

in volatile oil in the leaves of this plant.

ADDITIONAL NOTES ON THE GENUS VERBENA. VIII

Harold N. Moldenke

VERBENA [Dorst.] L.

Additional & emended synonymy: Berbena Macer Floridos, De Virib. Herb., pr. 1, ff. xxxiii--xxxv. 1477. Verbena Tourn. ex L., Gen. Pl., ed. 1, 334, [387], [400], & [402]. 1737; ed. 6, 14. 1764. Obletia LeMonnier ex Rozier, Introd. Obs. Phys. Hist. Nat. 1: 367. 1771. Glandularia J. F. Gmel. in L., Syst. Nat., ed. 13, 2 (2): 920. 1791 [not Glandularia J. Agardh, 1848, nor P. DC., 1836]. Uwarovia Lindl. ex Pfeiffer, Nom. Bot. 2 (2): 1544, in syn. 1874. Elissia Barkley, List Ord. & Fam. Anthophyta, ed. 2, 76 & 163, in syn. 1965. Aubletia LeMonnier ex Rozier apud Dandy, Ind. Gen. Vasc. Pl. 121, in syn. 1967. Vebrena Elliovson, Complete Gard. Book South. Hemisph., ed. 6, 37, sphalm. 1970. Aubletia LeMonnier ex Moldenke, Fifth Summ. 1: 391, in syn. 1971. Glondularia Gill. & Hook. ex Moldenke, Fifth Summ. 1: 523, in syn. 1971.

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It should be noted here that the original publication of Obletia is often cited to "Journ. Phys. 1: 367. 1773" [e.g., by Jackson (1894)] or "Introductio Obs. Phys. 1: 367. 1773", but Dandy (1967) states that the correct date for this work is 1771. Farnsworth (1970) refers this genus to item "15105" in the work in question, but this seems to be an error for item 15121. The Hooker & Arnott, p. 205, reference given in the bibliography of this genus is often dated "1841", but pages 193 to 288 of the work involved were issued in 1836. The Taylor (1969) reference also cited above is sometimes erroneously cited to volume "17" instead of 71.

The Glandularia of DeCandolle (1836) is a section of Psiadia Jacq. in the Asteraceae, while the Glandularia of Agardh is a section ["Tribe"] of Sargassum Agardh in the Fucaceae.

Linnaeus (1754) includes Blairia Houst. [now regarded as a synonym of Priva Adans.], Kaempfera Houst. [now regarded as a synonym of Ghinia Schreb.], and Sherardia Vaill. [now considered to be a synonym of Stachytarpheta Vahl] in his synonymy of Verbena. In his 1764 work he includes also Kempfera Houst. and Kaempferia Houst., both now placed in Ghinia. In fact, this is in essence the synonymy which he gives for Verbena in all of his works from 1742 onwards. Pfeiffer (1874) includes Vermicularia Moench, but we now reduce this to Stachytarpheta.

Since Barkley (1965) definitely reduces the generic name, Elissia, to synonymy under Verbena, I assume that he is not referring to the Ellisia P. Br. which is a synonym of Duranta L. Elissia is not listed in the "Index Kewensis" nor in any of its supplements to date. Airy Shaw (1966) places Burseria Loefl. in the synonymy of Verbena, but it certainly belongs in that of Priva Adans. instead.

In addition to the many vernacular names reported by me previously for this genus there are the following: "Eisenhart", "jaernurt", "verbenia", and "werbena". Castañeda (1965) avers that "verbena" is a vernacular name for Heliotropium indicum L. in Colombia.

Coon (1967) notes that "The flowers [of Verbena] are not noted for fragrance, yet there's a special kind of quiet, haunting odor to verbenas which you'll not get to know unless you grow them." He is undoubtedly here referring, not to the genus as a whole, but merely to xV. hybrida Voss. Martin (1946) reports no endosperm in the genus Verbena, while El-Gazzar & Watson (1970) claim that its pollen is tricolporate, not tricolpate as described by Natarajan, but obviously neither of these workers examined more than a tiny handful of the known species of the genus. It seems to me that it is dangerous to draw generic conclusions from the examination of only one or a few species. Webber (1968) notes that verbenas [again, probably referring only to xV. hybrida] were introduced into England from South America in the mid-eighteenth century and used mainly as bedding plants. Solbrig (1969) discusses the effect of reproductive strategy on population genetics information in this genus. Russell (1957) informs us that seeds of an unidentified species of Verbena were collected by W. A. Archer as his no. 10117, in Ethiopia, later planted and cultivated in Maryland as U. S. Dept. Agr. Pl. Invent. no. 196913.

Crocker (1938) reports that the seeds of two species of this genus showed 90 percent germination after twenty years' burial. Wilson (1944) reports that in Kansas vervains there is a reduction of root reserves from spring to the time of budding or flowering and then an increase to the close of the season. Cutting the plants begun when these reserves are low is more effective in their control than if begun at other times of the year.

Raven (1963) informs us that the section Glandularia of this genus is not known to have common or closely related species-pairs in the two hemispheres.

Grindal (1960) reports unnamed species of Verbena being grown as summer- and winter-flowering annuals in India.

Boughey, Bridges, & Ikeda (1968) have computerized the genus with the following characters: "Genus = Verbena; Habit life form = annual or perennial and shrub; Leaf arrangement = opposite; Inflorescence type = corymb or panicle and spike; Calyx type = pentapartite; Calyx shape = campanulate; Corolla type = pentapartite regular or 2-lipped; Stamens number = 4 or rarely 2; Ovary type = multilocular; Styles stigma number = 1 to 2; Fruit type = dry nut!"

Thornberry (1966) records the following disease-causing organisms known to attack members of this genus in North America: Ascochytra verbenae Siem., Botrytis cinerea Pers., Cercospora septatissima Tracy & Earle, C. truncatella Atk., C. verbenae-strictae Pk., C. verbenicola Ell. & Ev., Cuscuta arvensis Beyr., Erysiphe cichoracearum P.DC., Heterodera marioni (Corm) Goodey, Meloidogyne sp., Phyllosticta texensis Seaver, P. verbenicola G. Martin, Phymatotrichum omnivorum (Shear) Dug., Plasmopara halstedii (Farl.) Berl. & deT., Puccinia aristidae [with alternate hosts Aristida and Distichlis], P. vilfae Arth. & Holw. [alt. host Sporobolus]

(to be continued)



Moldenke, Harold N. 1972. "Additional notes on the genus *Verbena*. VIII." *Phytologia* 22(5), 298–314.

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