

NOMENCLATURE OF *JOINVILLEA* (JOINVILLEACEAE)

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ABSTRACT

The nomenclatural status of the name for the genus *Joinvillea* and for its two species is reviewed. It is concluded that the correct (first validly published) generic name is *Joinvillea* Gaudich. ex Brongn. & Gris, 1861; Gaudichaud's original publication of 1841 contravenes Articles 42 and 44 of the International Code of Botanical Nomenclature. The two species are correctly *J. plicata* (Hk. f.) Newell. & Stone, and *J. ascendens* Br. & Gr.

Joinvillea, a small genus previously attributed to the Flagellariaceae, has now been shown on good evidence to constitute a small independent family (Tomlinson & Smith, 1970; Lee, Yap & Liew, 1975). A recent taxonomic revision has been published by T. K. Newell (1969). In this work, evidence is given to show that the generic name, coined by C. Gaudichaud, dates as a legitimate botanical name only from a publication by A. Brongniart & Gris (1861). Therefore, the correct names of all species of the genus must date either from this same publication or from later publications, earlier appearances of the name in print being considered illegitimate. Newell regards the genus as being comprised of two species, both of them being further divided into subspecies. For these species, Newell concluded that the correct names are (1) *J. ascendens* Brongn. & Gris (1861), with four subspecies; and (2) *J. plicata* (Hk.f.) Newell & Stone (1967), based on *Flagellaria plicata* Hk. f. (1855), with two subspecies.

Lately this view has been challenged by St. John (1978), who maintains Newell's taxonomic conclusions but, on the basis of a different interpretation of the validity of publication of the generic name, regards *J. plicata* as a synonym of *J. elegans* Gaudich. In this note, evidence is reviewed and it is concluded that the nomenclatural discussion of St. John is unconvincing, and that therefore, the nomenclature adopted by Newell & Stone (1967) and by Newell (1969) is correct.

The crux of the nomenclatural problem is the applicability of Article 44 of the ICBN (International Code of Botanical Nomenclature). This article reads as follows: "The name of a species or of an infraspecific taxon published before 1 Jan. 1908 is validly published if it is accompanied only by an illustration with analysis showing essential characters (see Art. 32, Note 2). Note: Single figures of microscopic plants showing the details necessary for identification are considered as illustrations with analysis showing essential characters."

This article refers back to Article 32 (to Note 2, but in fact this is an error, and the reference should be to Note 3), which defines valid publication. Note 3 reads: In certain circumstances an illustration with analysis is accepted as equivalent to a description (see Arts. 42 and 44).

We are thus led also to Article 42, which reads as follows: "The publication of the name of a monotypic new genus based on a new species is validated either by (1) the provision of a combined generic and specific description (description generico-specifica) or diag-

nosis, or (2), for generic names published before 1 Jan. 1908, by the provision of an illustration with analysis showing essential characters (see Art. 32, Note 3)."

Gaudichaud conceived the genus *Joinvillea*. Instead of publishing it as a new name with a diagnosis or description, he merely coined the name of the genus and of two species which he believed the genus to be composed of. The two binomials were published as titles to illustrations (Plates) with "analyses" in his 'Botanique' Atlas, embodying results of the world tour of the French exploring expedition of 1836-37 in the corvette 'La Bonite' commanded by Capt. Vaillant (Gaudichaud, 1841). Two such Plates were published, Pl. 39 and Pl. 40, the former showing "*Joinvillea ascendens*" (figs. 1-6, showing short sections of a stem, a sterile shoot, and short cross sections of part of a leaf), the remaining figures (7-26) showing "*Joinvillea elegans*" (figs. 7-9 show stem, leaf, and inflorescence, figs. 10-26 show analytical details of the flowers and fruit and sections thereof). Details of both species can be found in both Plates.

St. John's argument in brief is this: *Joinvillea ascendens* is not a validly published name, since no flowers or fruits or other "essential" parts were shown in Gaudichaud's illustrations. Therefore *Joinvillea* as a genus is monotypic. The illustration of *Joinvillea elegans* shows the "essential" parts, i.e. flowers and fruits; it is therefore validly published, and can be taken as a joint or generico-specific publication of the genus and species. The genus, therefore, dates from 1841, as does the species *J. elegans*, which therefore has priority over the synonymous *Flagellaria plicata* Hk. f. of 1855.

This argument is however unconvincing, indeed specious, for the following reasons. First, it is obvious that Gaudichaud intended the genus to consist of two species; it was not monotypic in his original conception. Secondly, the insistence by St. John that the analyses provided for *J. ascendens* are unacceptable because they do not show flowers or fruits or other essential characters, is misleading. The ICBN does not specify what is meant by "analyses" or by the term "essential characters." Inherently, both can and often do include non-floral and non-fruit characters. If Gaudichaud meant to support his species concept by the use of features of the stem or leaf anatomy, this cannot be rejected on legalistic grounds (whether the anatomical features are significant is another matter). In other words, the analyses provided for *J. ascendens*, of vegetative characters, are just as satisfactory, from the legalistic point of view, in conforming to the stipulations of Art. 42 and Art. 44, as those of floral and fruit details provided for *J. elegans*. With our retroactive Code, we are thus forced to acknowledge that the generic name *Joinvillea*, as it appears in the original publication of 1841 by Gaudichaud, is illegitimate, as it clearly is intended to designate a genus of two species. Article 42 is very clear that only *monotypic* new genera can be validated by the publication of a plate with analyses. *Joinvillea* fails to meet this stipulation in 1841.

Newell & Stone (1967) and Newell (1969) accept the name *Joinvillea plicata* (Hk. f.) Newell & Stone for *J. elegans* Gaudich. nom. illegit. (1841). The genus itself was validly established and attributed to Gaudichaud by Brongniart and Gris (1861); they also established the species *J. ascendens* in the same publication. As shown by Newell, Brongniart and Gris also published a synonymous name for this species (*J. gaudichaudiana*), which previously has been used for Samoan plants. Three other species have been described, all now reduced to the status of subspecies. A short synopsis of the nomenclature follows.

JOINVILLEA Gaudich. ex Brongn. & Gris, Bull. Soc. Bot. France 8 (1861) 268.
Flagellaria subg. *Chortodes* Hook. f. in Hook., J. Bot. Kew Gard. Misc. 7(1855) 200, tab. VI. Type species: *J. elegans* Gaudich. ex Brongn. & Gris, l. c. which = *J. plicata* (Hk. f.) New. & Stone subsp. *plicata*.

- (1) *Joinvillea ascendens* Brongn. & Gris, l.c. 1861.
 (1a) subsp. *ascendens* — Hawaiian Islands, endemic.
 (1b) subsp. *samoensis* Newell, Journ. Arn. Arb. 50 (1969) 548. *J. gaudichaudiana* sensu Christophersen, Bishop Mus. Bull. 128 (1935) 46, pp. *J. gaudichaudiana* var. *samoensis* (Newell) Deg. & Deg., Fl. Haw. fam. 53a: 3.31.1973. Western Samoa, endemic.
 (1c) subsp. *borneensis* (Becc.) Newell, l. c. (1969) 549. *J. borneensis* Becc., Nelle For. Borneo (1902) 198. *J. malayana* Ridl., J. Str. Br. Roy. Asiat. Soc. 44 (1905) 199 and Fl. Mal. Pen. 4 (1924) 368. Malesia (Malaya, Sumatra, Borneo, Philippines (Palawan, Jolo), and Caroline Islands (Ponape).
 (1d) subsp. *glabra* Newell, l. c. (1969) 550. New Caledonia, endemic.
- (2) *Joinvillea plicata* (Hk. f.) Newell & Stone, Taxon 16(1967) 193. Newell, J. Arn. Arb. 50 (1969) 550. *Flagellaria plicata* Hk. f J. Bot. Kew Gard. Misc. 7 (1855) 200. Pl. VIII.
 (2a) subsp. *plicata*. — East Melanesia (Solomon Islands, New Hebrides, Fiji, and New Caledonia, including Isle of Pines). *J. elegans* Gaudich., Atl. Voy. Bonite (1841) Pl. 39, 40, figs. 7-26, *nom. nud. illegit.* *J. elegans* Brongn. & Gris, l. c. (1861) 268. *Flagellaria elegans* Seem., Fl. Vit. (1868) 315.
 (2b) subsp. *bryanii* (E. Christophersen) Newell, l. c. (1969) 552. *J. bryanii* E. Christophersen, Bishop Mus. Bull. 128 (1935) 44. *J. elegans* subsp. *bryanii* (E. Christophersen) St. John, Phytologia 40 (1978) 372. Western Samoa, endemic.

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