

NOTES ON TYPIFICATION IN *PLUCHEA* (ASTERACEAE: PLUCHEAE)

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ABSTRACT

Formal nomenclature and typification are detailed for taxa of the *Pluchea odorata*–*Pluchea camphorata* group. Lectotypes are designated for *Pluchea glabrata* DC., *Conyza marilandica* Michx., *Gynema viscida* Raf., *Pluchea petiolata* Cass., and *Conyza camphorata* Pursh. *Pluchea (Conyza) marilandica* (Michx.) Cass., which is the type of the genus, is based on a Dillenius illustration that shows features anomalous for *Pluchea*. The identity of several other pertinent taxa also remains ambiguous, but none of them appears to have a bearing on currently accepted nomenclature.

RESUMEN

Se detalla la nomenclatura formal y la tipificación de taxa del grupo *Pluchea odorata*–*Pluchea camphorata*. Se designan lectotipos para *Pluchea glabrata* DC., *Conyza marilandica* Michx., *Gynema viscida* Raf., *Pluchea petiolata* Cass., y *Conyza camphorata* Pursh. *Pluchea (Conyza) marilandica* (Michx.) Cass., que es el tipo del género, está basada en una ilustración de Dillenius que muestra características anómalas para *Pluchea*. La identidad de otros varios taxa también queda ambigua, pero ninguno de ellos parece tener importancia en la nomenclatura normalmente aceptada.

In connection with production of a taxonomic treatment of *Pluchea* for the Flora of North America (FNA) volumes of Asteraceae, an attempt is made here to clarify typifications for various names associated with two, relatively widespread species of *Pluchea* with petiolate, non-clasping leaves.

***Pluchea odorata* (L.) Cass.**

The typical form of *Pluchea odorata* occurs from northern South America through the West Indies (the type is from Jamaica) and Mexico and is widely distributed through the southern United States, from California and Nevada to Texas and Oklahoma and eastward to North Carolina and Virginia. A large-headed variety of this species, primarily occurring in the northeastern United States, is *P. odorata* var. *succulenta* (Fern.) Cronq. (Cronquist 1980; Khan & Jarvis 1989).

***Pluchea odorata* (L.) Cass. [var. *odorata*].** *Pluchea odorata* (L.) Cass., Dict. Sci. Nat. 42:3. 1826. *Placus odoratus* (L.) M. Gómez, Anales Soc. Esp. Hist. Nat. 19:273. 1890. *Pluchea odorata* (L.) DC. var. *normalis* Kuntze, Revis. Gen. Pl. 1:357. 1891 (nom. invalid; includes the type of the autonym). *Conyza odorata* L., Syst. Nat., ed. 10. 1213. 1759. Linnaeus cited "Sloan. jam. t. 152. f. l. Plum. ic. 97." LECTOTYPE (Urb. ex R.K. Godfrey 1952:241–242, 245); JAMAICA. Sloane, Voy. Jamaica I: plate 152(1). 1707.

The plant illustrated is in the Sloane Herbarium—no data regarding collector, locality, or date (BM, photo Gillis (1977)), internet image <<http://internet.nhm.ac.uk/cgi-bin/botany/sloane/detail.dsm?ID=24>>!). Although Godfrey's acceptance of an earlier choice of type by Urban formalized the lectotypification of *P. odorata*, Godfrey misinterpreted the Sloane illustration as referring to the woody species now generally identified as *Pluchea carolinensis* (Jacq.) D. Don. Application of this latter name was clarified by Khan and Jarvis (1989). The herbaceous species treated by Godfrey as *P. purpurascens* is correctly identified as *P. odorata* (see Gillis 1977).

Pluchea purpurascens (Sw.) DC., Prodr. 5:452. 1836. *Placus purpurascens* (Sw.) M. Gómez, Anales Soc. Esp. Hist. Nat. 19:273. 1890. *Conyza purpurascens* Sw., Prodr. 112. 1788. TYPE: JAMAICA: Swartz cited "Conyza I. Brown. jam. 318." and "Conyza major odorata—Sloan. h. I. 258. t. 152. f. I." Browne's citation (1756) was "Conyza major odorata, &c. Slo. Cat. 124. & H. t. 152. f. I." in reference to the same Sloane illustration, which is the same as the lectotype of *Conyza odorata* L. (above). LECTOTYPE (Howard 1989:589): JAMAICA. Sloane, Voy. Jamaica I: plate 152(1). 1707. The plant illustrated is in the Sloane Herbarium, as cited above for *Pluchea odorata*.

Pluchea purpurascens (Sw.) DC. var. *glabrata* (DC.) Griseb., Cat. Pl. Cub. 150. 1866. *Placus purpurascens* (Sw.) M. Gómez var. *glabratus* (DC.) M. Gómez, Anales Soc. Esp. Hist. Nat. 19:273. 1890. *Pluchea glabrata* DC., Prodr. 5:452. 1836. TYPE: GUADELOUPE: de Candolle cited the following: "in Guadalupe legit olim cl. Badier et recentius Perrottet ad Pointe-à-Pitre." Of specimens identified as *Pluchea glabrata* in the de Candolle herbarium, one is labeled simply "Guadeloupe" and may be the Badier collection; another has more specific data—"Pte. à Pitre, 17 Juin 1824, Perrottet 1825." This plant also was collected on Guadeloupe, and (Urban 1902) indicates that Perrottet was there at least for a period during 1824. The Perrottet collection is designated here as the LECTOTYPE (G-DC fiche 905).

Pluchea petiolata Cass., Dict. Sci. Nat. 4:2. 1826. TYPE: Details of the protologue are too abbreviated to establish the identity: "ses calathides sont petites, subglobuleuses, et disposées en corymbe terminal; ... ses squames sont ovales, aiguës, presque membraneuses, parsemées de glandes" The description of small heads with acute, membranous, sparsely glandular phyllaries suggest that it might be *Pluchea camphorata*, but the heads in a terminal corymb and ovate phyllaries are more like *Pluchea odorata*. Cassini noted that "Nous avons observé cette plante dans l'herbier de M. de Jussieu, ou elle étoit innommée," citing no further detail. One of two specimens in the Jussieu herbarium might have been the one observed by Cassini:

- (1) **Cat. No. 8646** (P-Jussieu, fiche 634!)—identified as "*Conyza marylandica* Michx.," with no collection information. The plant has short-petiolate leaves and a terminal capitulescence and is *Pluchea odorata*.
- (2) **Cat. No. 8662** (P-Jussieu, fiche 635!)—identified only as "*Conyza vulgari accedens* fl. purpurasc.," apparently collected on Hispaniola ("St. Domingo"); this plant also has short-petiolate leaves and a terminal capitulescence and is a representative of *Pluchea odorata* var. *odorata*. This specimen is here designated as the LECTOTYPE of *Pluchea petiolata* Cass.

Pluchea camphorata (L.) DC. var. *angustifolia* Torr. & A. Gray, Fl. N. Amer. 2:261. 1842. *Conyza angustifolia* Nutt., J. Acad. Nat. Sci. Philadelphia 7:109. 1834 (non Roxburgh 1832). TYPE: USA. "In South Carolina, from whence it was received by Mr. Durand" (specimen not located). Torrey and Gray cited the Nuttall publication in full and apparently intended to recognize Nuttall's *Conyza angustifolia* at reduced rank, not realizing that the basionym published by Nuttall was a later homonym. Following Article 58 of the ICBN (Saint Louis Code 2000), the name at varietal rank can be attributed to Torrey and Gray as a *nomen novum*.

Pluchea odorata* var. *succulenta (Fern.) Cronq. *Pluchea purpurascens* (Sw.) DC. var. *succulenta* Fern., Rhodora 44:227. 1942. *Pluchea odorata* var. *succulenta* (Fern.) Cronq., Fl. Southeast. U.S. 1:175. 1980. TYPE: UNITED STATES. MASSACHUSETTS: Back Bay, Boston, ditch in old marsh, 17 Sep 1910, *E.F. Williams s.n.* (HOLOTYPE: GH!).

Pluchea marilandica (Michx.) Cass., Dict. Sci. Nat. 42:2. 1826. *Conyza marilandica* Michx., Fl. Bor. Amer. 2:126. 1803. TYPE: Michaux cited "DILL. Elth. t. 88. f. 104. nondum perfecte florida" and gave as possible synonyms "*Baccharis foetida*? Walt." and *Erigeron camphoratum*? Linn." He noted that the habitat was "a Pennsylvania ad Carolinam." The LECTOTYPE, (designated here) must be the Dillenius illustration, the only element cited in the protologue by Michaux: Hortus elthamiensis 1: t. 88. f. 104. 1732. This plant is identified in the Hortus as "*Conyza Marilandica*, flore purpureo" and is shown with broadly lanceolate, sessile, serrate leaves and minutely pubescent stems (as illustrated), but the capitulescence is relatively elongate, broken into several subclusters borne on leafy branches and illustrated details show the heads as cylindrical-campanulate with phyllaries in ca. 4–5 series and the bisexual florets as strongly goblet-shaped, features not characteristic of *Pluchea*. The specimen in the Sherardian Herbarium (OXF) upon which the drawing was based was identified as "*Conyza marylandica*" by Klinsmann (fide Druce and Vines 1907).

The voucher specimen at OXF, notated ".88 104 105," bears two branches and was annotated by James Reveal in 1982 as *Pluchea purpurascens* (= *P. odorata*). A digital image made available by Stephen Harris, Curator of Oxford University Herbaria, confirms that identity. An early annotation identifies it as "*Pluchea marylandica*." According to Dr. Harris (pers. comm), "This is the specimen that Druce placed into the Hortus sequence when he worked on the material with Vines in the early 1900s. However, the specimen appears to have been incorporated from the Sherardian Herbarium and bears a different polynomial from that given in the Hortus." Clokie (1964, p. 89) observed that "very few of the specimens that [Druce] did take out [of the Sherard Herbarium] can be identified as originals of the plants in the Hortus Elthamiensis" and she noted specifically that the voucher for t. 88, fig. 104 is 'not the original specimen.' The original label on the OXF sheet identifies the collection first as "*Baccharis mariana* flora pulchra rubenta Acta Philos. No. 246. pag. 401. pl. 22 1690" (by Sherard), then as "*Conyza mariana* flora pulchra rubenta Mem. Ac. R. Sc. 1719. p. 299 n.s." (by Dillenius). Thus, the identity of this specimen is clear, but its status as a voucher for the subject of the Dillenius illustration is not. Because Cassini typified his new genus *Pluchea* by *Pluchea marilandica*, typification of the genus is ambiguous to the same extent.

In Cassini's establishment of the genus and transfer of *Conyza marilandica* to *Pluchea*, he noted "Cette plante habite l'Amerique septentrionale" and described "l'enchantillon que nous avons observé dans l'herbier de Michaux" Two plants in the Michaux herbarium (P!, P-Michaux fiche 100!) are identified as *Conyza 'marylandica'*: One is labeled simply "*Conyza*[,] *Maryland*," while the second plant is labeled "*Conyza marylandica*[,] *Virgin. et Carol.*"—both specimens are representatives of *Pluchea camphorata*, although the morphological details included by Cassini (Dict. Sci. Nat. 42:2) do not clearly indicate that he was describing *P. camphorata* rather than *P. odorata*.

***Pluchea camphorata* (L.) DC.**

Based on a photograph of the type of *Erigeron camphoratus* L. received at Har-

vard from the British Museum, Fernald (1939) made this assessment: "That it is a fragment from the summit of a plant of *P. petiolata* Cass. will be evident to those who know that plant" (p. 461, photo published on p. 459). Fernald's judgement has been accepted by those who have dealt with this common species (e.g. Godfrey 1952, Cronquist 1980, Nesom 1989, and various other floristicians) and is confirmed here. A color image of the Clayton specimen is currently internet-posted as part of the John Clayton Herbarium (The Natural History Museum 2000).

Pluchea camphorata (L.) DC., Prodr. 5:451. 1836. *Erigeron camphoratus* L., Sp. Pl. 864. 1753. Linnaeus cited "Hort. ups. 259" and "Gron. virg. 97. Habitat in Virginia." Gronovius (Flora Virginica, ed. 1, 1739, p. 96) provided a description and referred to "Clayt. n. 165." The description in Linnaeus's own Hortus Upsaliensis of 1748 was nearly identical to the later one of 1753 and also referred to "Gron. virg. 96." As observed by Fernald (1939, p. 460), "Linnaeus composed his diagnosis by adding a portion of Clayton's own description [on the specimen itself] of his plant to that of Gronovius." LECTOTYPE (Fernald 1939:459-461): UNITED STATES, VIRGINIA: without other data, Clayton 165 (BM!, photo-GH!, photo-Fernald (1939)!; internet image <<http://internt.nhm.ac.uk/cgi-bin/botany/clayton/detail.dsm1?RowID=234>>!). Clayton's collections in Virginia were made mostly within "a modest-sized region south of the Rappahannock and north of the James River and west to the Blue Ridge" (Sterling 1997).

Pluchea viscida (Raf.) House, Amer. Midl. Naturalist 7:129. 1921. *Gynema viscida* Raf., Ann. Nat. 15. 1820. *Gynema dentata* Raf. ex DC. (in syn., sub *Pluchea foetida*), Prodr. 5:452. 1836. Type: Rafinesque noted that this is "A fine species not uncommon in Kentucky in fields and woods" but cited no specific collection. His description of the "flowers corymbose, terminal and axillary" is a good indication of the identity of the species, especially as only a single species of *Pluchea* is known to occur in Kentucky. Rafinesque (Ann. Nat. 1820) noted that he had previously identified it as *Gynema dentata*, apparently a manuscript name picked up and listed in synonymy by de Candolle. A specimen in the deCandolle herbarium from "Kentucky," without other collection data, is identified in the handwriting of Rafinesque as *Gynema viscida*; another annotation label, also in Rafinesque's hand, for the same plant identifies it as "*Gynema dentata* Raf. N. sp. and *Gynema balsamica* fl. ludov." This specimen serves to establish the identity of *Gynema viscida* (LECTOTYPE, designated here: G-DC, fiche 904!).

Pluchea camphorata (L.) DC. var. *glabrescens* Kuntze (nom. nud. invalid.), Revis. Gen. Pl. 1:357. 1891. In the same short paragraph as the listing of *Pluchea camphorata* var. *pubescens* (see below), Kuntze noted "Die bis auf Blattnerven fast kahl werdende Form ist b *glabrescens* O. Ktze. = *Baccharis foetida* L. p." No pertinent herbarium material located (fide Fernald 1942; none at NY).

Pluchea camphorata (L.) DC. var. *pubescens* Kuntze (nom. nud. invalid.), Revis. Gen. Pl. 1:357. 1891. Fernald (1942, p. 228) observed that "since Kuntze gave no word of description, the name cannot be taken up" (see 1998 ICBN Article 32.1). Kuntze cited only "U. St.: Hoboken [New Jersey], Cairo [Illinois], Miss. [Mississippi? or Missouri?!]" A Kuntze collection filed with NY types is marked "b *pubescens*": Illinois, Cairo, 9 Aug 1874, C.E.O. Kuntze 2886 (NY!).

Doubtful identity

Conyza camphorata Pursh, Fl. Amer. Sept. 2:523. 1814 (non *Erigeron camphoratus* L.). TYPE: Pursh cited only "Icon. Dill. elth. t. 89. f. 105," and this illustration pre-

sumably must be taken as the LECTOTYPE, designated here: Hort. eltham. 1: t. 89. f. 105. 1732. The Dillenius plate is identified as “*Conyza American frutescens, foetidissima* Vaill.” The indication of its ‘foetid’ nature supports its identification as *Pluchea*, but no details of florets or fruits were illustrated, and the large, sessile, coarsely serrate-dentate leaves, glabrous stems (as illustrated), axillary clusters of heads, and peculiar renditions of the heads (suggesting linear, equal-length phyllaries) do not support a firm identification even at generic rank.

As a synonym of *Conyza camphorata*, Pursh listed *Baccharis foetida* (in the sense of Willdenow and Walter), which is *Pluchea camphorata* in the sense of the present manuscript. Pursh included *Erigeron camphoratus* [L.] (sensu Willdenow) as a synonym in his treatment of *Conyza marylandica* Michx. Tenets of previous nomenclatural confusion between *Pluchea (Baccharis) foetida* (L.) DC. and the North American petiolate-leaved species of *Pluchea* were outlined by Godfrey (1952).

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