

LECTOTYPIFICATION OF *CAREX AESTIVALIS* (CYPERACEAE SECT. *HYMENOCHLAENAE*)

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Abstract: A lectotype for *Carex aestivalis* (Cyperaceae; sect. *Hymenochlaenae*), a sedge from the Appalachian Mountains, U.S.A., is designated. The authorship of the name, hitherto cited as M.A. Curtis ex A. Gray, is revised to show that M.A. Curtis, alone, is the author of the species name and the original description.

Keywords: *Carex*, Cyperaceae, lectotypification, Asa Gray, M.A. Curtis

The name *Carex aestivalis* (Cyperaceae; sect. *Hymenochlaenae*), a sedge ranging through the Appalachian Mountains from northern Georgia to Vermont and northeastern New York (Smith and Waterway, 2008), was published by Asa Gray (1842) following a collecting trip in the summer of 1841 to the mountains of North Carolina with John Carey and James Constable. Gray (1842: 28) attributed the name, *C. aestivalis*, to its discoverer, the Rev. Moses A. Curtis, who used it on the labels of specimens he distributed before its formal publication. In the description, Gray (1842) commented, “A species of *Carex*, nearly allied to *C. gracillima*, occurs in the greatest abundance on all the higher mountains of North Carolina, forming tufts on the earth or on rocks, and flowering throughout the summer. On this account it is called *C. aestivalis* by Mr. Curtis, who discovered it several years since, and pointed out its characters.”[†] The preceding sign pertains to a formal Latin description of “[†]*C. aestivalis* (M.A. Curtis, ined. [sic])” given in the footnote in which Gray wrote “Hab. in montibus altioribus Carolinae Septentrionalis ubique. Julio–Augusto floret...”

Regarding the authorship of the name *Carex aestivalis*, it may be debatable whether it is “M.A. Curtis ex A. Gray” or “M.A. Curtis” alone. In this regard, it is noted here that whenever Asa Gray mentioned a description from another author *verbatim*, he placed the relevant description within double quotes (e.g., *C. sullivantii* Boott; Gray mentioned “... I trust I may be allowed to publish the notes of this sedulous caricographer unchanged ...”). In contrast, for *C. aestivalis*, although Gray did mention that Curtis “pointed out the characters,” the given description is not in double quotes. Therefore, it is evident that Gray did not use Curtis’s description *verbatim* and most likely edited it. Perhaps for this reason, many works in the past accepted “M.A. Curtis ex A. Gray” for the authorship. However, it is emphasized here that Curtis provided the characters, that Gray acted as an editor, that Gray’s editing is comparable to any other reviewer’s editing, and, therefore, Curtis alone is the author. Kanchi N. Gandhi (GH, pers. comm.), reported that Werner Greuter (B) agreed with the preceding analysis. Thus, the authorship should be attributed solely to Curtis as *Carex aestivalis* M.A. Curtis (in Gray 1842: 28).

In a comprehensive taxonomic treatment of the globally rare *Carex roanensis* F.J. Herm. and its allies (including *C. aestivalis*), Smith and Waterway (2008) provided keys to the species and type specimen information for each of the species included in their study. For *C. aestivalis* they stated “TYPE: U.S.A. North Carolina: Burke Co. Table Mountain, [s.d.], *Curtis s.n.* (Holotype: MO [scanned image]; Isotype: GH).” It is noted here that except for mentioning the locality and phenology (as “*Hab. in montibus altioribus Carolinae Septentrionalis ubique. Julio–Augusto floret*”), no other collection information was associated with this name. Nevertheless, since Curtis was the discoverer of this species and is the author of the species name, his own collections are relevant for the typification of this name. Therefore, Smith and Waterway (2008) were correct in mentioning a Curtis collection as the type, but their choice of the term “holotype,” which implies that the description was based on a single specimen, is not acceptable as discussed below.

Although the concept of the term ‘type’ was known even in the 1830s, neither Curtis nor Gray used this term. Besides Smith and Waterway’s (2008) mention of two specimens (GH, MO), from the available evidence it is certain that Curtis’s “original description” was based on several collections, viz., Mts. of N. C., without date, *M. A. Curtis s.n.* (MO [357136]). North Carolina: Mts. of N. C., without date, *M. A. Curtis s.n.* (MO [357137]). North Carolina: Mts. of N. Car., without date, *M. A. Curtis s.n.* (K000907946). North Carolina: Table Mt., without date, *M. A. Curtis s.n.* (NY [00025085]). North Carolina: N. Carolina, without date, *M. A. Curtis s.n.* (NY [00025086]). North Carolina: Table Mt., without date, *M. A. Curtis s.n.* (PH [00208806]). North Carolina: Mts. of N.C., without date, *M. A. Curtis s.n.* (BRU [00019374]). North Carolina: Mts. of N.C., without date, *M. A. Curtis s.n.* (GH [01640677]). North Carolina: Table Mt., without date, *M. A. Curtis s.n.* (GH [00221767]).

With the above facts in mind, the need to designate a lectotype for *C. aestivalis* from among the specimens used by Curtis at the time of his publication is apparent. These nine specimens were likely available prior to the publication of the name, *Carex aestivalis*, and are, therefore, to be considered original material.

Although Smith and Waterway’s (2008) usage of the

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FIGURE 1. Lectotype of *Carex aestivalis* M.A. Curtis (specimen on the right). Image courtesy of the Gray Herbarium, Harvard University Herbaria.

terms “holotype” and “isotype” are correctable to lectotype and isolectotype, respectively (Shenzhen Code Art. 9.10), and that their type citation could be construed as an inadvertent act of lectotypification, they did not use the phrase “designated here,” which is required for the purpose of priority of typification (vide Art. 7.11). Also, there are two collections at MO (357136 and 357137), but it is uncertain whether these two specimens belong to the same collection or whether the GH specimen belongs to one of them. In other words, Smith and Waterway did not typify the name, and a lectotype needs to be designated. The next question is whether to choose one of the two specimens at MO or some other original specimen as the lectotype. It should be noted that one of the GH specimens (00221767) is

mounted on the same sheet with a collection of *C. aestivalis* that Gray and J. Carey collected on their trip to North Carolina (Fig. 1). It was on this trip that Curtis pointed out the plant to Gray, and during which Curtis could have given the collection to Gray, prior to publication of the name. With this in mind, and due to the uncertainty about the total number of collections, as well as to avoid any ambiguity, I have chosen the aforementioned GH specimen (00221767) as the lectotype and designate it here.

Carex aestivalis M.A. Curtis, Amer. J. Sci. Arts 42: 28. 1842. TYPE: UNITED STATES OF AMERICA. North Carolina: Table Mountain. *M. A. Curtis s. n.* (Lectotype: [designated here]: GH [00221767]).

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