A note on the occurrence of Cyrtopodium paludicolum Hoehne (Cyrtopodiinae) in the Diamantino Plateau, Minas Gerais, Brazil

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Nota de ocorrência de Cyrtopodium paludicolum Hoehne (Cyrtopodiinae) no Planalto Diamantino, Minas Gerais, Brasil

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Abstract: The genus Cyrtopodium comprises species that can exhibit epiphytic, rupicolous, and terrestrial habits. Although they have a wide distribution in the state of Minas Gerais, the occurrence of Cyrtopodium paludicolum Hoehne was unknown in the Diamantino Plateau, specifically in the municipality of Diamantina, until it was confirmed through field collections. This manuscript aims to present a note on this species' new occurrence. The two fertile specimens found were collected in March, herborized, and deposited in Jeanine Felfili Dendrological Herbarium (HDJF) and Diamantina Herbarium (DIAM) of the Federal University of Jequitinhonha and Mucuri Valleys (UFVJM). Here you will find a picture of the species in its habitat, a map indicating the new record's location, its description, and a plate illustrating its floral segments. This finding is significant for redefining the species' distribution range, especially because it has been frequently targeted by local orchid collectors.

Keywords: Orchidaceae, Rupestrian grasslands, Wetlands.

Resumo: O gênero *Cyrtopodium* compreende espécies que podem exibir hábito epifítico, rupícola e terrestre. Apesar de elas apresentaram uma ampla distribuição no estado de Minas Gerais, a ocorrência de *Cyrtopodium paludicolum* Hoehne era desconhecida no Planalto Diamantino, especificamente no Município de Diamantina, até ser confirmada através de coletas de campo. Esse manuscrito tem por objetivo apresentar uma nota sobre este novo registro da espécie. Os dois espécimes férteis encontrados foram coletados em março, herborizados e depositados no Herbário Dendrológico Jeanine Felfili (HDJF) e no Herbário Diamantina (DIAM). Apresentamos aqui uma fotografia da espécie em seu habitat, um mapa indicando o local da nova ocorrência, sua descrição e uma prancha botânica ilustrando seus segmentos florais. Essa descoberta é significante para refinar seus registros de ocorrência, especialmente por ser alvo frequente de coletores locais de orquídea.

Palavras-chave: Campo Rupestre, Campo Úmido, Orchidaceae.

1. Introduction

With approximately 763 genera and 28,000 species (Christenhusz and Byng 2016), Orchidaceae is considered one of the largest families of vascular plants. In Brazil, it encompasses around 250 genera and 2,679 species. In Minas Gerais, 128 genera are known to date, distributed among 862 species (Flora do Brasil 2020), including those of the genus *Cyrtopodium* R.Br..

Cyrtopodium was described by Robert Brown in November 1813, in W. T. Aiton's Hortus Kewensis, with *Cyrtopodium andersonii* (Lamb. ex Andrews) R.Br. as the basionym (Menezes 2000). *Cyrtopodium* has a Neotropical distribution, ranging from southern Florida (USA) to northern Argentina (Menezes 2000, Romero-González et al., 2008, Flora do Brasil, 2020). It comprises a total of roughly 50 species, with a prominent role in Brazil (39 species, including 25 endemics), followed by Bolivia and Venezuela (Romero-González et al., 2008, Batista and Bianchetti, 2020). They can exhibit epiphytic, rupicolous, and terrestrial habits.

*Cyrtopodium paludicolum*Hoehne (1942) is a species typpicaly found in swampy areas of southeastern and central-western Brazil, exhibiting simple or branched inflorescences (Mendonça et al., 2008, Menezes, 2000). It often occurs in association with other species of Orchidaceae, such as *Phragmipedium vittatum* Vell, *Bletia catenulata* Ruiz and Pav, *Epidendrum dendrobioides* Thunb., *Gomesa hydrophila* (Barb.Rodr.) M.W.Chase and N.H.Williams (Menezes, 2000), among others.

2. Note on the occurrence of *Cyrtopodium paludicolum* (Cyrtopodiinae) in the Diamantino Plateau, Brazil

Unesco recognized the Espinhaço Range as a Biosphere Reserve in 2005 due to its ecological significance, high biodiversity, and role as a watershed divider in Central Brazil (Saadi, 1995, Andrade et al., 2018, Unesco, 2020). In addition to harboring several endemic and endangered species, the region serves as an ecological corridor between Atlantic Forest and Cerrado areas (Costa et al., 2023), which are recognized as biodiversity hotspots (Andrade et al., 2018, Morandi et al., 2020).

The Diamantino Plateau is of particular importance within the southern portion of the Espinhaço Range. It is an area with unique and complex geodiversity (Gonçalves et al. 2017). The preservation of ecosystems in this region is closely linked to the maintenance of water resources and climate regulation (Gonçalves et al., 2022). Additionally, it is essential for ensuring the survival of various species, including those from the Orchidaceae family. Although it is endemic to Minas Gerais and widely distributed in the state, *C. paludicolum* occurrence was unknown in the Diamantino Plateau until confirmed through field collections (Figure 1).

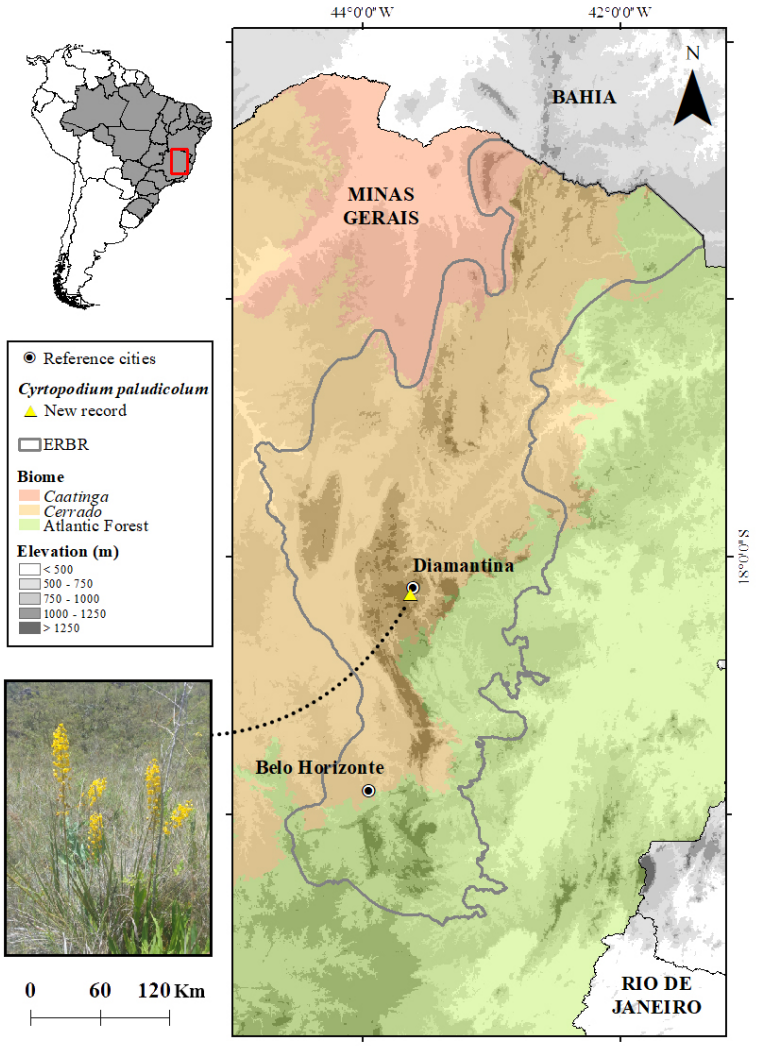

Figure 1. *Cyrtopodium paludicolum* Hoehne new occurrence record (18° 17' 18.2" S; 43° 37' 30.1" W) in the Diamantino Plateau, within the Espinhaço Range Biosphere Reserve (ERBR), Brazil.
Source: IBGE (2010). Elaborated by the authors.

3. Material and methods

We collected the two fertile specimens in the municipality of Diamantina (March 2023), and deposited them in Jeanine Felfili Dendrological Herbarium (HDJF) and Diamantina Herbarium (DIAM) at the Federal University of Vales Jequitinhonha e Mucuri (UFVJM). Exact coordinates are not given in this note to avoid poaching. The Chico Mendes Institute for Biodiversity Conservation (ICMBio) granted the permit for fieldwork. The specimen collected were compared to the syntypes SP and R reported by Romero-González et al. (2008). We obtained the species geographic distribution from Flora do Brasil (2020) and the morphological description follows Dressler (1993).

4. Taxonomy

Cyrtopodium paludicolum Hoehne, Comm. Linhas Teleg. Estrateg. Matto-Grosso, Annexo 5, 4: 24, t. 75. 1912.

Type:—BRAZIL. Mato Grosso do Sul: Itiquira, entre São Lourenço e Coxim, à beira do Pantanal, em pântano, flor amarela, May 1911, F. C. Hoehne 4134 (Syntype: SP); F. C. Hoehne 4135 (Syntype: R); F. C. Hoehne 4136 (Syntype: R); F. C. Hoehne 4137 (Syntype: R); F. C. Hoehne 4138 (Syntype: R).

5. Description

Herbs paludicolous, cespitose, 50–70 cm tall. Rhizome short. Roots white, glabrous, flexuous, 0.2–0.5 cm in diameter. Pseudobulbs fusiform, articulated, 4 internal, glabrous, reddish-green, 20.0–40.0 × 3.5–4.0 cm, with squamous amplexicaul sheaths that collapse posteriorly. Leaves lanceolate, coriaceous, pleated, deciduous, green, 30–40 × 4.0–5.0 cm. Inflorescence erect, branched, originating from the base of the pseudobulbs, 70 × 130 cm, with elliptic bracts enclosing the internodes and the base of the flower pedicel, 15–20 flowers. Flowers yellow, 2.5–3.5 cm in diameter; petals yellow. Sepals dorsal elliptic, ovate, undulate, 1.8–2.2 × 1.5–1.7 cm; lateral oblong-lanceolate, 1.5–2 × 1.0–1.2 cm. Petals elliptic, undulate, red-maculate, 1.4–1.7 × 0.6–0.8 cm. Labellum trilobed, 1.0–1.2 × 1.0–1.2 cm, with verrucose calluses at the junction of the lateral lobes and the midlobe. Lobes lateral falcate, 0.8–0.9 × 0.4–0.5 cm, red-maculate. Midlobe falcate, convolute, margins sinuous, 1.0–1.2 × 1.0–1.2 cm when flattened. Pedicel whitish-green, 2.5–3.5 × 0.2–0.3 cm; ovary greenish. Column semi-cylindrical, curved, 0.5–0.6 × 1.0–1.2 cm. Stigmatic cavity triangular, 0.25–0.3 cm in diameter. Anther galeate, white, 0.4–0.5 cm in length. Pollinia 2 globular, waxy, 0.4 mm in length, yellow typical of the genus

Specimen examined:—Brazil, Minas Gerais, Diamantina, Formação de baixo, cachoeira da Formação, ca. 1011 m.a.s.l, 01.III.2023, Menezes, E.L.F 855 (HDJM 10077)

6. Final remarks

Cyrtopodium paludicolum exhibits exuberant inflorescences (large yellow flowers on long stems that can easily exceed two meters in height) (Figure 2). Despite its 'Least Concern' (LC) status in the Red Book of the Flora of Brazil, local orchid collectors have frequently targeted it (Martinelli and Moraes, 2013, Picolotto et al., 2017). Efforts to reintroduce native orchid species to the *Cerrado* region (i.e. Carvalho et al., 2017, Ferreira et al., 2022), together with refining our understanding of the species' distribution, are steps towards the conservation of the Espinhaço flora

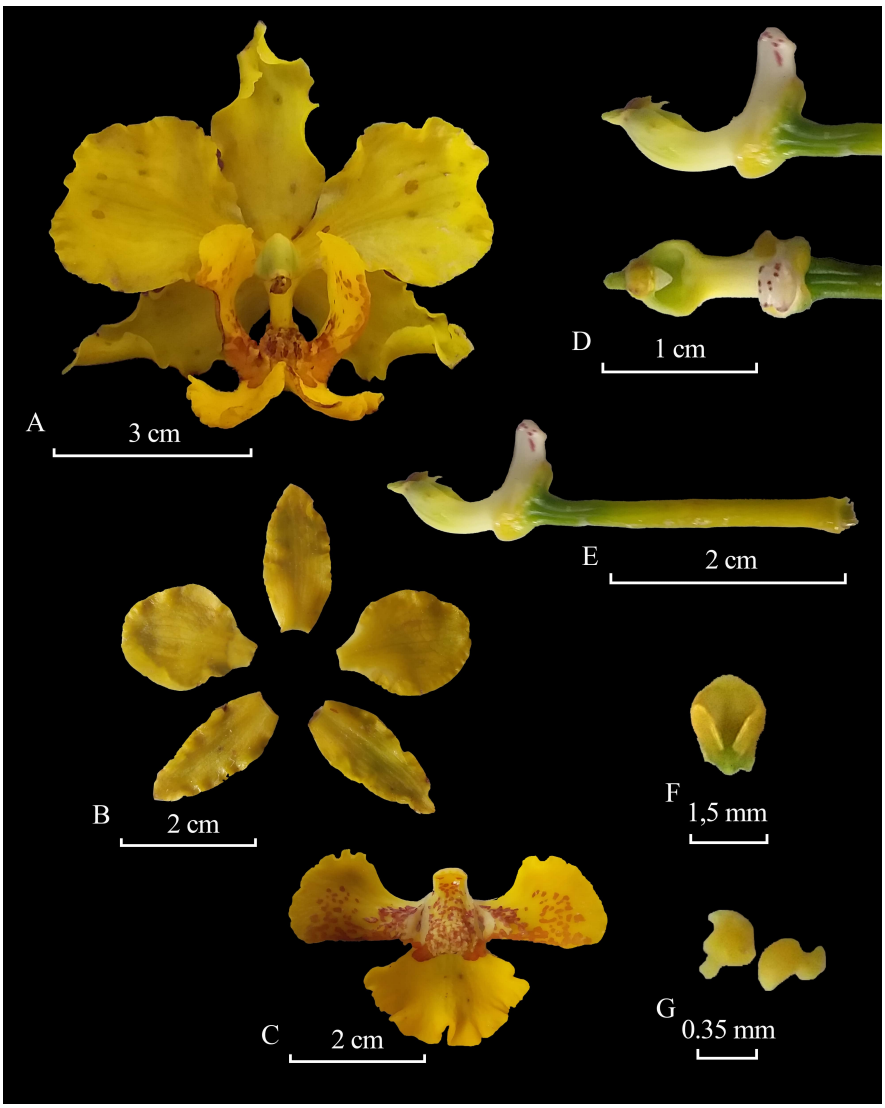

Figure 2. *Cyrtopodium paludicolum* Hoehne. A. Frontal view of the flower. B. Perianth. C. Flattened labellum. D. Ventral and lateral views of the column. E. Lateral column and peduncle. F. Frontal view of the anther cap. G. Pollinias.

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