

CHLORIS BARBATA SW. AND *C. ELATA* DESVAUX
(POACEAE), THE EARLIER NAMES FOR
C. INFLATA LINK AND *C. DANDEYANA* ADAMS

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ABSTRACT

Andropogon barbatus L. 1759 and 1760 refer to a Jamaican grass, whereas *A. barbatus* L. 1771, a later homonym, applies to an East Indian grass. *A. polydactylon* L. 1763, a renaming of *A. barbatus* L. 1759 and 1760, is a superfluous name. *Chloris barbata* Sw. 1797, which was based on *A. barbatus* L. 1771, must be considered to be a *nom. nov.* *C. barbata* Sw. and *C. elata* Desvaux are the earlier names for *C. inflata* Link and *C. dandeyana* Adams.

Key Words: *Andropogon barbatus*, *A. polydactylon*, *Chloris barbata*, *C. dandeyana*, *C. elata*, *C. inflata*, *C. polydactyla*

INTRODUCTION

In his monograph of the genus *Chloris* Sw., Anderson (1974) used *C. dandeyana* Adams instead of *C. elata* Desvaux [found in Florida, Mississippi, Texas? (see below), the Caribbean Islands, and South America] and *C. inflata* Link for *C. barbata* Sw. (widely distributed in warmer parts of the world; in North America, found in Texas and the Caribbean Islands). Anderson's treatment of *C. inflata* and *C. dandeyana* has been followed by Gould (in Howard, 1979), Kartesz and Kartesz (1980), Soil Conservation Service (1982), and Hatch et al. (1990). Although Anderson (in Gould, 1975, p. 328, in the protologue of *C. canterai* Arech.) considered Gould and Box's 1965 report of the occurrence of *C. polydactyla* (= *C. elata*) in Texas to be an error, Hatch et al. (1990) reinstated it for plants from Texas. Our analysis of the nomenclature follows.

CHLORIS BARBATA SW., AN EARLIER NAME FOR
C. INFLATA LINK

Anderson (1974, p. 34-36) discussed the taxonomy and nomenclature of *Andropogon barbatus* L. (Linnaeus, 1759, p. 1305; 1760, p. 412; 1771, p. 302) and *A. polydactylon* L. (Linnaeus, 1763, p. 1483). Although the protologues of *A. barbatus* L. 1759, *A. barbatus* L. 1760, and *A. polydactylon* differed slightly from each other, Anderson demonstrated that the preceding three names

were based on the same Jamaican specimen. However, *A. barbatus* L. 1771 was based on an East Indian specimen, belonging to a different species of *Chloris*. Anderson (p. 36) considered *A. barbatus* L. 1771 as a later homonym. Since Swartz (1797, p. 200) based his *C. barbata* on *A. barbatus* L. 1771, Anderson rejected *C. barbata* Sw. and accepted *C. inflata* Link (published in 1821). Due to its wide distribution in the tropics, we decided to investigate its post-1974 nomenclatural literature. Without discussion of the nomenclature and without referencing Linnaeus, Ramamoorthy (in Saldanha and Nicolson, 1976, p. 715) used the name *C. barbata* Sw. for this complex found in South India, whereas Cope (1982, p. 123) mentioned the illegitimacy of *A. barbatus* L. 1771 and used the name *C. barbata* Sw. for this species complex found in Pakistan. Our discussion follows.

Some workers may not accept the illegitimate status assigned to *Andropogon barbatus* L. 1771. Since it was Linnaeus himself who used the name *A. barbatus* for both the Jamaican grass and the East Indian grass, such workers may believe that Linnaeus misidentified the East Indian grass as the Jamaican grass and that *A. barbatus* L. 1771 is a misapplied name. Consequently, based on ICBN Art. 33 Note 1 (Greuter, 1988), such workers may treat *Chloris barbata* Sw. as a new species (as suggested by one of the anonymous reviewers of this article). However, we refute this view, with the following discussion provided.

First, in 1763, Linnaeus abandoned his binomial *Andropogon barbatus* L. 1759, and renamed it as *A. polydactylon*. We speculate that Linnaeus preferred the epithet *polydactylon* (= many fingers, referring to the 7–15, palmately arranged spikes) over the epithet *barbatus* (= bearded, perhaps referring to the pubescence of the lemma) for the Jamaican grass; nevertheless, the name *A. polydactylon* is superfluous. Second, in 1771, based on the belief that the epithet *barbatus* was still available for use in *Andropogon* L., Linnaeus proposed the name *A. barbatus* for a new East Indian grass. The protologue of *A. barbatus* L. 1771 is wholly different from those of *A. barbatus* L. 1759, *A. barbatus* L. 1760, and *A. polydactylon*, and has no direct or indirect reference to any of these protologues. Linnaeus' 1771 publication (titled *Mantissa*) mostly included additions to his previous publications; hence, Linnaeus did not list *A. polydactylon* in his *Mantissa*. However, Willdenow (1806, p. 926–927), who revised Linnaeus' *Species Plantarum*, recognized both *Chloris barbata* and *C. polydactyla*

as two distinct species. We assert that Linnaeus did not misidentify the East Indian grass, but correctly recognized it as a new species, distinct from *A. polydactylon*. Had Linnaeus, in 1763, not renamed *A. barbatus* L. 1759 as *A. polydactylon*, or had Linnaeus, in the protologue of *A. barbatus* L. 1771, referenced any of the three earlier works, then *A. barbatus* L. 1771 could be classified as a misapplied name, but that is not the case here. Hence, *A. barbatus* L. 1771, which was based on a type different from that of *A. barbatus* L. 1759, must be classified as a later homonym, and thus illegitimate. *Chloris barbata* Sw. must be treated neither as a new species nor as a new combination, but rather as a *nom. nov.* (without parenthetical authorship), with its priority from 1795 (Art. 72 Note 1, Ex. 2). Regarding Anderson's rejection of *C. barbata* Sw., we speculate that he was unaware of Art. 72 of the Code. As a legitimate name, *C. barbata* Sw. 1797 has priority over *C. inflata* (established in 1821).

CHLORIS ELATA DESVAUX, AN EARLIER NAME FOR
C. DANDEYANA ADAMS

Adams (1971, p. 408) remarked that the type of *Andropogon polydactylon* is the type of *A. barbatus* L. 1759; hence, the former name is superfluous, and thus illegitimate (Art. 63.1). Instead of transferring *A. barbatus* L. 1759 to *Chloris*, Swartz (1788, p. 26) transferred *A. polydactylon* (= *C. polydactyla*). At that time, usage of the epithet *barbata* in *Chloris* was not pre-empted, since the name *C. barbata* Sw. 1797 (for the East Indian grass) appeared nine years later. Hence, in 1788, Swartz had the opportunity to use the name *C. barbata* (instead of *C. polydactyla*) for the Jamaican grass. Moreover, according to the present Code (Arts. 55.1b, 63.2), Swartz ought to have adopted the epithet *barbata*, since he included the type of *A. barbatus* L. 1759 for his combination, but failed to do so. Had Swartz (in 1788) used the name *C. barbata* for the Jamaican grass, then (in 1797) he could have chosen a different name for the East Indian grass. We presume that Swartz decided to follow Linnaeus' 1763 and 1771 treatments and ignored the 1759 and 1760 treatments. Nevertheless, the name *C. polydactyla* is also superfluous, and thus illegitimate (Art. 63.1).

Nash (1898, p. 443–445) briefly discussed the nomenclature of this complex (including illegitimacy of *Andropogon barbatus* L.

1771) and made the combination based on *A. barbatus* L. 1759: *Chloris barbata* (L.) Nash. Thus, Nash also failed to realize that his combination was illegitimate due to the existence of *C. barbata* Sw. Alternatively, Adams proposed the new name *C. dandeyana* for the Linnaean names of 1759, 1760, and 1763. Apart from his new name proposal, Adams provided no discussion on the taxonomy of this complex.

In addition to accepting *Chloris dandeyana*, Anderson cited three taxonomic synonyms [*C. elata* Desvaux, Opusc. Sci. Phys. Nat. 73. 1831; *C. consanguinea* Kunth (Rev. Gram. 1: 89. 1829, *nom. invalid.*) Enum. Pl. 1: 264. 1833; and *C. arundinacea* Nees ex Steudel, Syn. Pl. Glum. 1: 207. 1854], all of which are legitimate and have priority over *C. dandeyana*. Of these three synonyms, *C. elata* is accepted here to be the legitimate name in place of *C. dandeyana*.

TAXONOMY

***Chloris barbata* Sw., Fl. Ind. Occid. 1: 200. 1797.**

Andropogon barbatus L., Mant. Pl. 302. 1771, non L. 1759. TYPE LOCALITY: India. No. 1211.21 (LINN; microfiche!). On the right side of the type specimen, the following are found: "Konda-Pulli Rheed. Mal. XII. p. 95. t. 51." (on the top of the sheet) and a sketch (on approximately middle right edge of the sheet) of unrecognizable meaning. In South Indian languages (Tamil and Malayalam), the word Kondai refers to a tuft of woman's hair and the word pullu refers to grass. The remainder of the citation refers to Rheede, Hort. Malab. 12: 95, t. 51. 1693. However, none of these particulars are found in Linnaeus' *Mantissa*. It is most likely that these data were entered by later workers. According to Nicolson et al. (1988, p. 307), Lamarck (1785, p. 376) was the first to associate Rheede's element with *A. barbatus* L. 1771.

C. inflata Link, Enum. Pl. 1: 105. 1821. "Type grown in the Berlin Botanic Garden from seed said to come from 'California,' probably from Mexico" (Hitchcock, 1936, p. 134). The type at B was presumably destroyed during World War II. Reputedly, a fragment of the type exists at US (*vide* Anderson, 1974, p. 53).

***Chloris elata* Desvaux, Opusc. Sci. Phys. Nat. 73. 1831. TYPE LOCALITY: Brazil. (P).**

Andropogon barbatus L., Syst. Nat. ed. 10: 2: 1305. 1759; Amoen. Acad. 5: 412. 1760, non L. 1771. TYPE LOCALITY: Jamaica. No. 1211.28 (LINN; microfiche!).

A. polydactylon L., Sp. Pl. ed. 2: 2: 1483. 1763, *nom. illegit.*

C. polydactyla Sw., Prodr. 26. 1788.

- C. barbata* (L.) Nash, Bull. Torrey Bot. Club 25: 443. 1898, non *C. barbata* Sw. 1797.
C. dandeyana Adams, Phytologia 21: 408. 1971.

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