

For some reason which I am wholly at a loss to understand, Dr. Watson found it expedient to intimate that I have withheld from publication a letter on this matter written by Dr. Gray. The facts in this case are just these. Immediately before his fatal illness, Dr. Gray wrote me a long personal letter objecting to the course which I had taken in maintaining one of Walter's specific names, dating from 1788, which was cited in Dr. Watson's Bibliographical Index, as a synonym of one published by Torrey and Gray in 1840. The citation is made by Dr. Watson without any question being thrown upon the equivalency, and I supposed it to be true, but in this letter Dr. Gray threw doubt on it, and informed me of an earlier specific name by Linnæus, which I took up on the next occasion I had to refer to the species. Some time after Dr. Gray's death I was requested to send this letter back to Cambridge as the physicians attendant on Dr. Gray desired to have a study made of the hand-writing. This I immediately did. Later I was requested to allow the letter to remain at Cambridge and accept a copy of it in exchange. As the last writing of a distinguished botanist I naturally valued the document, but acceded to the request, and the original is not in my possession. The letter did not come to me as editor of the *Bulletin* of the Torrey Botanical Club, for I was not then editing that journal. I did not realize that it was intended for publication, and do not think that it was. At any rate under the circumstances stated above, I certainly never had any right to publish it after it had passed from my possession, and there was no principle enunciated in it which was not already well-known as being held by the writer.

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BRIEFER ARTICLES.

On *Amarantus crassipes*. (WITH PLATE XVII.)—Schlechtendal publishes the first description of this species in *Linnæa* VI (1831), p. 757. Schrader, in *Index Sem. hort. Goett.* (1835), described this plant as *Scleropus amarantoides*. Shortly afterwards Endlicher, in *Gen. Pl. Suppl.* (1836-1840) p. 1377, published a description of Schrader's genus. Moquin, in *DC. Prodr.* XIII, 2, (1849), p. 271, retained the generic name, but restored the first specific name. Dr. Gray, in *Proc.*

Am. Acad. v (1862), p. 169, remarks that "the genus *Scleropus* was evidently founded upon an abnormal character, a thickening of the peduncle and pedicels, which occurs in various Amarantaceæ. Schrader's [it should be Moquin's] *S. crassipes* is an *Euxolus*, etc."

Bentham and Hooker, in Gen. Plant. (1883), p. 29, accept Dr. Gray's opinion, and include this plant under *Amarantus*, together with *Euxolus*, *Mengea*, *Amblogyne* and other of Moquin's Prodrômus genera. Finally, Hemsley, in Biol. Cent.-Am. III (1882-1886), p. 14, includes this species with all its synonyms under *Amarantus polygonoides*.

A mere glance at the two plants is sufficient to excite doubt as to the correctness of this course. Closer inspection leads to positive certainty that Schlechtendal's plant, while remarkable for the thickening of its peduncles, is not an abnormal condition, and is specifically distinct from the plant with which Hemsley has united it.

In the first place, the histological investigation of these incrassate peduncles shows normal tissue. Certainly the thickening is not due to insect or fungus work. And the idea that we have here a case similar to the fasciation in the coxcomb, for instance, is refuted by the *uniform dichotomy* in the short clusters of inflorescence, sessile in the axils of which are the pistillate flowers. In this particular, as indeed in the entire description of this plant, Schlechtendal is scrupulously correct. He expressly mentions this thickening as constant in a large series of specimens before him. These were all from the island of St. Thomas, in the West Indies. The specimens in the National Herbarium comprise Wright's Cuban plant number 2033, Curtiss' Florida plant number 2378, Blodgett's Florida plant, Letterman's Texan plant *in part*, Dr. Mohr's Alabama plant, and Simpson's Florida plant number 482, collected this spring. It thus appears that this peduncular thickening is as constant, both in time and in geographical distribution, as it is remarkable.

But, apart from these striking peduncles, the plant has flower and fruit characters that entitle it to specific rank. The spatulate sepals of its pistillate flowers have *one* green mid-vein; the ovary has *two* styles; the ripened utricle is *indehiscent*. In *Amarantus polygonoides*, on the other hand, the sepals, also spatulate, have, in addition to the mid-vein, *two lateral* veins; the ovary has *three* styles; the ripened utricle is *circumscissile*. The seeds also of *A. crassipes* are one-third larger than those of *A. polygonoides*.

Schlechtendal found no staminate flowers in his plants. The later authors state that they occur solitary in the axils of the upper leaves. The writer has uniformly found them solitary at the base of the flower

clusters toward the upper part of the stem. The sepals are four, occasionally five, narrowly triangular-lanceolate, with a green mid-vein; the stamens are three, as described, but sometimes only two, rising from a small round disk in the bottom of the calyx; the two-celled oblong anthers are little shorter than the filaments.

As to bracts: the author of this species states correctly that the branches of the inflorescence are each subtended by an ovate-triangular, acute, small, appressed bract marked by a green mid-vein. This reaches up to the one flower which terminates each branch, and is the only bract that can be considered as belonging to that flower. Yet the flower is distinctly jointed to its pedicel *above* the bract; so that strictly speaking it is the pedicel, and not the flower, that is uni-bracteate. Endlicher, Moquin, and their followers, describe the flowers as *tri-bracteate*, an error which seems to have arisen by looking only at the terminal flowers of each cluster. For only in that case are there three bracts, one subtending the branch on which the flower rests, and two, opposite each other, subtending the rudimentary continuation of the dichotomy. See fig. *e*, plate XVII.

Another error, also initiated by Endlicher, is the statement that the style is "very short," and the stigmas "two, filiform." The artist has drawn these parts correctly in the accompanying plate. And the author of this species is here also right when he says, "Styles two, diverging, curved outward, stigmatic all down the inner side." These stigmatic surfaces are under the lens densely long-papillose. Fig. *g* shows the direction of styles at the time of blooming; figs. *f* and *k*, at the time of maturity. The author evidently described them in the young state.

By its spatulate sepals this plant is related to the section *Amblogyne*; by its warty, indehiscent utricle, to *Euxolus*; by its uni-bracteate flowers, to *Mengea*. But by its other characters it is distinct from all, and deserves to stand in a section by itself, § SCLEROPUS, under its first name, *Amarantus crassipes* Schlecht.—JOHN M. HOLZINGER, *Department of Agriculture, Washington, D. C.*

EXPLANATION OF PLATE XVII.—Fig. 1. Upper part of a plant of *Amarantus crassipes*, nine-tenths natural size, showing mucronate apex of leaves. Figs. *a, b, c, d*. Flower clusters showing the mode of inflorescence. Fig. *c* is from a younger flower cluster with pedicels not yet fully incrassate. Fig. *e*. Terminal flower, with "three bracts." Fig. *f*. A pistillate flower, with mature utricle, with part of subtending bract on the pedicel. The joint under the flower is also shown. Fig. *g*. A younger pistillate flower, the pistil separated from the calyx. Figs. *h, h'*. A sepal of this plant, and of *A. polygonoides* respectively. Figs. *i, i'*. Seeds of these two species. Fig. *k*. A pistillate flower with a staminate flower at its base. Fig. *l*. Part of a staminate flower showing the small disk at the bottom of the calyx.



Holzinger, J. M. 1892. "On *Amarantus crassipes*." *Botanical gazette* 17(8), 254–256. <https://doi.org/10.1086/326830>.

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