



New record of a Comet grass -*Perotis hordeiformis* Nees from traditional rubber plantation, southern Tamil Nadu, India

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Abstract

Perotis hordeiformis Nees, earlier known only from three States of India-Rajasthan, Uttarakhand and West Bengal, has been recorded for the first time in State Tamil Nadu from traditional rubber plantation of Kanyakumari district. This discovery expands the known geographic distribution of the species, providing new insights into its distributional range. A comprehensive description, distribution map and photographs of the species, also key to Indian *Perotis* is included.

Keywords: *Perotis*, Tamil Nadu, New Record

Introduction

The genus *Perotis* Aiton (*Poaceae: Chloridoideae: Cynodonteae: Perotidinae*) is a small grass genus consists of 16 species, mainly distributed in Tropical & South Africa, W. Indian Ocean, Tropical & Subtropical Asia-Australian regions of the world (Soreng *et al.*, 2015; POWO, 2025). In India, the genus is represented by 03 species with 01 variety, of which 02 species with 01 variety are found in Western Ghats including the Tamil Nadu (Uniyal, Sharma, Choudhery, & Singh, 2007; Nayar *et al.*, 2014; Elizabeth A. Kellogg *et al.*, 2020). The genus is characterized by cylindrical inflorescence, deciduous 1-floret spikelets, and glumes with simple long capillary or flexuous awns (Shouliang & Phillips, 2007).

Methodology

During the floristic exploration in the Kanyakumari district of Tamil Nadu, the authors noticed an interesting population of grass in Pechiparairegion and Perunchani region (Fig 1: B1 & B2). Detailed examination and critical studies of the specimen showed it to be the genus *Perotis* Aiton. and up on critical examination and review literature (Roxburgh, 1832; Hooker, 1887; Gamble, 1934; Cooke, 1958; Bor, 1960; Veldkamp & Steenberg, 1992), the collected specimen was identified as *Perotis hordeiformis* Nees. In India it was first reported from Uttarakhand

(Uniyal, Sharma, Choudhery, & Singh, 2007). Also the same specimen was collected from Perunchani region of Tamil Nadu during this study. Voucher specimens were deposited on TBGT and MPRHK. Thus these collections represent a new distributional record for Tamil Nadu. Key to species of *Perotis* in India, distribution map of *P. hordeiformis* in India and a comprehensive description of the species is provided, including detailed nomenclature, distribution patterns, and photographs for easy identification.

Result and Discussion

Taxonomic treatments

Perotis hordeiformis Nees, in Hook. & Arn., Bot. Beechey Voy.: 248. 1838. *P. chinensis* Gand., Bull. Soc. Bot. France 66: 301. 1919 publ. 1920. *P. birmanica* Gand., Bull. Soc. Bot. France 66: 301. 1919 publ. 1920. *P. glabrata* Steud., Syn. Pl. Glumac. 1: 186. 1854. Fig. 1

Type: Himalaya Mountain; Royle 280.

Annuals, culms loosely tufted, erect or decumbent at base, 15-40 cm height or long, glabrous. Leaves cauline or basal, alternate, distichous; sheaths glabrous; lamina lanceolate to narrowly ovate, 2-4 x 0.5-0.9 cm, glabrous, margins spiny-scabrous or loosely ciliate near base, rounded base, acute apex; ligules absent or sometime collar shaped or a

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membranous rim. Inflorescence cylindrical, up to 20 cm, bottle brush like, purplish colour; rachis scabrous. Spikelets 0.15-0.25 cm (excluding long flexuous awns), densely arranged, ascending or horizontally spreading, deciduous, 1-flowered; basal callus 0.01-0.02 cm, obtuse. Glumes narrowly lanceolate, 1-nerved, 1-keeled, indumentation or pectinate-ciliolate on midvein or keel or longitudinal lines, apex abruptly acute, clearly demarcated from awn; awn 0.5-1.5 cm. Lemmas linear-lanceolate, hyaline, membranous. Paleas linear, chartaceous. Stamens 3; anthers ca. 0.3 mm. Ovary linear. Caryopsis terete, narrowly ellipsoid, 0.1-0.15 cm; seed 1.

Flowering & fruiting: July- September.

Distribution: India (Rajasthan, Uttarakhand, West Bengal (*l.c.*) and Tamil Nadu (present collection), China, Nepal, Lesser Sunda Is, Maluku, New Guinea, Indonesia, Malaysia, Nepal, Myanmar, Pakistan, Sri Lanka, Thailand, Philippines, Sulawesi.

Habitat & Ecology: Growing small populations in shallow bogs on the rock surfaces of different rubber plantations in Kanayakumari district of Tamil Nadu.

The associated species in the community are *Murdannia dimorpha* (Dalzell) G.Brueckn.), *Bonnayaciliata* (Colsm.) Spreng., *Eragrostisunioloides* (Retz.) Nees ex Steud., *Fimbristyliscinnamometorum* (Vahl) Kunth, *Bulbostylis barbata* (Rottb.) Kunth ex C.B. Clarke

Specimens examined: India, Tamil Nadu: Kanyakumari District, Pechiparai, 08°26' 43.68" N, 77° 18' 02.27" E, ± 10 m, August 2025, *Rijuraj & Joseph*, 105009(TBGT!); India, Tamil Nadu: Kanyakumari District, Perunchani, 08°21' 45.00" N, 77° 21' 09.85" E, ± 15 m, August 2025, *Rijuraj & Joseph*, 015 (MPRHK!)

Key to species of Indian *Perotis* Aiton

1. Indumentation on glumes scattered; Inflorescence up to 12 cm long; callus 0.2- 0.5 mm long.....
P. indica

1. Indumentation on glumes longitudinal lines; inflorescence 12- 20 cm long; callus 0.1- 0.2 mm long.....*P. hordeiformis*

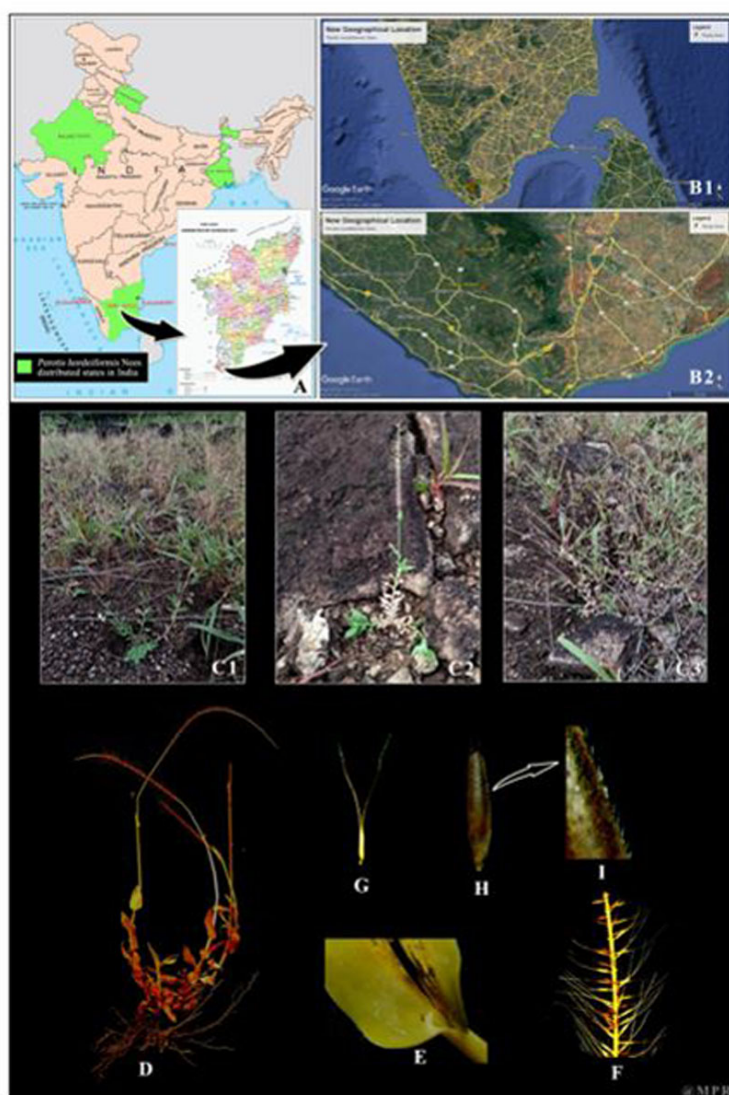


Fig. 1: A. Distribution map of *Perotis hordeiformis* Nees in India insight with District map of Tamil Nadu; B1 & B2. Google Earth Image of collected locations; C1, C2 & C3. Different habitats; D. Habit; E. Leaf base; F. A portion of Inflorescence; G. Spikelet; H. Glumes with indumentation on longitudinal lines; I. Enlarged view of indumentation.

Conclusion

This plant species can be easily recognized by the presence of indumentation on longitudinal lines of glumes, 12- 20 cm long inflorescence and 0.1- 0.2 mm long callus from *P. indica*. The habitat of the described plant is thin soiled open rocky areas of rubber plantation ecosystem. It grows there as a weed with low frequency. So this species is not considered as cover crops for rubber plantation, presently no direct beneficial and damaging effects to the plantation are noticed. This species in literature and herbaria had not yet been recorded from the state Tamil Nadu. So this collection from Pechiparai and Perunchani areas of Kanyakumari district of Tamil Nadu state in India and this paper will become the first authentic record of new addition of Tamil Nadu flora.

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