A note on *Disporum cantoniense* (Lour.) Merr., collected from Bonai Forest Division, Odisha, India

Abstract

Bonai Forest Division, Odisha is known as rich biodiversity and home of less populated plant species. During the floral exploration works in the year 2022, authors found an interesting plant, *Disporum cantoniense* (Lour.) Merr., growing near streams in Khajurdihi Reserve Forest, Koira Ranga and Phuljhar, Barsuan Range. Literature survey revealed that, it has limited distribution in Odisha state and growing in unique habitat as a high-altitude plant. Therefore, an attempt has been made to document its habitat, associated plants and key characters. The present study provides a base line data to identify the collected species and also will be helpful to make long term conservation plan.

Keywords: Streams, High altitude plants, *Disporum*, Odisha

Introduction

Inside our forest, many plants are available yet to be discovered and explored. Floristic and taxonomic studies are hence useful for the correct identification, distribution, growing season, and finding of unexplored species or new taxa. Documentation of the plant species is a very important aspect in the field of taxonomy as well as for further scientific research. During the botanical exploration in Bonai Forest Division, Sundargarh, Odisha, authors collected one unexplored plant species belonging to the genus *Disporum* Salisb., from Khajurdihi RF of Koira Range with a good population (21° 51' 06" latitude, 85° 16' 35" longitude, 792.57 m elevation; Figure 1; Plate 1) during August 2022 and also from Phuljhar area of Barsuan Range (679.4 m) during October 2022. Their morphological characters identified it as *Disporum cantoniense* (Lour.) Merr. belonging to the family Colchicaceae. *Disporum* Salisb., (1812) represented by 24 species distributed in Bhutan, China, India, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, Russia, Sikkim, Thailand, and Vietnam (Zhu et al. 2019). Among these, more than 14 species have been found in China with 8 endemic species, 4 species are recorded in Japan and 4 species are recorded in Taiwan (Chien-Ti & Yen-Hsueh 2019). In Odisha, only one species has been reported that is *Disporum cantoniense* (Lour.) Merr. (Saxena & Brahmam 1995). Before 1995, *Disporum* members are usually erect, branched herbs with angular stems, and rootstock creeping. Leaves cauline, alternate, or sometimes opposite, sessile or shortly petioled, strongly nerved. Inflorescences terminal or pseudolateral (terminal on a short, lateral branchlet opposite a leaf), umbellate or with flowers paired or solitary, bract absent. Flowers bisexual, often nodding, sometimes horizontal, tubular-campanulate to opening flat. Stamens 6, hypogynous, filaments erect, usually flattened, anthers dorsifixed, extrorse. Ovary 3-celled, ovules 2-6 per cell, style long or short, stigmas 3, short. Fruit a berry. Seeds few, sub-globose; testa brown, albumen horny (Saxena & Brahmam 1995; Songyun & Tamura 2000). The distribution of collected species is limited in Odisha. Therefore, the study will be helpful in making its conservation plan in Odisha state.

Taxonomic Treatment

Disporum cantoniense (Lour.) Merr**.** Philipp.J.Sci.15:229. 1919; Jessop in Steenis, Fl. Males. I.9:218. 1979.

Stout herb, 0.7-1.2 m, dichotomously branched above. Rhizome creeping, thick, without stolon. Leaves alternate and opposite, ovate or ovate-lanceolate, 7-12.5 x 2.5-5 cm, acute or acuminate, stronger nerves about 5-8, petiole very short, decurrent as a raised line on the stem. Flowers white (or dull purple), about 5-6 in short peduncled deflexed umbels, which are terminal, leaf-opposed or from upper leaf-axils, pedicels angled, decurved, 2.5-3.7 cm long. Perianth segments spathulate or lanceolate, 1.8-2 cm long, acute or acuminate, saccate or subsaccate at the base. Fruit black, globose or didymous, ca. 8 mm diam., with 1 seed in each cell. Seeds are light brown, orbicular oblong, and 5 mm long (Saxena & Brahmam 1995; Songyun & Tamura 2000; Plate 1).

Phenology: *Flowering & Fruiting*: August - October

Habitat: Along the perennial stream, bamboo thickets and usually associated with *Gnetum edule* in Bonai Forest Division.

Associated species: *Dictyospermum ovalifolium* Wight., *Gnetum ula* Brongn., *Diospyros malabarica* (Desr.) Kostel., *Globba racemosa* Sm., *Epithema ceylanicum* Gardner etc.

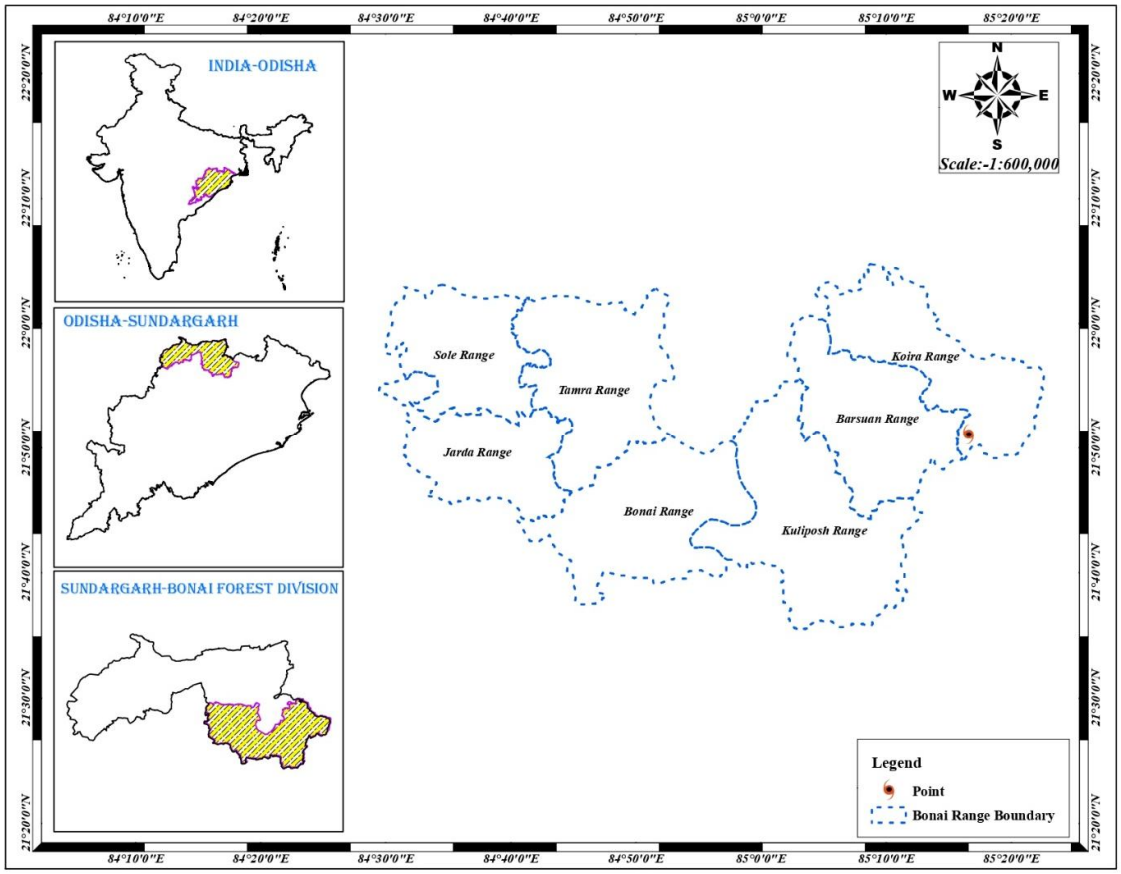

Figure 1: Location map of collected specimen in study area

(Point = location of collected species)

Distribution in World: Bhutan, China, India, Laos, Myanmar, Nepal, Thailand, Vietnam, Japan and Malaysia.

Distribution in India: Manipur, Meghalaya, Mizoram, Himalayan regions, Odisha, Bihar, Sikkim, Andhra Pradesh and South India.

Distribution in Odisha: Sundargarh, Koraput, Similipal and Keonjhar.

Uses: The paste of the root is used to cure bone fracture and dislocation (Regmi et al. 2022).

Plate 1: Habitat and collected specimen in Bonai Forest Division, Odisha

Note: As the earlier studies showed that the distribution of the collected specimen is limited in Odisha state, its conservation is needed. Authors also observed that the collected specimen grow near water bodies, so it could be a biological indicator of perennial streams.

Conclusion

The documentation of plant species is crucial for taxonomy and future scientific study. The current study provides baseline data for identifying the collected species and will be useful in developing long-term conservation plans. The obtained species grow close to water bodies, and it might be a biological indicator of perennial streams.

References

Chien-Ti C and Yen-Hsueh T. (2019). Taxonomic revision of *Disporum* Salisb. (Colchicaceae, Uvularioideae) of Taiwan. PhytoKeys. 119: 1–22.

Zhu X, Liao S and Yi S (2019). *Disporum nanchuanense* (Colchicaceae), a new species from Chongqing, China. In: Cai J, Yu W-B, Zhang T, Li D-Z (Eds) Revealing of the plant diversity in China's biodiversity hotspots. PhytoKeys 130: 49–57.

Saxena HO and Bramham M. 1995. The Flora of Orissa, Orrisa Forest Development Corporation Ltd & Regional Research laboratory. Vol I-IV.

Songyun L and Tamura MN. (2000). *Disporum* Salisbury ex D. Don, Prodr. Fl. Nepal. 50. 1825. Flora of China. 24: 154-158.

Regmi, S.; Binan, K.; Barakoti, H.; Singla, R.K.Disporum Cantoniense (Lour.) Merr.: An Overview and Study of Traditional Use.Indo Global J. Pharm. Sci., 2022; 12:258-264.