Viscum capitellatum Sm. (Santalaceae): A new addition to the parasitic flora of Eastern Ghats, India

Abstract

Viscum capitellatum Sm. (Santalaceae) is here reported for the first time from the Eastern Ghats of India, adding a new parasitic element to the flora of Odisha. The species was collected during a floristic survey in the Semiliguda Range of the Koraput Forest Division, where it was observed hyperparasitizing *Scurrula cordifolia* growing on *Mangifera indica*. Detailed examination of collected material confirmed its identity as *V. capitellatum*, a species previously known from Sri Lanka and the southern Indian states of Karnataka, Kerala and Tamil Nadu. The present record extends its distribution northwards into the Eastern Ghats. The species is a small, evergreen, monoecious, semi-parasitic herb characterised by dense branching, swollen nodes, cylindrical internodes, and variably developed leaves that are often reduced to minute scales. Its distinctive cymose inflorescences arise from leaf axils. Male flowers bear two free perianth lobes with sessile stamens, while female flowers possess conical, valvate perianth lobes and an inferior ovary. The smooth green drupes are ellipsoid to ovoid, narrowed below the persistent perianth rim. Present communication provides a comprehensive taxonomic account of *V. capitellatum*, including its description, diagnostic characters, habitat details, photographs, and herbarium documentation (APRFH-204). The new distributional record enhances understanding of the genus *Viscum* in India and highlights the parasitic diversity of the Eastern Ghats, a region still underexplored for mistletoe flora.

Keywords: *Viscum*; Deomali; Koraput; Odisha; New addition

Introduction

The genus *Viscum* L. is variously estimated to comprise about 120 species (Nickrent 1997), 150 species (Mabberley 2017) or 113 species (POWO 2019), distributed in southern Europe, throughout tropical Africa and eastwards to tropical and subtropical Asia, Malesia, and Australia. In India, about 15 species are present, of which 4 are endemic. In Odisha, about 3 species of *Viscum* have been reported (*Viscum articulatum, Viscum monoicum* and *Viscum orientale)* (Saxena and Brahmam, 1995). Members of this genus are characterised by having green stems, leafy or leafless, basic inflorescence unit that is a simple cyme (triad), which is usually 3-flowered. The inflorescences are subracemose, sessile or pedunculate, terminal or axillary (Sanjai and Balakrishnan, 2006; Sahu et al., 2018). Their presence can be found in multiple habitat types, such as dense wet evergreen forests, moist deciduous forests, open lands,

and disturbed areas. They are adapted to live from sea level to 2500 m altitude (Sardesai et al., 2019).

Figure 1: Habitat of *Viscum capitellatum*

During a survey of flowering plants in the Koraput district in November 2025, the authors came across an interesting parasitic species belonging to the genus *Viscum*, in Semiliguda Range, Koraput Forest Division on 22nd November 2025 (18° 38' 16.42" N, 083° 00' 11.28" E, 1044 m elevation), hyperparasiting on *Scurrula cordifolia* on *Mangifera Indica*. After critical study on the collected specimens, the species has been identified as *Viscum capitellatum* Sm., a species that is not been reported from Odisha before. A detailed description and a photo plate (Plate 1) have been provided to aid in identifying the species. The voucher specimen is Habitat of *Viscum capitellatum* deposited in the Biodiversity and Conservation Lab, Ambika Prasad Research Foundation, Odisha [APRFH-204].

Taxonomic treatment

Viscum capitellatum Sm. in Rees, Cyclop. 37: *Viscum* no. 18. 1817; DC., Prodr. 4: 279. 1830; Wight & Arn., Prodr. 380. 1834; Hook.f., FL Brit. India 5: 225. 1886, p. p.; Trimen, Handb. FL Ceylon 3: 471. 1895; Gamble, Indian Timbers 584. 1902; Brandis, Indian Trees 552. 1906; T.

Cooke, Fl. Pres. Bombay 2: 552. 1906, p. p.; Talbot, For. Fl. Pres. Bombay 2: 421, t. 480. 1911; Gamble, FL Pres. Madras 7: 1257, 1258. 1925, p. p.; C.E.C. Fischer in Rec. Bot. Surv. India 11(1): 171. 1926; Danser in Blumea 4: 309, t. 2. 1941; R.S. Rao in J. Indian Bot. Soc. 36(2): 166. 1957; Wiens in Dassan. & Fosberg, Revised FL Ceylon 6: 418. 1987.

Description

It is a small, evergreen, monoecious, semi-parasitic herb, generally reaching up to 15 cm in length. The plant shows dense branching, with the lower portions exhibiting opposite and wide-angled (divaricate) branch pairs, while the upper regions become almost umbellate. Nodes are noticeably swollen and support whorled branch clusters. Internodes are cylindrical or slightly flattened, smooth, and measure about 4 - 6 × 0.2 - 0.6 cm. Leaves are opposite and sessile, but commonly appear only on young shoots. They may be fully developed, greatly reduced to minute scales, or absent, giving many plants a leafless appearance. When present, the leaves are thick, dull green, and vary from round-ovate to obovate or narrowly spathulate. They are entire, rounded at the tip, tapering at the base, and often folded lengthwise or rolled, typically 1- 2.8 × 0.5 - 0.9 cm. The inflorescences are cymose and arise from the leaf axils, rarely appearing at branch tips. Up to six may occur on a single node. Each inflorescence sits on a short peduncle, about 3 mm long, which terminates in a boat-shaped bract-cup enclosing three flowers, usually a central male flower flanked by two female flowers. Occasionally, as many as five flowers may occur, or the male flower may be missing, resulting in all-female inflorescences. In such cases, the central female flower bears its own miniature bract-cup. A secondary inflorescence may sometimes replace the central flower. Male flowers are sessile, slightly compressed at the base, and obovate, around 2 × 1 mm. They have two free perianth lobes with serrated margins, each bearing a single sessile stamen attached to its inner surface. Anthers are two-celled and small, about 0.8 × 0.8 mm. A pistillode is absent. Female flowers are narrow, elongate, about 2.5 × 1 mm, and subtended by small bracts. They possess three free, conical, valvate perianth lobes. Staminodes are lacking. The ovary is inferior, with indistinct ovules, a very short style, and a conical stigma. The fruit is a smooth, shiny green drupe, ellipsoid to ovoid, distinctly narrowed just below the persistent perianth rim (Figure 1 & 2).

Flowering & Fruiting: February - July.

Distribution: Sri Lanka, India (Karnataka, Kerala, Tamil Nadu), and Odisha (Present collection).

Hosts: *Scurrula cordifolia* (Wall.) G.Don, *Mangifera indica* L. and *Ficus benjamina* L.

Specimen examined: India, Odisha, Koraput Forest Division, Semiliguda Range (18° 38' 16.42" N, 083° 00' 11.28" E, 1044 m elevation), 22nd November 2025, Sweta Mishra & Sanjeet Kumar, 0204 (APRFH) (Figure 3).

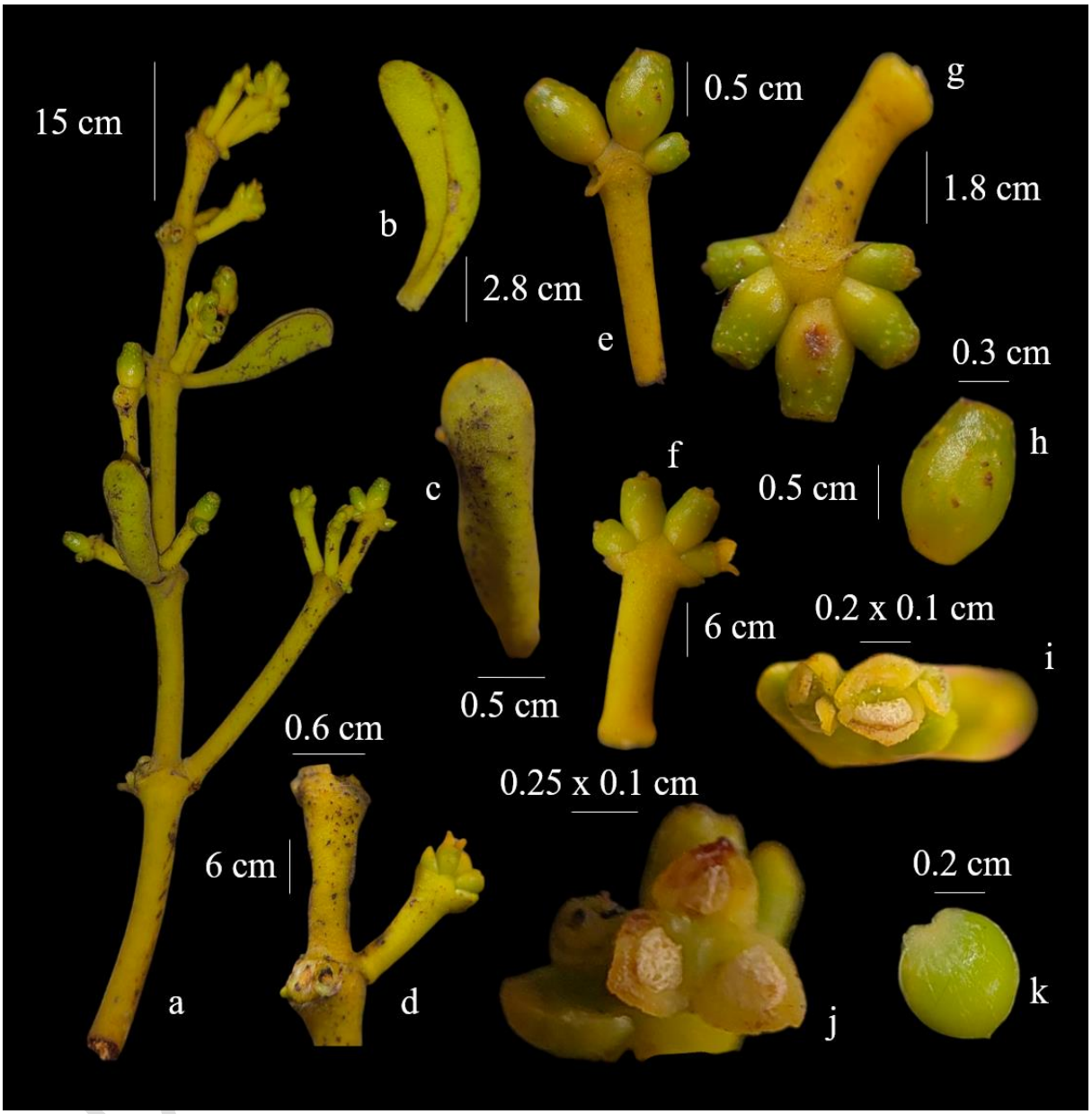

Figure 2: *Viscum capitellatum* – a) Whole plant; b & c) Leaf; d) Nodes; e & g) Fruits; f) Inflorescence; h) Fruit; i) Male flower; j) Female flower; k) Seed

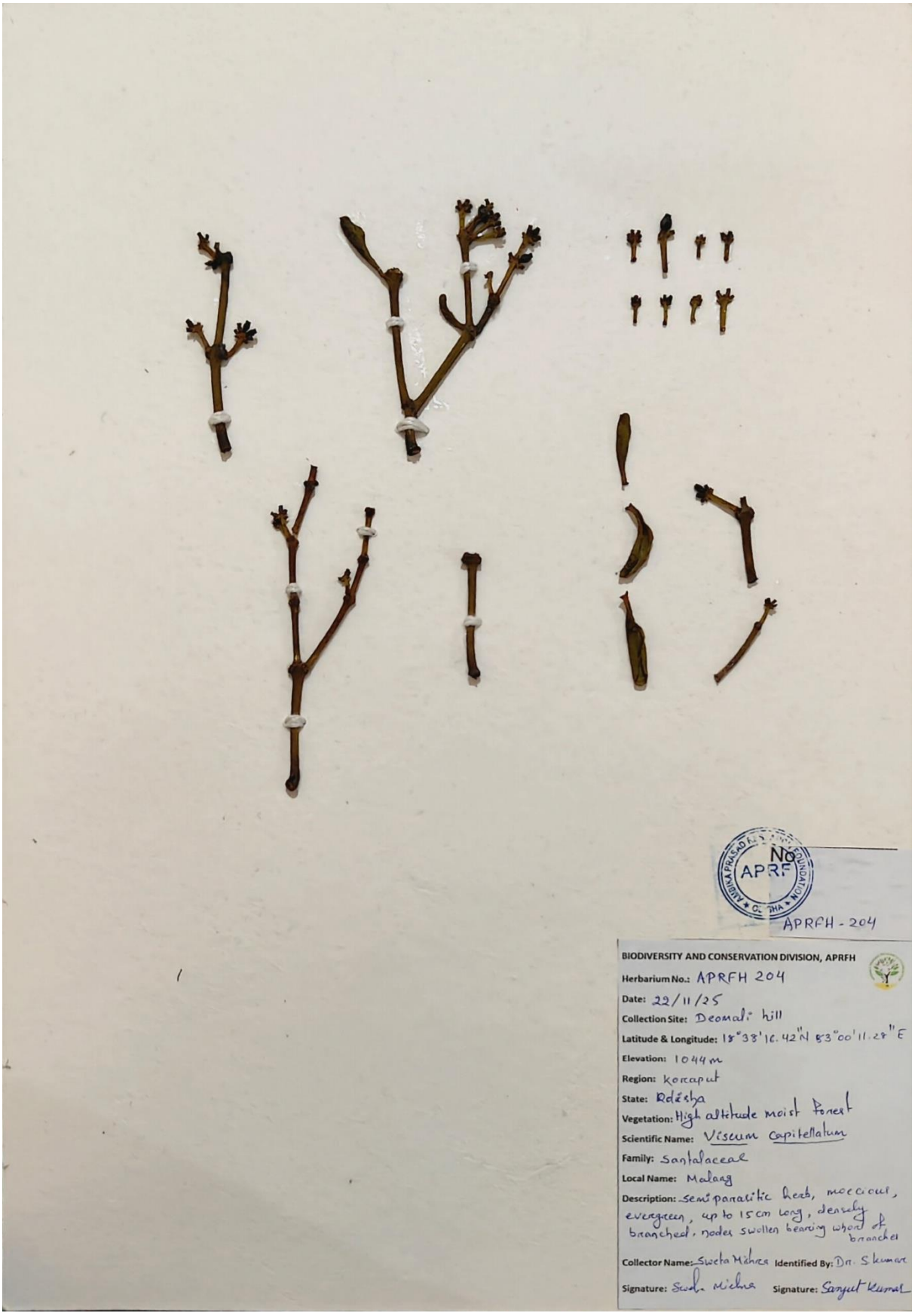

Figure 3: Herbarium of *V. capitellatum*

Conclusion

The present study documents *Viscum capitellatum* Sm. as a new addition to the parasitic flora of the Eastern Ghats and the first record of this species from Odisha state, India. Its occurrence in the Semiliguda Range, hyperparasitizing *Scurrula cordifolia* on *Mangifera indica*, extends the known geographical range of the species beyond its previously reported southern Indian distribution. The detailed morphological description, illustrations, and herbarium documentation provided here will aid in accurate identification and future taxonomic work. This finding emphasises the biological richness of the Eastern Ghats and highlights the need for continued floristic exploration to uncover the still under-documented parasitic plant diversity of the region.

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