

Notes on taxonomy and nomenclature of *Pelexia pauciflora* (Orchidaceae)

Notas sobre a taxonomia e nomenclatura de *Pelexia pauciflora* (Orchidaceae)

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Abstract

During the study of *Microchilus* (Goodyerinae, Orchidaceae) for Brazil, a problem regarding the systematic positioning of *Pelexia pauciflora* was identified. This name has historically been inconsistently placed, sometimes in the subtribe Spiranthinae and at other times in Goodyerinae. After examining the type materials and studying the protologues, we concluded that this taxon belongs to Spiranthinae, with *Eltroplectris pauciflorus* as the correct name to use. Furthermore, we discuss and propose the second-step of lectotypification for this name, along with the synonymization of *Eltroplectris guimaraesii* under *E. pauciflorus*.

Keywords: Amazon, Goodyerinae, second-step lectotype, Spiranthinae, synonymous

Resumo

Durante o estudo de *Microchilus* (Goodyerinae, Orchidaceae) para o Brasil, foi identificado um problema sobre o posicionamento sistemático de *Pelexia pauciflora*. Esse nome foi historicamente colocado de maneira inconsistente, algumas vezes na subtribo Spiranthinae e em outros momentos em Goodyerinae. Após examinar os materiais-tipo e estudar os protólogos, concluímos que esse táxon pertence a Spiranthinae, sendo *Eltroplectris pauciflorus* o nome correto a ser utilizado. Além disso, discutimos e propomos a segunda etapa da lectotipificação desse nome, juntamente com a sinonimização de *Eltroplectris guimaraesii* sob *E. pauciflorus*.

Palavras-chave: Amazônia, Goodyerinae, lectótipo de segunda etapa, Spiranthinae, sinônimo

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Introduction

During the development of a taxonomic treatment for *Microchilus* C.Presl (Orchidaceae, Goodyerinae) from Brazil (as circumscribed by Smidt et al., 2021), we found the name *Microchilus pauciflorus* (Poepp. & Endl.) D.Dietr., which was initially accepted in the Flora e Funga do Brasil, albeit its uncertain application, but later indicated as not occurring in the country (Guimarães, 2020; 2024; Meneguzzo, 2020; 2024).

Historically, this name has been assigned to different genera within the subtribes Spiranthinae (*Pelexia* Poit. ex Rich., *Eltroplectris* Raf., and *Ochyrella* Szlach. & R. González) and Goodyerinae (*Erythrodites* Blume, *Microchilus*, and *Physurus* Rich. ex Lindl.), with no clear consensus on its placement and discrepancies across various online databases (i.e., Flora e Funga do Brasil, 2024; JACQ, 2024; POWO, 2024; Tropicos, 2024).

Despite the confusion, *Pelexia pauciflora* Poepp. & Endl. was correctly classified within the genus *Eltroplectris* (Spiranthinae) by Garay (1978; 1980), a taxonomic decision we support based on our analysis of the protologue and type specimens. The species presents a compact stem, with roots and leaves emerging from a closely connected region; flowers exhibiting a mentum that is partially fused to the ovary; and an undivided labellum. Szlachetko & Rutkowski (2008) later transferred this name to *Ochyrella*, which is now considered a synonym of *Eltroplectris*.

In Neotropical Goodyerinae [i.e., *Microchilus*], the stem is developed with a distinct root and foliate portions, and the lip is divided into a hypochile, mesochile, and epichile, with the hypochile being calcariform (see Pridgeon et al., 2003; Bona et al., 2020; Pieczak et al., 2022; Engels & Smidt, 2022a; b; 2024).

The original material of *Pelexia pauciflora* was collected by Eduardus Poeppig in the vicinity of Aldeia de Ega (now Tefé), in the Rio Negro region of Amazonas state, Brazil, and is deposited in W. It currently comprises three specimens: (1) an exsiccate containing six plants (W 0048577); (2) an exsiccate with sketches of two plants [corresponding to the two plants on the left of exsiccate W 0048577], along with a copy of the illustration published in the original work

(W 0048578); and (3) an exsiccate with a fragment [top right corner], consisting of the upper portion of an inflorescence with a bud and a floral sketch (W 0048624, from right to left). The latter was probably removed from W 0048577 by Reichenbach [from the second plant] during his studies in Vienna in the 19th century (see Figure 1).

Poeppig & Endlicher (1837) do not specify in the protologue which material was used or in which herbarium it was deposited, though they do clearly indicate its provenance: *Crescit in sylvis saepe inundatis circum pagum Ega in provincia Brasiliae borealis Rio Negro. Floret Decembre*. Additionally, there are discrepancies between the description, illustration, and original material available (i.e. leaves and number of flowers), suggesting that different, unrecorded or unpreserved materials may have been used (see Art. 9.1, Turland et al., 2018). Garay (1978) states that the type of *Pelexia pauciflora* is deposited in W, but does not specify which specimen, nor does he provide any notes on any of the specimens. By referring to the quoted material as a 'type', Garay (1978) inadvertently performed a lectotypification (Art. 7.11, Turland et al., 2018). Additionally, Szlachetko & Rutkowski (2008) state that the lectotype of *Pelexia pauciflora* is found in W; however, they do not specify which specimen or who proposed the lectotypification. Thus, to stabilize the application of the name, we designate specimen W 0048577 as the second-step lectotype (Art. 9.17, Turland et al., 2018).

Eltroplectris guimaraesii A.E.S.Rocha & Afonso was collected in the state of Pará, in the municipality of Jacareacanga, Alto Tapajós region, Brazil. It was initially described with a diagnosis in Portuguese — an editorial transcription error in the manuscript — which rendered the name as invalidly published (Rocha & Afonso, 2022). Subsequently, an erratum was issued with the diagnosis in English, thereby validating the name (Rocha & Afonso, 2023: errata e2023-e001).

Upon examining the types and protologues of *Eltroplectris pauciflora* and *Eltroplectris guimaraensis*, we concluded that they are conspecific, sharing several characteristics: ecology (i.e., they grow in marshy environments, including periodically flooded forests or floodplain forests); habit (plants reaching a total height of 30 to 45 cm, lacking leaves at the time of



Figure 1 A-D. Figure 1 A-D. Original material of *Pelexia pauciflora*. A) Lectotype (W 0048577). B) Material W 0048578, sketches of two plants, and the copy of the illustration published in the protologue. C) Material W 0048624 (fragment, from right to left). D) Original illustration. A-C. Available at JACQ (2024), D. Modified from Poeppig & Endlicher (1837)

flowering); a laxiflorous inflorescence with few flowers (2 to 7 per inflorescence); floral morphology (i.e., an elliptical to oblong labellum and a linear calcar) and colour (white and brown). Consequently, we consider them to be the same taxonomic entity and propose synonymizing *E. guimaraensis* under *E. pauciflora*.

Taxonomy

Eltroplectris pauciflora (Poepp. & Endl.) Garay.

Eltroplectris pauciflora (Poepp. & Endl.) Garay. Bot. Mus. Leaf. 26: 24. 1978. = *Pelexia pauciflora* Poepp. & Endl. Nov. Gen. Sp. Pl. 2: 17. 1837. = *Physurus pauciflorus* (Poepp. & Endl.) Lindl. Gen. Sp. Orchid. Pl.: 504. 1840. = *Microchilus pauciflorus* (Poepp. & Endl.) D.Dietr. Syn. Plant. 5: 166. 1852. = *Erythroides pauciflora* (Poepp. & Endl.) Ames. Orchidaceae 7: 75. 1922. = *Ochyrella pauciflora* (Poepp. & Endl.) Szlach. & Rutk. Phylogeny Taxon. Subtr. Spiranthinae Stenorrhynchidinae Cyclopogoninae Centr. S. Amer.: 167. 2008. Type: BRAZIL. Amazonas. Crescit in sylvis saepis inundatis circum pagum Ega [currently Tefé] in provincia Brasilia borealis Rio Negro. December 1831 (fl.), Poeppig s.n. (first-step lectotypification by Garay (1978), second-step **designated here**, lectotype W 0048577 [digital image!]; isolectotype W 0048624 [fragment of W 0048577 at Reichenbach Herbarium Orchid 41403, digital image!]); type record W 0048578 [exsiccate with sketches of two plants [corresponds to the two plants on the left of exsiccate W 0048577] + the copy of the illustration published in the protologue, digital image!]; type record W 1999-0005930 [drawn of flower of the type material by Darius Szlachetko in 1993, two sheets, digital image!]).

= *Eltroplectris guimaraesii* A.E.S.Rocha & Afonso. Bol. Mus. Paraense "Emilio Goeldi" 18: errata e2023-e001. 2023. = *Eltroplectris guimaraesii* A.E.S.Rocha & Afonso Bol. Mus. Paraense "Emilio Goeldi" 17: 284. 2022. *nom. inval.* [portuguese diagnosis]. Type: BRAZIL. Pará. Jacareacanga, estrada de acesso ao porto da cidade, próximo às margens do rio Tapajós, Beira de Mata, área alagável, permanecendo submersa

no inverno amazônico, 06°13'27,9" S, 57°45'01,2" W, 70 m, 26 June 2019 (fl.), E.A.L. Afonso, M. Pastore & A.E.S. Rocha 281 (holotype MG 239.008 [digital image!]). Pará: Jacareacanga. alto Tapajós, margem do rio das Tropas, floresta de várzea, 06°08'24,7" S, 57°37'17,5" W, 61 m, 27 June 2019 (fl.), M. Pastore, E.A.L. Afonso & A.E.S. Rocha 983 (paratype MG 238.679 [digital image!]). **syn. nov.**

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Conflicts of interest

The authors declare no conflicts of interest.

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