



A new species of *Catasetum* (Cymbidieae, Epidendroideae, Orchidaceae) from the Southern region of the Brazilian Amazon

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ABSTRACT

A new species of *Catasetum* has been found along the banks of the River Teles Pires, in the Southern region of the Brazilian Amazon. In the present study it is described and illustrated, and has its conservation status discussed. The species presents unique features and stands out among others found in the same region, and can be compared partially to *C. mattosianum*.

Key words: Mato Grosso, *Catasetum telespirense*, conservation, native species.

RESUMO

Uma nova espécie de *Catasetum* está sendo registrada para a Amazônia Meridional brasileira, oriunda das margens do Rio Teles Pires. Ela é descrita, ilustrada e tem seu *status* de conservação discutido no presente trabalho. A espécie apresenta caracteres únicos e destaca-se das demais ocorrentes na região, sendo parcialmente comparada à *C. mattosianum*.

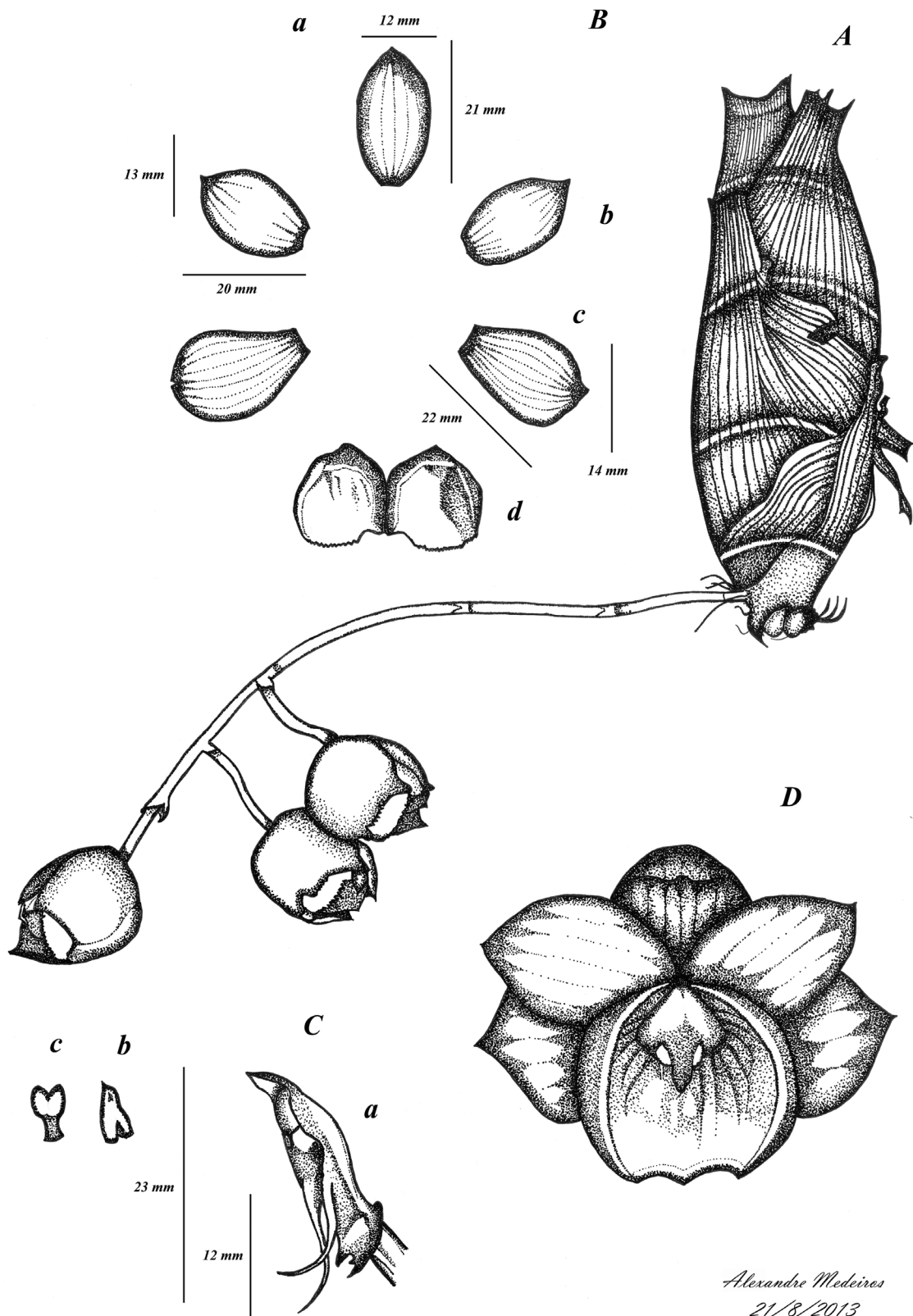
Palavras-Chave: Mato Grosso, *Catasetum telespirense*, conservação, espécies nativas.

Introduction

The state of Mato Grosso has a very extensive territory (903,366,192 km²) where Biomes of the Cerrado, Pantanal and Amazon can be found. Knowledge of the native flora in the state of Mato Grosso is still in its early stages, leaving many gaps in all the botanic families and huge vegetation areas that have yet not even been studied (Piaia 1997, Zappi *et al.* 2011).

The construction site of the Teles Pires Power Plant is located along the River Teles Pires, in Paranaíta County - state of Mato Grosso, and in Jacareacanga County - state of Pará. Salvage or rescue activities were performed in 2011–2012. Throughout this period, more than 105,000 specimens of epiphytes were rescued and relocated to conservation areas in the power plant reservation (Soares-Lopes 2012, unpublished report). Hundreds of species were sampled and identified; all the voucher specimens were prepared according to Fidalgo & Bononi (1989) and stored at the HERBAM, including the holotype and the paratypes of the new species, which also have their diagnoses, illustration and pictures recorded.

Currently, the genus *Catasetum* Rich. *ex* Kunth (1822:330) has a controversial number of valid species—130 according to Romero (2009), versus 194 species listed in the World Checklist of Selected Plant Families (Govaerts *et al.* 2014). Studies about the genus in the state of Mato Grosso have so far presented an increasing number of native species (Petini-Benelli *et al.* 2007; Petini-Benelli 2012); 26 species and two natural hybrids have been accepted by the latter publication. Additions to such numbers result from findings of the new species from the vegetation suppressed in the construction site of the Teles Pires Power Plant. The new species is described below.



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FIGURE 1. *Catasetum telespirense* Benelli & Soares-Lopes **A.** General view of the plant flowering and without leaves, male flowers. **B.** Desiccated male flower: **a.** dorsal sepal. **b.** petal. **c.** lateral sepal. **d.** labellum longitudinally sectioned. **C.** Column set: **a.** column without pollinarium. **b.** cover anther. **c.** set of stem and pollen masses. **D.** Male flower with distended parts. Drawn by Alexandre da Silva Medeiros.

Results

Catasetum telespirense Benelli & Soares-Lopes. *sp. nov.*

TYPE:—BRAZIL. Mato Grosso: Paranaíta. Left margin of River Teles Pires. Construction site of Teles Pires Power Plant, 9°20'50"S, 56°46'48"W, 203 m, 15 June 2012, *C.R.A. Soares-Lopes, A. Petini-Benelli & J.H. Piva 278* (holotype: HERBAM 8636!). Figures 1–2.

C. telespirense is similar to *C. mattosianum* Bicalho (1973:22), however it differs in the arched, semi-pendent inflorescence with the flowers distributed in the whole flower stem, resupinated lip, and color predominantly yellow (in *C. mattosianum* inflorescence is erect with non-resupinated flowers grouped only in the terminal portion of the stem).



FIGURE 2. Male flowers from three specimens of the *Catasetum telespirense* Benelli & Soares-Lopes showing different colours and lip forms. Photographs by Adarilda Petini-Benelli.

Epiphytic herb. *Pseudobulbs* 10–18 cm, fusiform covered by persistent and short pale and whitish leaf sheaths. *Leaves* 20–45 cm, oblong-lanceolate, coming from the on the base of the pseudobulb, plicate, narrow, 5–7; usually leaves fall before the emission of inflorescences. *Inflorescence* basal, 20–45 cm, stem arched or pending, elongated, 2–10 flowers. *Flowers* 40–45 mm when explanate, intensely fragrant, resupinate, green-yellow to totally yellow. *Peduncle* delicate, 28–30 × 2 mm, including a short ovary, 10–12 mm. *Dorsal sepal* ca. 21 × 12 mm, ovate, acute, concave; *lateral sepals* ca. 22 × 14 mm, ovate, acute, concave, overlapping sepals almost totally covering same; the whole set is yellow, ranging from greenish yellow to bright yellow. *Petals* ca. 20 × 13 mm, a little more obovate than the sepals. *Lip* 13 mm long × 10 mm wide × 5 mm deep, slightly trilobed, globular, oblong rounded, indistinctly saccate, coniform; lateral lobes almost totally covering the column, smooth margins by the column and densely denticulate in the whole frontal portion; indented apical lobe, apiculate, somewhat thickened and convex, with smooth and thick edges. From the basis of the column, through the saccate lip up to the frontal lobe apex, a series of careniform calluses are present, 8–11, with the same width as that of the frontal lobe; in this particular portion the color is very bright, golden-yellow

to orange, mainly at the edges of the frontal lobe. *Column* upright ca. 14 × 6 mm. *Rostellum* 4–5 mm long, apiculated. *Antennae*, 12 mm long, convergent parallel show up as an extension of the column. *Stipe* ca. 4 × 3 mm, triangular. *Caudicle* ca. 1 × 1 mm sub-square cartilaginous. *Pollinia* 2, yellow.

Distribution:—Found only in a portion of the Southern Brazilian Amazon, in the region of Alta Floresta, Apicás, Guarantã and Paranaíta (Mato Grosso state) and Jacareacanga (Pará state).

Etymology:—Referring to the place of origin, the River Teles Pires, the location where the first example of the present species was found.

Vernacular name:—Cultivators, local inhabitants and people living in its surroundings call them ‘Brasileirinho’, since the species shows colors linked to those of the Brazilian national flag.

Phenology:—This species was found flowering between May–June.

Additional examined material (Paratypes):—BRAZIL. Pará: Jacareacanga. Right margin of the River Teles Pires. Construction site of the Teles Pires Power Plant. 56°46'16"W, 9°20'39"S, 276 m, 31 May 2012, *Soares-Lopes et al.* 266 (HERBAM 8516);—Jacareacanga. Right margin of the River Teles Pires. Construction site of the Teles Pires Power plant. 56°46'35"W, 9°20'42"S, 203 m, 04 June 2012, *Soares-Lopes et al.* 148 (HERBAM 8533);—Jacareacanga. Right margin of the River Teles Pires. UTM 21L 09.2018000S; 56.4620000W, 217 m, 28 June 2012, *Soares-Lopes et al.* 6762 (HERBAM 8710);—Jacareacanga. Right margin of the River Teles Pires. UTM 21L 09.2040000S; 56.4728000W, 228 m, 28 June 2012, *Soares-Lopes et al.* 6763 (HERBAM 8711).

Conservation Status:—According to IUCN (2009) criteria, *C. telespirense* falls under the endangered species category (EM), because it is rarely founded in the distribution area referred here.

The low number of mature individuals found in the area of study, related to the time necessary for the reestablishment of a subpopulation, indicates that the species will not be able to get enough mature individuals to escape the risk of extinction due to the rapid pace of vegetation suppression in the region. Many cultivators have their own collection of *C. telespirense* specimens in the counties mentioned above. However, the majority of the cultivators said that their samples were rescued from deforestation sites near their houses or cities. One of them admitted that he used to go into the woods in order to observe the orchids and, eventually, collect them. It is understood that both actions (suppressing native vegetation and collecting native plants in areas that have yet not been preserved) are fundamental in order to establish the high extinction risk of *C. telespirense*, especially when these actions are combined.

Discussion

Catasetum telespirense belongs to subgenus *Catasetum* and is inserted in the section *Isoceras*, subsection *Convergens*. It shows some similarity to *C. mattosianum* Bicalho; however, it is different from the latter in many important features (Table 1). Among such it is possible to highlight the following: upright until short pending inflorescence and flowers grouped in the apical end portion (*C. mattosianum*), whereas in the *C. telespirense* the inflorescence is arched, almost pendent and the flowers are sparsely distributed along the last ¾ of the floral stem. Otherwise, the most important feature is the resupination of the lip in the *C. telespirense*, which does not occur in the *C. mattosianum*. The color difference is also a striking feature if one considers that *C. mattosianum* has a greenish color and its floral pieces are extremely colorful and speckled, with many shades of brown, whereas the *C. telespirense* presents only yellow predominance (from greenish-yellow to yellow-orange). Another factor that indicates that *C. telespirense* would not be a variation of *C. mattosianum* is the long geographic distance between the two species: one is limited to the States of Bahia and Espírito Santo (Barros *et al.* 2013) and the other, to the Southern Amazon.

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TABLE 1. Comparison of floral morphology for *C. telespirense* and *C. mattosianum*.

	<i>C. telespirense</i>	<i>C. mattosianum</i>
Inflorescence	arched to pendent	upright to short arched
Flowers on the stem	sparsely distributed along the last $\frac{3}{4}$ of the floral stem	grouped in the apical end portion
Flower resupination	yes	no
Flower size distended	40–45 mm	38–45 mm
Peduncle (including a ovary)	28–30 × 2 mm	18–20 × 1.5–1.8 mm
Dorsal sepal	20–21 × 11–12 mm	23.5–25 × 13 mm
Lateral sepal	20–21 × 13–14 mm	19–20 × 11 mm
Petals	19–20 × 12–13 mm	21–22 × 10 mm
Lip	13 mm long × 10 mm wide × 5 mm deep	17 mm long × 15 mm wide × 14 mm deep
Lip ornament	careniform calluses (8–11) extending over the lip	lateral lobes with short, stiff fimbriae
Antennas	Convergent parallel (12 mm long) curvature following the inside of the saccate lip, almost touching the base of the column, separating from this point	Convergent parallel (12 mm long) curvature following the inside of the saccate lip, the hook-shaped ends attenuated and inner facing
Column	upright (ca. 14 × 6 mm)	erect (ca. 12 × 6 mm)
Stipe	triangular (ca. 4 × 3 mm)	subtriangular (ca. 4 × 3.2 mm)

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