

Comments on the taxonomic status of *Argythamnia blodgettii*

As stated in the proposed rule, *Argythamnia blodgettii* (Torr. ex Chapm.) Chapm. was first described as *Aphora blodgettii* Torr. ex Chapm., however, the earliest publication was in Chapman (1860 p. 408) not Chapman (1884 p 100) as stated in the rule. Florida material was subsequently considered synonymous with *Argyrothamnia fendleri* Mull. Arg. by Mueller (1866 p 737), a species with a range that included Venezuela, Columbia, Mexico and Florida. Chapman (1883 p 408; 1897 p 431) maintained the Florida plants as endemic, creating the name *Agyrothamnia blodgettii*. Apparently, Mueller's spelling of the genus was incorrect and that misspelling was duplicated by Chapman.

Pax (1896 p 45) originally included the species as distinct when he restored the status of *Ditaxis* from a subgenus within *Argythamnia* to a genus, creating the binomial *D. blodgettii* (Torr. ex Chapm.) Pax . Pax and Hoffman (1912 p61) subsequently treated *D. blodgettii* as a synonym of *D. fendleri* (Mull Arg.) Pax & K. Hoffman with a range that included Florida, Trinidad, Curacao, Columbia and Venezuela (Pax and Hoffman 1912). The authors indicated that the specimen from Mexico (Liebm. sn, no date, repository unknown, cited in Mueller 1866) was not seen. Small (1903 p 699; 1913a p 106; 1913b p 78; 1913c p 699) followed Chapman's treatment of the species as endemic. Ingram (1952 p75) reverted to the treatment of *Ditaxis* as a subgenus of *Argythamnia* and included Florida material in *A. fendleri*. Following that work, the species was renamed *A. argothenoides* (Bertero ex Spreng) J.W. Ingram to address a nomenclatural issue with *A. fendleri* (Ingram 1953 p. 423). Ingram (1952) indicates that the distribution of *A. argothenoides* (including Florida material) as Florida and Venezuela. Ingram (1952) treatment was restricted to North American specimens and did not examine material from Venezuela.

Webster (1967) disagreed with the inclusion of *Argythamnia blodgettii* as a synonym of *A. argothenoides* (= *A. fendleri*) based on flower and seed coat details and considered *A. blodgettii* to be a distinct from *A. argothenoides* and endemic to Florida. It is unclear which, if any, specimens Webster examined as the basis for this conclusion. Long and Lakela (1978) apparently followed Chapman, Small and Webster and considered *A. blodgettii* to be a South Florida endemic, as did (Wunderlin 1998 and Wunderlin and Hansen 2003, 2011). Radcliffe-Smith and Govaerts (1997) published *Ditaxis argothenoides* (Bertero ex Spreng.) Radcl.-Sm. & Govaerts. That publication did not list either Ingram's *A. argothenoides* or Chapman's *A. blodgettii* as a synonym, so it is not clear if the name was intended to apply to Florida plants or not.

Ramirez-Amezcuca and Steinman (2013) published a treatment of the *Argythamnia* subgenus *Ditaxis* in Mexico that states that the range of *A. argothenoides* includes Florida. However, that treatment only indirectly references *A. argothenoides* in their description of *A. ingramii* for the purpose of comparing the two species. The basis for the use of *A. argothenoides* to include Florida plants is not detailed in that publication. An email communication was sent to the corresponding author (Dr. Ramirez-Amezcuca) to inquire about the basis for the use of *A. argothenoides* in Ramirez-Amezcuca and Steinman (2013), but no response was received. Wunderlin and Hansen (2015) included the species as a synonym of *A. argothenoides* but the rationale for this taxonomic change is not clear from that publication. Integrated Taxonomic Information System (ITIS) currently considers the accepted name for this taxon to be *Ditaxis argothenoides* (Retrieved [November 19, 2015], from the

Integrated Taxonomic Information System on-line database, <http://www.itis.gov>). The USDA/PLANTS database currently considers *A. blodgettii* to be the accepted name for this taxon.

Given the published information reviewed in preparing these comments, I did not find a compelling justification for the recent inclusion of Florida plants with material from *Argythamnia* spp. outside of Florida. As a precautionary approach, I recommend that the USFWS accept the treatment of *A. blodgettii* as a distinct species that is endemic to Florida for the purpose of preparing this rule. I also recommend that USFWS conduct an independent review of botanical literature for additional published taxonomic information on *Argythamnia* that includes review of Florida material. I recommend that the USFWS contact Dr. Richard P. Wunderlin or Dr. Bruce Hansen, University of South Florida, to determine their basis for treating *A. blodgettii* as a synonym of *A. argoathamnoides* in Wunderlin and Hansen (2015). Finally, I recommend that USFWS contact Dr. Yocupitzia Ramirez-Amezcuca, Instituto de Ecología A.C., to determine if the treatment of *Argythamnia* in review for the Flora of North America (<http://floranorthamerica.org/Review/under-prod-12>) is complete and can be made available for consideration in preparing this rule.

Literature Cited:

Chapman, A.W. 1860. Flora of the Southern United States: containing abridged descriptions of the flowering plants and ferns of Tennessee, North and South Carolina, Georgia, Alabama, Mississippi and Florida: arranged according to the natural system. Ivison, Phinney and Company, NY. 621 pgs.

Chapman, A.W. 1883. Flora of the Southern United States: containing abridged descriptions of the flowering plants and ferns of Tennessee, North and South Carolina, Georgia, Alabama, Mississippi and Florida: arranged according to the natural system. Second Edition. Ivison, Phinney and Company, NY. 698 pgs.

Chapman, A.W. 1897. Flora of the Southern United States. University Press. John Wilson and Son, Cambridge, MA. 655 pgs.

Ingram, J. 1952. Revision of the Euphorbiaceous Genus *Argythamnia* Subgenus *Ditaxis* in North America. Master's thesis, University of Southern California. 106 pgs.

Ingram, J. 1953. New species and new combinations in the Genus *Argythamnia*. Bulletin of the Torrey Botanical Club 80(5) 420-423.

Long, R.W. and O Lakela. 1978. A Flora of Tropical Florida. Banyan Books, Miami, FL. 962 pgs.

Mueller, J. 1866. Euphorbiaceae in de Candolle Prodrromus Systematis Naturalis Regni Vegetabilis. 15(2) 732-742.

Pax, F. 1896. Euphorbiaceae in Engler and Prantl. Die Natürlichen Pflanzenfamilien 3(5): 44-45.

Pax, F. and Hoffman, K. 1912 Euphorbiaceae in Engler, Das Pflanzenreich IV. 147(6) (Heft 57): 51-86.

Radcliffe-Smith, and Govaerts. 1997. New names and new combinations in the *Euphorbiaceae-Acalyphoideae*. Kew Bulletin 52(2) 477-481.

Ramirez-Amezcuca, Y. and V.W. Steinman. 2013. Revision Taxonomica de *Argythamnia* subgenero *Ditaxis* (Euphorbiaceae) en Mexico. Botanical Sciences 91(4) 427-459.

Small, J.K. 1903. Flora of the Southeastern United States; being descriptions of the seed-plants, ferns and fern-allies growing naturally in North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Arkansas, Louisiana and in Oklahoma and Texas east of the one hundredth meridian. Published by the author, New Era Printing Co. Lancaster Pa. 1370 pgs.

Small, J.K. 1913a. Flora of Miami, being descriptions of the seed-plants growing naturally on the Everglade keys and in the adjacent Everglades, southern peninsular Florida. Published by the author, New Era Printing Co. Lancaster Pa. 206 pgs.

Small, J.K. 1913b. Flora of the Florida Keys; being descriptions of the see-plants growing naturally on the islands of the Florida reef from Virginia key to Dry Tortugas. Published by the author, New Era Printing Co. Lancaster Pa. 162 pgs.

Small, J.K. 1913c. Flora of the Southeastern United States Second Edition; being descriptions of the seed-plants, ferns and fern-allies growing naturally in North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Arkansas, Louisiana and in Oklahoma and Texas east of the one hundredth meridian. Published by the author, New Era Printing Co. Lancaster Pa. 1394 pgs.

Webster, G.L., 1967. The genera of Euphorbiaceae in the Southeastern United States (Concluded). The Journal of the Arnold Arboretum 48(4) 363-430.

Wunderlin, R.P. 1998. Guide to the Vascular Plants of Florida. University Press of Florida. Gainesville, FL. 806pgs.

Wunderlin, R.P. and B.F. Hansen. 2003. Guide to the Vascular Plants of Florida. Second Edition. University Press of Florida. Gainesville, FL. 787pgs.

Wunderlin, R.P. and B.F. Hansen. 2011. Guide to the Vascular Plants of Florida. Third Edition. University Press of Florida. Gainesville, FL. 783 pgs.

Wunderlin, R.P. and B.F. Hansen. 2015. Flora of Florida Volume II. Dicotyledons: Cabombaceae through Geraniaceae. University Press of Florida, Gainesville ,FL. 400 pgs.