. 1856. *Cyperus pilosus* var. *babakensis* (Steud. ex Miq.) C.B. Clarke, J. Linn. Soc. Bot. 21: 151. 1884. *Duval-Jouvea babakensis* (Miq.) H. Pfeiff., Mitt. Inst. Allg. Bot. Hamburg 7: 167. 1928.

Perennials, rhizome emitting slender stolons clothed with brownish scales. Culm solitary, triquetrous, smooth, 60–90 × 0.4–0.6 cm. Leaves 2–3, shorter than or as long as the culm; flat, gradually acuminate, 35–85 × ca. 1 cm, scabrous on the margins towards the apex; basal sheaths often *bladeless*, leaf sheath and blades septate. Inflorescence simple, 3–10 × 4–10 cm. Involucral bracts 3–4, patent to reflexed; the lower two much longer than the inflorescence, 21–45 × 0.6–1 cm. Rays 2–5, unequal, erect, 2–10 cm long. Spikes ovoid or ovoid-oblong, very dense; rachis hispidulous. Spikelets patent to reflexed, compressed, 0.6–2 × 0.2–0.3 cm, 10–46 flowered; rachilla straight, wingless, persistent; internodes 0.5–0.7 mm long. Glumes membranous, obliquely erect, boat shaped, ovate, subacute at apex, minutely mucronulate, 2–3 × ca. 2 mm, 7–9 nerved, stramineous to reddish brown, keel antrorsely hispid-scabrous at least towards the top, margins hyaline. Stamens 3; anthers oblong-linear, 0.7–1 mm long, connective with apical reddish appendage. Stigmas 3. Achene triquetrous, broadly ellipsoid or obovoid, apiculate, broadly stipitate, 1.2–1.5 × 0.7–0.9 mm, black.

Note: The Scanning Electron Microscopic studies of achene revealed the presence of hexagonal *epidermal* cells having thin and inconspicuous periclinal wall and with a central dome shaped silica body.

Flowering and fruiting: June–November.

Distribution: Bangladesh, Borneo, Cambodia, China (Hainan, Tibet), Jawa, Malay Peninsula, New Guinea, Philippines, Sulawesi, Thailand, Vietnam,

India: Arunachal Pradesh, Bihar, West Bengal, Kerala: Thiruvananthapuram

Habitat: In marshy areas along with *Cyperus tenuispica* Steud., *Eleocharis acutangula* (Roxb.) Schult., *E. retroflexa* (Poir.) Urb. etc.

Specimen collected: S. 5214 (TBGT), 29.ix.22, India, Kerala, Thiruvananthapuram District, Venjaramoodu, coll. Anakha B.S.

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