

ON THE PROCESS OF LECTOTYPIFICATION

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The frequency of the need for lectotypification of taxa of species rank and below is sufficiently great so that every active plant systematist should be thoroughly familiar with the process as set forth in the International Code of Botanical Nomenclature (1978). Section 2, typification, especially articles 7 and 8 together with the guide for the determination of types (p. 75–76) provide the basis for the procedure. A most important point often overlooked or ignored is the specification in paragraph 7.5 of Article 7 that a lectotype has to be selected from the original material used by the author of the taxon. This point is further emphasized in the guide by the statement (4a) "A lectotype must be chosen from elements that were definitely studied by the author up to the time the name of the taxon was published and included in the protologue." The sure way of finding elements that the author studied is to examine (a) the author's private herbarium, (b) material of the author's herbarium now housed in an institution, or (c) material in the institution where the author worked. In any one of these situations, the lectotype will assuredly fit the specifications of the Code. On the other hand, if a specimen not in the author's herbarium or the institution where he worked is designated as lectotype, even if it is of a collection cited by the author, there is always an element of doubt as to whether the author actually studied that particular specimen. I have previously emphasized the "need for care in choosing lectotypes" (Rollins, 1972).

One of the first questions to be answered when a researcher is seeking to lectotypify a particular taxon is, where is the author's herbarium or where did the author work? The answer will reveal where the material the author surely used in formulating the protologue is likely to be found. This procedure was not followed by McDonnell and Crow (1979) in a recent study published under the title, "The Typification and Taxonomic Status of *Spartina caespitosa* A. A. Eaton." Nowhere in the article do I find any indication that the authors were concerned as to where A. A. Eaton's herbarium is now located. But this should not have been a problem because on the Gray Herbarium Eaton specimen of *Spartina caespitosa* marked type, which they cited, there is a subsidiary label stat-

ing, "Herbarium of Alvah A. Eaton, purchased by the Gray Herbarium, 1909." Records of accessions to the Gray Herbarium (1977) show that indeed Eaton's herbarium was purchased in 1909 and on June 1, 1915, 1889 sheets were incorporated into the collections of the Gray Herbarium. At the same time 354 sheets were transferred to the New England Botanical club collections. Later the same year, 90 sheets were incorporated in GH and 66 transferred to NEBC. Some 712 specimens were sent in exchange to other institutions.

Evidently McDonnell and Crow (1979) felt they were not bound by the previous designation of the type of *Spartina caespitosa* as a specimen in the Gray Herbarium and sought to assemble as many Eaton-collected specimens of this taxon as they could find to provide the basis for a choice. From these they ultimately chose a specimen now present in the herbarium of the New England Botanical Club as lectotype. Their main reason for doing so was that the collection date Aug. 26, 1896, was the same as that mentioned by Eaton (1898) as being the date of his first encounter of the taxon. The specimen chosen, while agreeing with the date, does not agree with the locality given by Eaton. But in the protologue, Eaton gives more choices than one. He states, ". . . one tussock at Seabrook, N. H., Aug. 26, 1896, species subsequently traced on both sides of marsh from Hampton, N. H., on the north, to Ipswich, Mass., on the south, most abundant at the causeway, Salisbury, Mass." His description was obviously based on a number of different collections. Thus, the important point for lectotypification is not the one date mentioned but rather the selection of a specimen of Eaton's collecting that was certainly in his possession when he described the taxon. This certainty can only be achieved by choosing a specimen in the Gray Herbarium known to have previously been a part of Eaton's private herbarium. It is probable that the NEBC specimen chosen as lectotype by McDonnell and Crow was also a part of the Eaton herbarium but there is always the possibility that it was not. As indicated above, the Gray Herbarium specimens are labeled as being from the Eaton herbarium whereas the New England Botanical club specimen is not so labeled.

The words "type specimen" on the printed labels of several of the Eaton collections from different locations are not significant because it is obvious Eaton did not follow the same concept of "type specimen" that is a current part of the Code.

The conclusion to be drawn from the evidence now at hand is that the specimen of Alvah A. Eaton from Jim Brown's Pasture, Seabrook, New Hampshire, collected September 29, 1896 in the Gray Herbarium is and should be the lectotype of *Spartina caespitosa* as it was previously designated by a staff member of the Gray Herbarium. The different Eaton collection in the New England Botanical Club herbarium designated by McDonnell and Crow as the lectotype is not acceptable as such.

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