



A note on the tonka bean and William Forsyth junior's 'A botanical nomenclator' (1794)

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Abstract The 70 new combinations made in Forsyth's 'A botanical nomenclator' (1794) include ten names in current use, but hitherto attributed to later authors, notable being that of the economically significant *Dipteryx odorata* (tonka bean), *Leguminosae*. Of Forsyth's 26 nomina nova, *Psychotria caerulea* Forsyth f. (1794) is an older name for the homotypic *P. amplifolia* Raeusch. (1797), *Rubiaceae*. Also pointed out are four names in current use to be cited as of Lamarck and one as of Räuschel, rather than later authors. All other novelties, none apparently affecting current nomenclature, have been passed to IPNI editors.

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THE TONKA BEAN

Tonka beans are used in European cooking and scents, the basis being the coumarin (from the French word 'coumarine', derived from the Tupi (a *lingua franca* in 18th-century tropical America) name kumaru for tonka, a Galibi (Carib) name), from which anticoagulant drugs like warfarin were originally derived. In 1954 tonka beans were banned as a food ingredient in the United States, and since then in tobacco too, though they are still an adulterant in Mexican vanilla. Moreover, they are important as flavouring in certain European liqueurs, notably (the Dutch) Van Wees Tonkabonen Esprit, (the German) Michelberger Forest Kräuterlikör and (the French) Pastis Henri Bardouin (Stewart 2013: 197).

In preparing my lecture courses in Economic Botany at Leiden University, I recently became aware that the currently accepted name for tonka bean, *Dipteryx odorata* (*Leguminosae*), was first coined by William Forsyth junior in 1794, some years before the widely quoted attribution, to Willdenow, as set out below.

WILLIAM FORSYTH AND HIS 'A BOTANICAL NOMENCLATOR'

William Forsyth (?1772–1835) was a bibliophile seedsman, the eldest son of one of the founders of the Horticultural Society and gardener to England's George III at Kensington and St James's in London (Henrey 2 (1975) 353), William Forsyth (1737–1804) after whom *Forsythia* Vahl (*Oleaceae*) is named. Much confused with his father in the secondary literature, William Forsyth junior was in partnership with James Gordon (c. 1708–1780; commemorated in *Gordonia* J.Ellis, *Theaceae*), seedsman of Fenchurch Street, with a nursery at Mile end, later Bow, London.

According to Loudon (1835), Forsyth "was chiefly remarkable for having one of the best horticultural libraries that was perhaps ever formed, and for his bibliographical knowledge, more espe-

cially in botanical and horticultural literature". Forsyth prepared a number of publications including an *Arboretum britannicum*, but his only published work was his 'A botanical nomenclator; containing a systematical arrangement of the classes, orders, genera, and species of plants, as described in the new edition of Linnaeus's Systemae Naturae by Dr. Gmelin of Gottingen' in which the name *Dipteryx odorata* was published.

Besides there being copies in a number of prominent libraries including Harvard University Herbaria, Natural History Museum London and Royal Botanic Gardens Kew, Forsyth's book (Henrey no. 719), has also been available in facsimile form since 2009 (Kessinger Publishing, USA), besides having been digitized by both Hathi Trust and Biodiversity Heritage Library. It seems extraordinary that Forsyth's meticulous work has hitherto been disregarded and that his new names are not listed in IPNI (IPNI 2017, accessed 4 May 2017), which is the benchmark used in this note (all novelties listed in this note have been passed to the IPNI editors).

With a Preface dated April 1794, 'A botanical nomenclator' in effect pre-empted many of the new combinations proposed by Willdenow and others, as well as some of the rather dubious ones of Räuschel (1797; see Howard (1975)). Forsyth's book is numbered as columns, two per page, so that the correct citation of the name for the tonka bean is therefore:

Dipteryx odorata (Aubl.) Forsyth f. (1794) col. 391; Willd. 3 (1802) 910, isonym as '*Dipterix*' – *Leguminosae* (Central America and northern South America)

Basionym. *Coumaruna odorata* Aubl. 2 (1775) 740.

FORSYTH'S OTHER NEW COMBINATIONS

Whilst preparing a new edition (2017) of 'Mabberley's Plant-book', I checked whether any of the rest of the 70 validly published but previously unlisted new combinations made by Forsyth in his book antedated those generally accepted for other currently used names. There are indeed nine more, some of which names are used in the new edition of 'Mabberley's Plant-book' while all are made somewhat securer by these findings (see especially *Justicia ovata* below), this note thus providing the evidence for the attributions accepted in my new edition:

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Allophylus cobbe (L.) Forsyth f. (1794) col. 226; Raeusch. (1797) 108, isonym – *Sapindaceae* ((*A. cobbe* s.l.) Old World tropics)

Basionym. *Rhus cobbe* L. (1753) 267.

Note — See Howard (1975). According to Werner Greuter (pers. comm. 22 April 2017), the title of Räuschel's book is to be considered adequate to constitute an indirect reference to Linnaeus's basionym, validating this isonym, and many others, in his book. The remaining valid names have their basis in other works cited in his preface. Nonetheless, there are several names in his text with direct references to basionyms, e.g., of names in current use, *Croton cascarilloides* Raeusch. and *Potentilla erecta* (L.) Raeusch., though some in this category have been inexplicably overlooked. These include the following name in current use:

Pterospermum suberifolium (L.) Raeusch. (1797) 185; Willd. 3 (1800) 728, isonym – *Malvaceae* (India, Sri Lanka)

Basionym. *Pentapetes suberifolia* L. 2 (1753) 698.

Crudia aromatica (Aubl.) Forsyth f. (1794) col. 247; Willd. 2 (1799) 540, isonym – *Leguminosae* (northern South America)

Basionym. *Touchiroa aromatica* Aubl. 1 (1775) 385.

Crudia spicata (Aubl.) Forsyth f. (1794) col. 247; Willd. 2 (1799) 539, isonym – *Leguminosae* (northern South America)

Basionym. *Apalatoa spicata* Aubl. 1 (1775) 383.

Justicia ovata (Walter) Forsyth f. (1794) col. 13; Lindau in Urban (1900) 237, isonym – *Acanthaceae* (E and SE United States)

Basionym. *Dianthera ovata* Walter (1788) 63.

Note — This removes the threat from any publication that may be found validating 'J. ovata E. Meyer', first published as a *nomen nudum* for an African plant (*Isoglossa ovata* (Nees) Lindau) in 1843.

Manettia alba (Aubl.) Forsyth f. (1794) col. 104; Wernham (1918) 29, isonym – *Rubiaceae* (French Guiana)

Basionym. *Nacibea alba* Aubl. 1 (1775) 98.

Manettia coccinea (Aubl.) Forsyth f. (1794) col. 104; Willd. 1 (1798) 625, isonym – *Rubiaceae* (Central and South America)

Basionym. *Nacibea coccinea* Aubl. 1 (1775) 96.

Psychotria lutea (Aubl.) Forsyth f. (1794) col. 132; Willd. 1 (1799) 971, isonym – *Rubiaceae* (northern South America)

Basionym. *Nonatelia lutea* Aubl. 1 (1775) 190.

Psychotria paniculata (Aubl.) Forsyth f. (1794) col. 132; Raeusch. (1797) 56, isonym (*nomen nudum?*) – *Rubiaceae* (northern South America)

Basionym. *Nonatelia paniculata* Aubl. 1 (1775) 184.

Note — See Howard (1975), as Aublet is not one of the authors cited by Räuschel in his preface.

Trichilia mucronata (Cav.) Forsyth f. (1794) col. 249; Harms (1940) 116, 177; isonym – *Meliaceae* (Madagascar)

Basionym. *Portesia mucronata* Cav. (1789) 370.

FORSYTH'S NOMINA NOVA

In his 'Nomenclator', Forsyth also proposed over 25 *nomina nova*, almost all of them superfluous (illegitimate) names, several also to be found as isonyms in the later work of Willdenow. Only one has any nomenclatural effect, being the currently correct name for a Neotropical *Rubiaceae*:

Psychotria caerulea Forsyth f. (1794) col. 132 (non *P. caerulea* Ruiz & Pav. (1799, nom. illeg. = *P. brachiata* Sw.) – *Rubiaceae* (northern South America)

Basionym. *Nonatelia violacea* Aubl. 1 (1775) 188 (non *P. violacea* Aubl. = *Geophila repens* (L.) I.M.Johnst.).

Psychotria amplifolia Raeusch. (1797) 56, nom. illeg., superfl.

UNLISTED LAMARCK, AND OTHER, NAMES CORRECTLY CITED BY FORSYTH

Besides the principal source for Forsyth's work, Gmelin's 'Systema naturae per regna tria naturae' (1788–1793), another important book amongst the texts listed in Forsyth's Preface is Lamarck's 'Tableau encyclopédique et méthodique des trois règnes de la nature. Botanique' (1791–). Many dozens of new names taken from the books he cited in his preface were correctly recorded by the scholarly Forsyth, but inexplicably unlisted since. None of these appears to affect names in current use. On the other hand, it is worth pointing out that a number of other unlisted Lamarck 'Tableau' names were not cited by Forsyth, the only four in current use being:

Alchemilla capensis Lam. I, 1 (1792) 347; Thunb. 1 (1794) 31, isonym – *Rosaceae* (South Africa)

Cissus rotundifolia Lam. I, 1 (1792) 331, Vahl (1794) 18, isonym – *Vitaceae* (East Africa to Arabia)

Pimelea gnidia (J.R.Forst. & G.Forst.) Lam. I, 1 (1791) 31; Willd. 1 (1797) 50, isonym – *Thymelaeaceae* (New Zealand)

Basionym. *Banksia gnidia* J.R.Forst. & G.Forst. (1776) 8 [indirect reference].

Pimelea prostrata (J.R.Forst. & G.Forst.) Lam. I, 1 (1791) 31; Willd. 1 (1797) 51, isonym – *Thymelaeaceae* (New Zealand)

Basionym. *Banksia prostrata* J.R.Forst. & G.Forst. (1776) 8.

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