

8-1980

# Proposal for the Conservation of the Generic Name *Picrodendron* Grisebach (1859) against *Picrodendron* Planchon (1846) (Euphorbiaceae)

W. John Hayden

*University of Richmond*, [jhayden@richmond.edu](mailto:jhayden@richmond.edu)

James L. Reveal

Follow this and additional works at: <http://scholarship.richmond.edu/biology-faculty-publications>Part of the [Botany Commons](#), and the [Plant Biology Commons](#)

## Recommended Citation

Hayden, W. John, and James L. Reveal. "Proposal for the Conservation of the Generic Name *Picrodendron* Grisebach (1859) against *Picrodendron* Planchon (1846) (Euphorbiaceae)." *Taxon* 29, no. 4 (August 1980): 507-11. doi: 10.2307/1220643.

This Article is brought to you for free and open access by the Biology at UR Scholarship Repository. It has been accepted for inclusion in Biology Faculty Publications by an authorized administrator of UR Scholarship Repository. For more information, please contact [scholarshiprepository@richmond.edu](mailto:scholarshiprepository@richmond.edu).

PROPOSALS TO CONSERVE OR REJECT

(529) Proposal to conserve *Petalacte* D. Don (1826) against *Billya* Cassini (1825) (Compositae).

8995 *Petalacte* D. Don in Mem. Wern. Soc. 5: 552 (1826), *nom. cons. prop.* Type:

*P. coronata* (L.) D. Don. (*Gnaphalium coronatum* L.).

*Billya* Cass. in Dict. Sc. Nat. 34:38 (1825), *nom. rejic. prop.* Type: *B. bergii* Cass. l.c.

*Petalacte* has been in continuous use for this genus of 1-3 species since proposed by D. Don. The only exception was Lessing's misuse of *Petalolepis* Cassini, from which he excluded the two original Australian species and substituted two from S. Africa. Lessing was not followed by later authors. The genus was recently revised by Lundgren (in Bot. Notiser 127: 119-124. 1974) and this revision may be consulted for full references.

*Billya* Cass. has never been in use. No mention of the name was made by Lessing, by de Candolle, or by Harvey (in Flora Capensis), nor is it recorded in the original volumes of *Index Kewensis*; it did not appear in that work until Supplement XIII (1966). Airy Shaw (in Willis, Dict. ed. 8, 140. 1973) gives it as a synonym of *Helichrysum*. This is incorrect. Cassini described *Gnaphalium crispum* sens. Bergius, realizing that Bergius's plant was misidentified as *G. crispum* L. (= *Helichrysum crispum* (L.) D. Don). This is true: we have examined Bergius's specimen (at STB) and it is *Petalacte coronata*.

Conservation of *Petalacte* would not be justified merely to prevent a change of name for this small Cape genus. However the genus *Billia* Peyr. (1858) exists for two Central American species of Hippocastanaceae and is retained, for instance, by Standley in his Trees & Shrubs of Mexico (Contrib. U.S. Nat. Herb. 23: 690. 1923). *Billya* and *Billia* are not considered orthographic variants, but they are liable to confusion. Therefore to replace *Petalacte* by the unused *Billya* Cass. and to run the risk of confusion with *Billia* Peyr. is unjustified, and *Petalacte* is proposed for conservation.

*Proposed by:* O. M. Hilliard, University of Natal, Pietermaritzburg, S. Africa, and B. L. Burtt, Royal Botanic Garden, Edinburgh, EH3 5LR, U.K.

(530) Proposal for the conservation of the generic name *Picrodendron* Grisebach (1859) against *Picrodendron* Planchon (1846) (Euphorbiaceae).

*Picrodendron* is a genus consisting of a single rather variable species of dicotyledonous trees found on Jamaica, Hispaniola, the Bahamas, Cayman and Swan Islands. Its fruits are sometimes eaten (Altschul, 1973) and its leaves have been employed for medicinal or tonic purposes (Roig y Mesa, 1945; Sawyer, 1955). Record and Hess (1943) state that its wood finishes smoothly and is resistant to decay, and hence has been used in turnery and naval construction. The tree is occasionally cultivated. Perhaps its greatest claim to fame is its long and checkered taxonomic history. Opinions regarding its relationships include placement in or association with Anacardiaceae (Macfadyen, 1837), Sapindaceae (Richard, 1845), Simaroubaceae (Planchon, 1846; Bentham & Hooker, 1862; Urban, 1920; Barker & Dardeau, 1930; Moscoso, 1943), Juglandaceae (Grisebach, 1859), Burseraceae (Grisebach, 1866), Terebinthaceae (Hallier, 1908), Euphorbiaceae (Fawcett & Rendle, 1917; Thorne, 1968; Webster, 1975; Hayden, 1977; Cronquist, 1978), and Bombacaceae (Hallier, 1923). The genus has also been considered a monotypic family, Picrodendraceae (Small, 1917), by numerous authors with the family being placed in Juglandales (Cronquist, 1968; Hutchinson, 1973), Rutales (Scholz, 1964; Takhtajan, 1966) and

Euphorbiales (Novák, 1961; Takhtajan, 1969). Webster (1975) based his tribe, Picrodendreae (Euphorbiaceae), on the genus.

Prior to its recognition as a distinct genus, plants now known as *Picrodendron* had been named *Juglans baccata* by Linnaeus (1759) based on a reference to a *Juglans* mentioned by Patrick Browne (1756) who had, in turn, referred to Sloane's (1725) illustration of this plant. Sloane's descriptive phrase was "*Nux juglans trifolia, fructu magnitudinae nucis moschatae*" (Sloane, 1696, 1725), and this was modified by Browne to "*Foliis oblongis obtusis pinnato-ternatis, fructibus singularibus baccatis ad alas*," with a direct reference to Sloane (1696): "*Nux Juglans trifoliata &c. Slo. Cat. 128. & H.*" In the absence of any evidence that Linnaeus examined herbarium specimens of *Juglans baccata*, we propose the Sloane (1725) illustration (tab. 157, fig. 1) serve as the type of the Linnaean name.

A Sagra collection of *Picrodendron* from Cuba (in the Richard herbarium at P!) was named *Schmidelia macrocarpa* by Richard (1845). Apparently the applicability of both *Juglans baccata* and *S. macrocarpa* was unknown to Planchon (1846) when he attempted to propose a new generic and specific name for this plant.

Planchon (1846) based, in part, the genus *Picrodendron* on a plant which Macfadyen (1837) collected and had mistakenly called *Rhus arborea* (Miller) DC. After describing his new genus, typified by *P. arboreum* (Miller) Planchon, Planchon cited the source of his specific epithet and the specimen he examined thusly: "*Rhus arborea*, DC. prod. 2, p. 73; MacFadyen, fl. of Jam. In montibus Jamaicae, MacFadyen, in herb. Hook." The specimen alluded to, *Macfadyen s.n.* (K!) from "near Hanson's Salt-pond" (Macfadyen, 1837), is indeed what is now commonly known as *Picrodendron*. Unfortunately Macfadyen had misapplied de Candolle's (1825) name and further confused the situation by citing a figure in Sloane (1725) which turns out to be an *Allophylus* (Sapindaceae). To Macfadyen, apparently, his fruiting specimen of *Picrodendron* compared more favorably, at least superficially, with Sloane's illustration of *Allophylus* (tab. 170) than with Sloane's rendition of a male specimen of *Picrodendron* (tab. 157).

An examination of Miller's specimen upon which he based *Toxicodendron arboreum* (BM!) and a specimen labelled *Rhus arborea* in the de Candolle collection (G-DC!) shows both to be *Allophylus cobbe* (L.) Raeusch. (*sensu* Leenhouts 1967) and not *Picrodendron*.

Grisebach (1859) was the first to note that *Rhus arborea* was not the same plant Planchon (1846) meant to describe, and attempted to correct the oversight. He carefully described the genus and characterized its single species which he called *P. juglans*, based on *Juglans baccata*. Grisebach's name is superfluous and was corrected to *P. baccatum* (L.) Krug & Urban in Urban (1893). Grisebach also placed *Schmidelia macrocarpa* in synonymy under his new species.

Planchon's accurate description and citation of an authentic specimen of *Picrodendron* notwithstanding, Art. 7.10 of the Code (Stafleu et al., 1978) clearly states that a new name, *P. arboreum* (Miller) Planchon, is in all circumstances typified by the basionym, *Toxicodendron arboreum* Miller. As *P. arboreum* is the type of the genus *Picrodendron*, and the basionym of that type is a synonym of *Allophylus cobbe*, the species epithet cited by Planchon cannot apply to the plant he intended to circumscribe. This proves to be the same kind of conservation problem encountered with *Odontonema* (Baum & Reveal, 1980). The Code is not clear whether one is to accept "intent" (the plant described) or "stated fact" (the name cited) when dealing with a generic name. Art. 7.10 refers only to "a new name formed from a previously published legitimate name or epithet," while Art. 10.1 states the "type of a name of a genus. . . is a species." Some argue that one should follow the statements within the generic description (intent) rather than the nature of the type species (stated fact). The value of conservation, in the case of *Picrodendron*, is that it rids the problem of interpreting intent. Surely, the task of conserving a name is not so overwhelmingly difficult that it cannot be done, and thus the present Code should not be modified to accommodate the few examples of generic names published in the fashion reflected here.

It is realized that in practice conservation of generic names is only granted in cases involving well known genera, either of widespread distribution or of considerable economic importance in which denial of conservation would result in wholesale name changes and lack of stability in nomenclature. Surely the merits of the current proposal are of a different sort. The importance of conservation of the name *Picrodendron* rests not in the economic value of the plant nor in the difficulty of publishing a new combination for its sole species, but rather in maintaining some

degree of continuity between the current and still somewhat controversial status of the genus in classification and its long and intricate historical participation in classification of so many other plant families and in its historical importance as a prominent endemic genus in the floristics of the West Indies. Planchon's name, based on Macfadyen's specimen as reflected in his accurate description of a plant which cannot reasonably be confused with *Allophylus*, has consistently been applied to what is currently known as *Picrodendron* (*sensu* Grisebach) by all authors working with the plant since 1846.

Finally, there is a considerable body of literature on the anatomy of *Picrodendron* (Jadin, 1901; Solereder, 1908; Boas, 1913; Webber, 1936; Heimsch, 1942; Record & Hess, 1943; Metcalfe & Chalk, 1950; Hayden, 1977). The genus is included in such compendia as Erdtman (1952) and Gibbs (1974) and has served as a basis for comparison with the fossil *Rosenkrantzia picrodendroides* Koch (1972). Clearly, the name *Picrodendron* is thoroughly ingrained in modern usage and its submersion as an obscure synonym of the unrelated genus *Allophylus* has little merit beyond blind adherence to the rules. Conservation of *Picrodendron* would further promote stability in nomenclature in allowing the sustained use of the family name Picrodendraceae Small ex Britton & Small, nom. cons. (with change of the type from *Picrodendron* Planchon to *Picrodendron* Grisebach, nom. cons.) and the tribe name Picrodendreae. We therefore propose:

***Picrodendron* Griseb., F. Brit. W. I. 2. 176. 1859, nom. cons. prop. Typus: *P. juglans* Griseb., Fl. Brit. W. I. 2: 177. 1859, nom. superfl., based on *Juglans baccata* L., Syst. Nat. ed. 10, 1272. 1759, = *P. baccatum* (L.) Krug & Urban, Bot. Jahrb. Syst. 15: 308. 1893. Lectotypus: Sloane, Voy. Isl. Madera, Barbados, Nieves, S. Christophers & Jamaica 2: tab. 157, fig. 1. 1725, the typotype is in the Sloane Herbarium, H.S. 5: 49 (BM!) (Euphorbiaceae/Picrodendraceae).**

*Picrodendron* Planchon, London J. Bot. 5: 579. 1846, nom. rej. prop. Typus: *P. arboreum* (Miller) Planchon, London J. Bot. 5: 580. 1846, based on *Toxicodendron arboreum* Miller, Gard. Dict. Art. *Toxicodendron* no. 8. 1768. *Rhus arborea* (Miller) DC., Prodr. 2: 73. 1825, = *Allophylus cobbe* (L.) Raeusch. (Sapindaceae).

We wish to formally acknowledge the efforts made by the late Dr. William T. Gillis who did much of the herbarium work in Europe which makes this paper possible. We also wish to acknowledge the assistance of Dr. Dan H. Nicolson for his comments on a draft of this proposal. This is Scientific Article No. 2710, Contribution No. 5757 of the Maryland Agricultural Experiment Station, Department of Botany.

## References

- Altschul, S. von R. 1973. *Drugs and foods from little-known plants: Notes in Harvard University Herbaria*. Harvard University Press. Cambridge.
- Barker, H. D., & W. S. Dardeau. 1930. *Flore d'Haïti*. Service technique du Département de l'Agriculture et de l'Enseignement Professionnel. Port-au-Prince.
- Baum, V. M., & J. L. Reveal. 1980. Proposal (526) to conserve *Odontonema* Nees ex Kuntze (1891) (Acanthaceae) with the type species *Justicia bracteolata* Jacq. against *Odontonema* Nees ex Endlicher (1842) with the type species *Justicia lucida* Andr. *Taxon* 29: 334-337.
- Bentham, G., & J. D. Hooker, 1862. Simarubaceae. *Gen. Pl.* 1: 306-316.
- Boas, F. 1913. Beiträge zur Anatomie und Systematik der Simarubaceen. *Beih. Bot. Centralbl.* 29: 303-356.
- Browne, P. 1756. *The civil and natural history of Jamaica*. Published by the author. London.
- Candolle, A. P. de. 1825. Terebinthaceae. *Prodr.* 2: 61-92.
- Cronquist, A. 1968. *The evolution and classification of flowering plants*. Houghton Mifflin Co. Boston.
- . 1978. "Addendum." *The evolution and classification of flowering plants*. Reprinted for the author by Allen Press. Lawrence, Kansas.
- Erdtman, G. 1952. *Pollen morphology and plant taxonomy*. Angiosperms. Chronica Botanica Co. Waltham.
- Fawcett, W., & A. B. Rendle. 1917. Notes on Jamaica plants. *J. Bot.* 55: 268-271.

- Gibbs, R. D. 1974. *Chemotaxonomy of flowering plants*. McGill-Queens University Press. Montreal.
- Grisebach, A. H. R. 1859. *Flora of the British West Indian Islands*. Part 2. L. Reeve and Co. London.
- . 1866. *Catalogus plantarum cubensium*. Wilhelm Engelmann. Leipzig.
- Hallier, H. 1908. On the origin of angiosperms. *Bot. Gaz.* 45: 196–198.
- . 1923. Beiträge zur Kenntnis der Linaceae (DC. 1819) Dumort. 10. Die Irvingiaceen. *Beih. Bot. Centralbl.* 39: 62–68.
- Hayden, W. J. 1977. Comparative anatomy and systematics of *Picrodendron*, genus incertae sedis. *J. Arnold Arbor.* 58: 257–279.
- Heimsch, C., Jr. 1942. Comparative anatomy of the secondary xylem in the “Gruinales” and “Terebinthales” of Wettstein with reference to taxonomic grouping. *Lilloa* 8: 82–198.
- Hutchinson, J. 1973. *The families of flowering plants*. 3rd ed. Clarendon Press. Oxford.
- Jadin, F. 1901. Contribution à l'étude des Simarubacées. *Ann. Sci. Nat. Bot., Sér.* 8, 13: 201–304.
- Koch, B. E. 1972. Fossil picrodendroid fruit from the Upper Danian of Nügssaug, West Greenland. *Meddel. Grønland* 193: 1–32.
- Leenhouts, P. W. 1967. A conspectus of the genus *Allophylus*. *Blumea* 15: 301–358.
- Linnaeus, C. 1759. *Systema naturae*. . . . *Tomus II*. Editio decima, reformata. Laurentii Salvii. Stockholm.
- Macfadyen, J. 1837. *The flora of Jamaica*. Longman, Orme, Brown, Green, and Longmans. London.
- Metcalfe, C. R., & L. Chalk. 1950. *Anatomy of the dicotyledons*. Clarendon Press. Oxford.
- Miller, P. 1768. *The gardeners dictionary*. 8th ed. London.
- Moscoco, R. M. 1943. *Catalogus florae domingensis*. University of Santo Domingo. New York.
- Novák, F. A. 1961. *Vysší rostliny*. Nakladatelství Československé akademie věd. Prague.
- Planchon, J. E. 1846. Revue de la famille des Simaroubées. *London J. Bot.* 5: 560–580.
- Record, S. J., & R. W. Hess. 1943. *Timbers of the New World*. Yale University Press. New Haven.
- Richard, A. 1845. *Historie physique, politique et naturelle de l'île de Cuba [Ramon de la Sagra]*. . . . *Botanique. Plantes vasculaires*. Paris.
- Roig y Mesa, J. T. 1945. *Plantas medicinales, aromáticas o venenosas de Cuba*. Ministerio de Agricultura. Havana.
- Sawyer, W. H. 1955. Medicinal uses of plants by native Inaguans. *Sci. Monthly* 80: 371–376.
- Scholz, H. 1964. “Rutales.” In: H. Melchior (ed.), *A. Engler's Syllabus der Pflanzenfamilien*. 12th ed. Band 2. Angiospermen. Gebrüder Borntraeger. Berlin-Nikolassee.
- Sloane, H. 1696. *Catalogus plantarum quae in insula Jamaica sponte proveniunt*. D. Brown. London.
- . 1725. *A voyage to the islands Madera, Barbados, Nieves, S. Christophers and Jamaica*. 2 vols. Printed by the British Museum for the author. London.
- Small, J. K. 1917. The Jamaican walnut. *J. New York Bot. Gard.* 18: 180–186.
- Solereder, H. 1908. *Systematic anatomy of the dicotyledons*. Transl. by L. A. Boodle and F. E. Fritsch; revised by D. H. Scott. Clarendon Press. Oxford.
- Stafleu, F. A., et al. 1978. International code of botanical nomenclature. *Regnum Veg.* 97: 1–457.
- Takhtajan, A. 1966. *Systema et phylogenia magnoliophytorum*. Moscow and Leningrad. “Nauka.”
- . 1969. *Flowering plants: Origin and dispersal*. Transl. by C. Jeffrey. Smithsonian Institution Press. Washington, D.C.
- Thorne, R. F. 1968. Synopsis of a putatively phylogenetic classification of the flowering plants. *Aliso* 6: 57–66.
- Urban, I. 1893. Additamenta ad cognitionem florae Indie occidentalis. Particula I. *Bot. Jahrb. Syst.* 15: 286–361.
- . 1920. Simarubaceae. *Symbol. Antill.* 8: 325–328.
- Webber, I. E. 1936. Systematic anatomy of the Simarubaceae. *Amer. J. Bot.* 23: 577–587.

Webster, G. L. 1975. Conspectus of a new classification of the Euphorbiaceae. *Taxon* 24: 593–601.

*Proposed by:* W. John Hayden and James L. Reveal, Department of Botany, University of Maryland, College Park, MD 20742, U.S.A. [Financial support towards publication gratefully acknowledged.—Ed.]