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Taxonomic note on *Iphigenia magnifica* (Colchicaceae) an endemic and vulnerable species from Maharashtra, India

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ABSTRACT

Iphigenia magnifica Ansari and R.S. Rao (family Colchicaceae) are commonly known as magnificent grass lilies or ranlasni. This species is vulnerable and endemic to the Western Ghat regions of Maharashtra State. The present study provides distributional records of *Iphigenia magnifica* from Shirur tehsil of Pune district Maharashtra. *Iphigenia magnifica* is a small herb species reported in the Ramling and Dawalmalik hilly slope regions of Shirur tehsil during botanical explorations. Detailed information on distribution and ecology, taxonomic description, diagnostic characteristics, photographs, and relevant information are provided here for easy identification.

Keywords: Distribution report, endemic, Colchicaceae, Deccan plateau.

1. INTRODUCTION

Western Ghats is known for its repository of various endemic and endangered plant species. It comprises 1600 endemic plant species (Bhogaonkar and Devarkar 2011; Manisha et al., 2022; Nandikar et al., 2018). Where *Iphigenia magnifica* Ansari and Rao, (1979) notified under endemic and threatened to the area of Western Ghats (Vallepu et al., 2021; Chandore, 2015). *Iphigenia magnifica* is an herbaceous plant species commonly known as Grass Lily, Lal Bhuichakra, or Ran-lasun (Ahmed et al., 2022). The genus *Iphigenia* is distributed in Africa, Australia, and India and thus far it comprises 12 genera (Lekhak et al., 2015). A geophytic genus *Iphigenia* Kunth. includes 12 species POWO, (2025) worldwide, of which 7 species exist in India. Among them *I. magnifica, I. mysorensis, I. pallida, I. sahyadrica, I. stellata, I. indica,* and *I. ratnagirica* are endemic to India (Lekhak et al., 2015; POWO, 2025).

As per the IUCN red-list threatened plant species category, *Iphigenia magnifica* species is listed as endemic and threatened in India BSI, (2020-21) and distributed in the states of Karnataka, Maharashtra, Goa, Tamil Nadu, Andra Pradesh, and Kerala (Rajasekar et al., 2023). In Maharashtra state, it is reported in Ratnagiri, Kolhapur,

Sindhudurg, Satara, Raigad, Nashik, and Pune districts. In the Pune district, I. *magnifica* Ansari and Rao, (1979) reported in Junnar, Pune Mulshi, Maval, and Tamhini Ghat regions but it is the first report from Deccan plateaus of Pune district and hilly slope regions among the grass vegetation in Shirur tehsil regions.

2. MATERIAL AND METHOD

The current study accomplished by conducting a comprehensive botanical survey and regular study area visits from January 2022 to August 2024. During botanical surveys, the authors located *I. magnifica* species in the grasslands of Ramling and Davalmalik platues in Shirur tehsil of Pune District. After detailed field examination and morphological analysis, the specimens were identified as *I. magnifica* which reported for the first time from Shirur tehsil of Pune District, (Maharashtra). *I. magnifica* is endemic grass lily in the Western Ghat of Maharashtra State (Figures 1 & 2). However, recent collections of this species from the plateau and hills regions of Shirur tehsil of Pune District have confirmed the new distribution range further from central Maharashtra regions. The details of the plant description, photo-plate, and other relevant information are provided here for its easy identification.

3. RESULTS AND DISCUSSION

Key Characteristics

Branched herbs, light to dark brownish-purple perianth petaloid with linear-subulate or elliptic-linear segments and glabrous filaments. Tall perennial herbs with underground corms (Ahmed et al., 2022).

Taxonomic Treatment

Iphigenia magnifica Ansari and Rao, (1979) (Colchicaceae) in Bull. Bot. Surv. India. 20(4):162. (Figure 1).

Botanical Description

Iphigenia magnifica Ansari and Rao, (1979) Bull. Bot. Surv. India 20(4):162, pl. 1.; Lakshminarasimhan, (1996) in B.D. Sharma et al., Fl. Maharashtra, Monocotyledons: 139. Lakshminarasimhan and Prasad, (2019) Fl. Karnataka 3: 317. www.efloras.org/taxa id.250092578. 2021. Perennial herb, erect, 40 cm high; corms subglobose, 1–2 cm across, tunicate, with a delicate short neck covered with tunics. Leaves sessile, basal and cauline, alternate, 4–8, linear-lanceolate, 20–25 × 0.5–0.7 cm, sheathing at base, acute at apex. Racemes 4–6-flowered; pedicels 6–9 cm long, with ridges and grooves, green or yellowish green; bracts linear or linear-lanceolate, 3–5 × 0.1–0.2 cm, leafy.

Perianth lobes 6, linear-subulate or linear-elliptic, 1–1.5 × 0.1– 0.2 cm, acute at apex, shiny, spreading-incurved /reflexed, dark brown or brownish purple. Stamens 6, 4–7 mm long; filaments 3–5 mm long, glabrous; anthers oblong or oblong-ovate, 1–2 × c. 1 mm, dark brown. Ovary oblong-obovoid, 2–4 mm long, greenish; stigma trifid. Capsules loculicidal, oblong-obovoid, 1– 1.2 × 0.9–1.1 cm, with somewhat rugose surface, green, turning yellowish green to brown when mature, 3- valved, 3-loculated, dried stigmatic lobes persistent until capsule dehisces; seeds many, subglobose, 2–3 mm across, brown (Figure 1).

Flowering and Fruiting

August - November.

Threatened Category

Vulnerable (Nayar and Sastry, 1987)

Ecology and Habitat

In plateaus and open grazed grasslands with gravelly, well-drained soil, or shallow sandy soil on gentle slopes of rock crevices areas with about 250 mm rainfall. It is found growing in association with *Cymbopogon* spp., *Chrysopogon* spp., *Byttneria herbacea* Roxb., and *Cyperus* spp. (present study)

Distribution

Endemic to Western Ghats of Karnataka, Goa, Kerala, Maharashtra, and Eastern Ghats of Andhra Pradesh (Rajasekar et al., 2023).

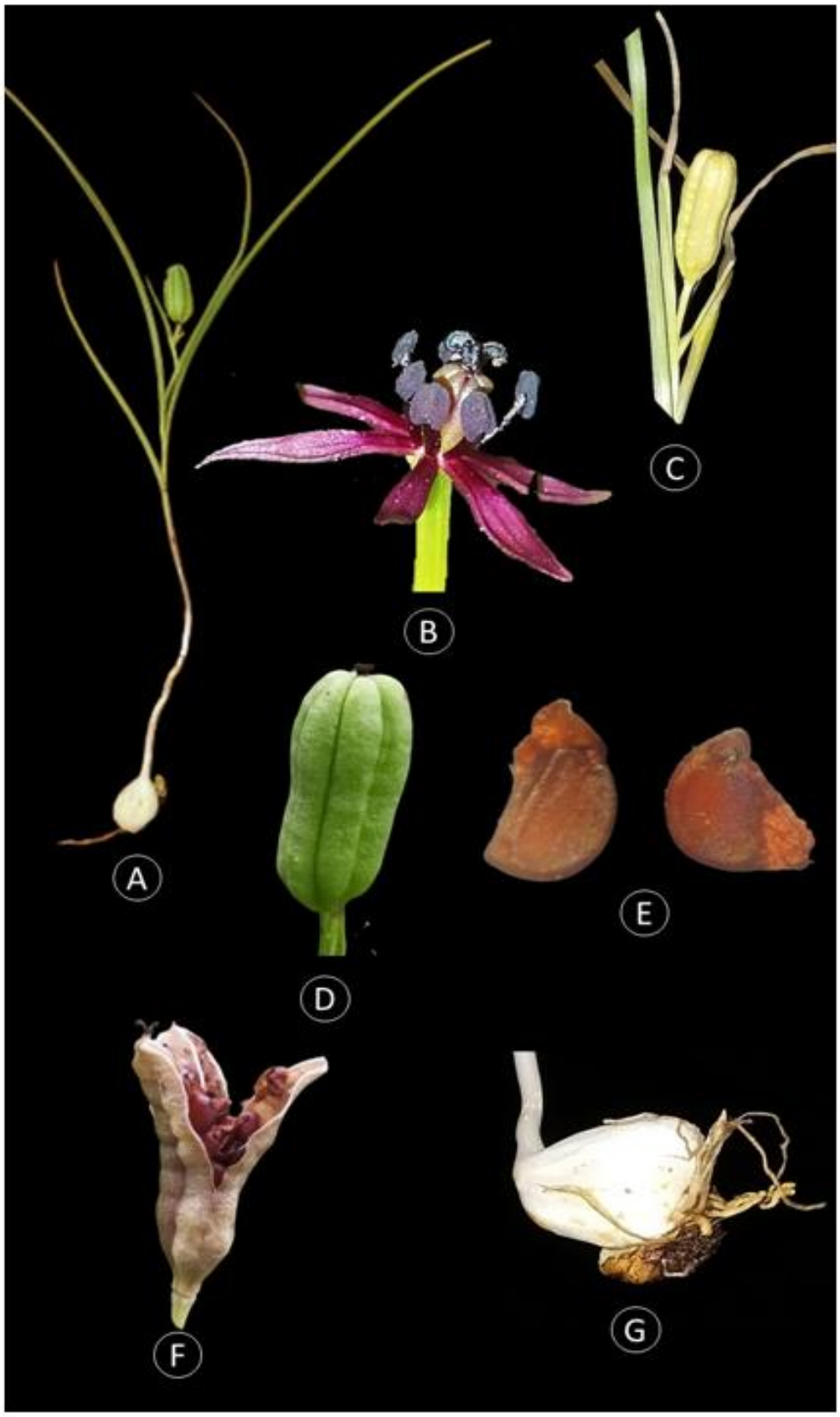

Figure 1 Iphigenia magnifica Ansari & R. S. Rao: A. Habitat, B. Flower, C. Plant with Capsule, D. Capsule, E. Seeds, F. Dehiscent Capsule, G. Corm

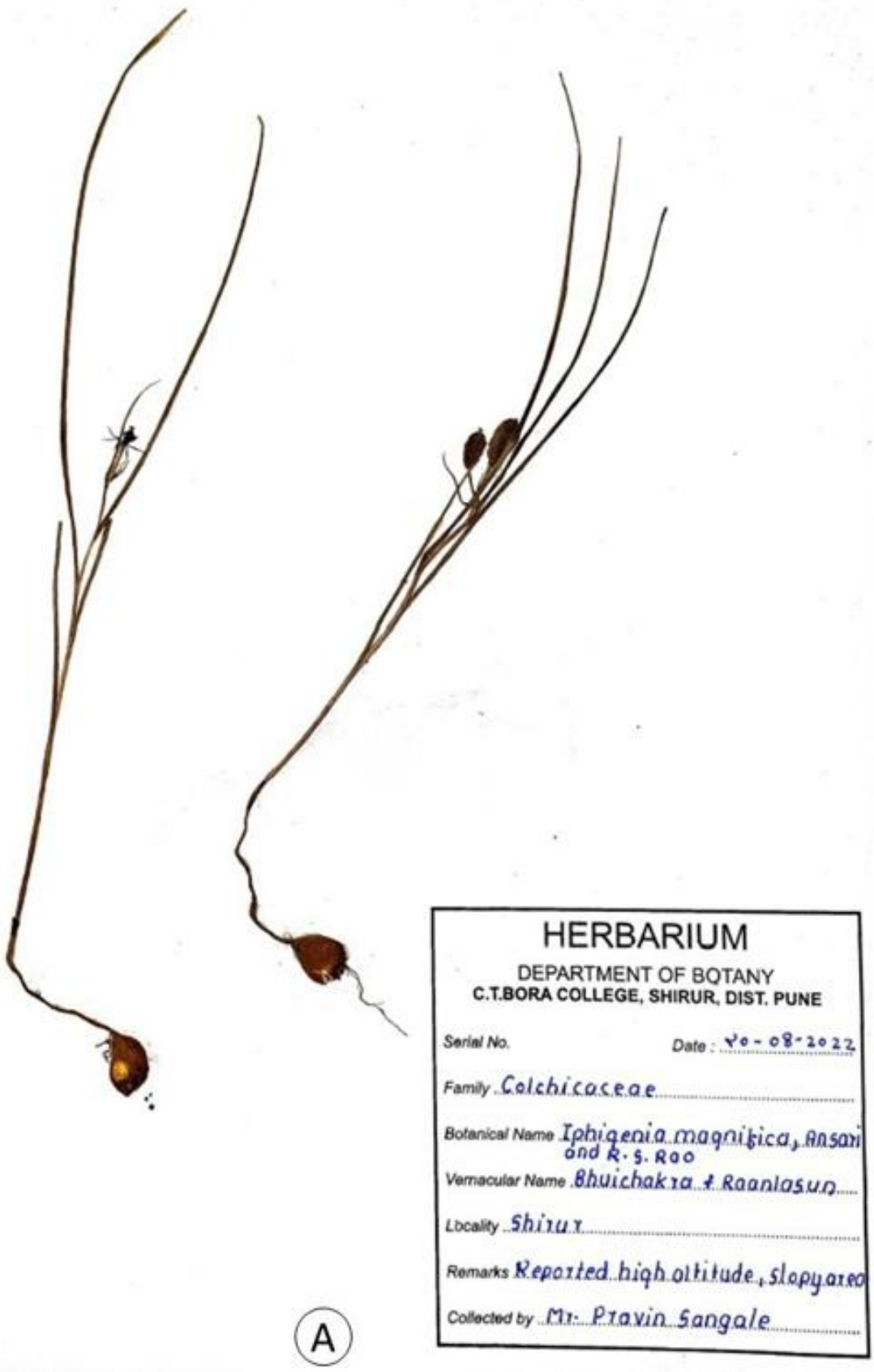

Figure 2 Voucher specimen of Iphigenia magnifica Ansari & R. S. Rao housed in the herbarium of Department of Botany at S.S.P Mandal's Chandmal Tarachand Bora College of Arts, Commerce and Science, Shirur.

Reported Localities in Maharashtra State

Akola, Dhule, Kolhapur (Dajipur), Nashik (Shindewadikuran, Ramshej, Tryambakeshwar), Raigad (Matheran), Ratnagiri (Phurus, Mirya). Satara (Kartikswami, Panchgani, Yavteshwar) (https://ngcpr.org) and Pune (Durgwadi in Junnar tehsil, Ramling & Davalmalik plateau and hills in Shirur. (Present Study).

Voucher specimen

Voucher specimen of *Iphigenia magnifica* Ansari & R. S. Rao housed in the herbarium of Department of Botany at S.S.P Mandal's Chandmal Tarachand Bora College of Arts, Commerce and Science, Shirur, on 20 August 2022 (Figure 2).

Specimen Examined

India: Maharashtra state; Pune District, Shirur Tehsil, Davalmalik Plateau and hill, 08 August 2022, P. P. Sangale & A. N. Chaudhari PPS 05; Pune District, Shirur Tehsil, Ramling plateau and hill, 08 August 2023, P. P. Sangale and A. N. Chaudhari. PPS 03; Pune District, Junnar Tehsil, Durgawadi Plateau, 20 October 2023, P. P. Sangale & A. N. Chaudhari, PPS 10 (Herbarium, Dept. of Botany, S.S.P Mandal's, C.T. Bora College of Arts, Commerce & Science, Shirur.)

Taxonomic Affinity

Iphigenia magnifica very closely resembles *I. indica* in having dark purple- or maroon-colored flowers but differs distinctly Vallepu et al., (2021), Rajasekar et al., (2023) by its following characteristics (Table 1);

Table 1 Characteristics of *Iphigenia magnifica* Ansari & R. S. Rao and *Iphigenia indica* (L.) Kunth

Characteristics	***Iphigenia magnifica* Ansari & R. S. Rao**	***Iphigenia indica (L.)* Kunth**
Habitat	Well-drained soil on gentle hillslopes	Grasslands and plains
Plant height	15- 40 cm	8–15 cm
Stem	Branched stem	Not branched stem
Leaves	Linear-lanceolate, 20–25 cm	Linear-lanceolate, 10–18 cm
Perianth lobes	Elliptic-linear, dark brown or brownish purple	Linear, dark brown when young, brown to light green when mature
Filaments	3–5 mm long, glabrous	4 mm long, hairy
Fruit (Capsules)	9 cm long fruit	4 -5.5 cm long fruit
Anthers	Bean-shaped	Bean- Shaped
Corm or Tuber	Large Size	Small Size

4. CONCLUSION

As per the previous taxonomic reports and red list of plants, I. *magnifica* is an endemic and vulnerable species confined to the Western Ghat regions. During the field exploration in the Ramling and Davalmalik hills, it is observed that the population of this species growing in grassland microhabitats, near slopy patches in stable condition. However, *Iphigenia magnifica* is facing some anthropogenic disturbances such as overgrazing, industrialization, mining, early grass cuttings, and agricultural expansions. The taxa should be protected with restrictions on the anthropogenic pressures stated as soon as earlier so that the species can be protected before they start diminishing. It is suggested to conserve and protect the ecologically sensitive areas of Ramling and Davalmalik hills, which is an identity of habitat-specific species.

Authors Contribution

All authors have equally contributed to the manuscript (Plant Collection and Photographs: Sangale PP, and Chaudhari AN.) Manuscript Writing; Kamble SM and Final Revision of the manuscript; Zanan RL.)

Ethical Approval

In this article, as per the plant regulations followed in the Department of Botany, Shirur Shikshan Prasarak Mandal's Chandmal Tarachand Bora College of Arts, Commerce and Science, Shirur; Department of Botany, Dr. D.Y. Patil Arts, Commerce, and Science College Pimpri, Pune; & Department of Botany, Maratha Vidya Prasarak Samaj's KRT Arts, BH Commerce and AM Science College, Nashik, Maharashtra 412210, India; the authors observed & reported the *Iphigenia magnifica* Ansari & R.S. Rao from Ramling and Davalmalik plateau of Shirur Tehsil in Pune District (Maharashtra) India. The ethical guidelines for plants & plant materials are followed in the study for species collection & identification.

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Informed consent

Not applicable.

Conflicts of interests:

The authors declare that there are no conflicts of interests.

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Data and materials availability

All data associated with this study are present in the paper.

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