

(2029) Proposal to conserve the name *Meiogyne* against *Fitzalania* (Annonaceae)

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(2029) *Meiogyne* Miq. in Ann. Mus. Bot. Lugduno-Batavi 2: 12. 23 Mar 1865 [*Annon.*], nom. cons. prop.

Typus: *M. virgata* (Blume) Miq. (*Unona virgata* Blume)

(=) *Fitzalania* F. Muell., Fragm. 4: 33. Oct. 1863, nom. rej. prop.

Typus: *F. heteropetala* (F. Muell.) F. Muell. (*Uvaria heteropetala* F. Muell.)

Meiogyne Miq. is a well-known genus of Asian *Annonoaceae* with 17 species presently recognized (Van Heusden in Blumea 38: 487–511. 1994; Van Heusden in Bull. Mus. Natl. Hist. Nat., B, Adansoniana 18: 77–81. 1996; Jessup in Wilson, Fl. Australia 2: 51–55. 2007; Turner in Malayan Nat. J. 61: 247–249. 2009). The number of species of *Meiogyne*, however, will surely increase as there are several new species to be described (D.M. Johnson, pers. comm). The genus is found from India through southeast Asia to northern Australia, New Caledonia, and Fiji (Van Heusden, l.c. 1994, l.c. 1996). Several genera (*Ancana* F. Muell., *Chieniodendron* Tsiang & P.T. Li, *Guamia* Merr., *Oncodostigma* Diels, *Polyaulax* Backer) have been synonymised with *Meiogyne* on the basis of gross morphology (Van Heusden, l.c. 1994). *Meiogyne*, including the synonymized genera, exhibits a corrugated

or grooved area at the base of the inner side of the inner petals (Van Heusden, l.c. 1994; Jessup, l.c.). Moreover, the apex of those stamens located in the inner whorls (near the carpels) is usually more elongated than those located in the outer whorls (Van Heusden in Blumea Suppl. 7: 98–103. 1992; Jessup, l.c.). These two important features also occur in *Fitzalania* F. Muell., an Australian endemic genus with two species (Van Heusden, l.c. 1992: 108–109; Jessup, l.c.: 45–46). However, the colour and appearance of the (inner) petals of *Fitzalania* (very dark purple and more or less boat-shaped) are somewhat different from those of *Meiogyne* and hence are the main reasons to still recognize this genus morphologically (Jessup, l.c.: 45–46). In addition, one of the two species of *Fitzalania*, *F. bidwillii* (Benth.) Jessup & al., possesses sepal-like outer petals, resembling those of *Heteropetalum* Benth. (now included in *Gutteria* Ruiz & Pav.), *Marsypopetalum* Scheff. p.p., *Miliusa* Lesch. ex A. DC., *Phaeanthus* Hook. f. & Thomson, *Piptostigma* Oliv., and *Polyalthia* Blume sensu stricto p.p.

Recent molecular phylogenetic analyses have shown that *Fitzalania* is nested within *Meiogyne*, a relationship that is strongly supported (Mols & al. in Mols, From Miliusa to Miliuseae to Miliusoid, (Ph.D. thesis, Leiden University): 45–46. 2004). This finding is also

confirmed by the authors (in prep.) as part of the first author's Ph.D. study to understand the phylogenetic relationships of genera in one of the major clades of *Annonaceae*. The genera *Ancana*, *Guamia*, and *Polyaulax*, which have been included in *Meiogyne* by Van Heusden (l.c. 1994), are also found to be embedded in *Meiogyne* with strong support. Unfortunately, no suitable material of *Chieniodendron* and *Oncodostigma* is available for DNA extraction. The two species of *Fitzalania* appeared to be sister to each other with maximum support. Therefore, the different colour and appearance of the (inner) petals are a synapomorphy of *Fitzalania*. The sepal-like outer petals of *F. bidwillii* is apparently an autapomorphy.

The principle of monophyly is pivotal in the classification of *Annonaceae*, and several genera have been re-circumscribed or newly described in the recent past. Applying this principle to the situation of *Meiogyne* and *Fitzalania* would result in the transfer of species of *Meiogyne* to *Fitzalania*, according to Art. 11.3 of the *International*

Code of Botanical Nomenclature (McNeill & al. in *Regnum Veg.* 146. 2006), as *Fitzalania* antedates *Meiogyne*.

However, there are good reasons to conserve the name *Meiogyne* against *Fitzalania*. Firstly, the former genus contains many more species. Secondly, *Meiogyne* is better known as it has a considerably larger distribution area covering many more countries. Finally, *Meiogyne* has lent its name to a dimeric sesquiterpenoid, meiogynin A, isolated from the bark of *Meiogyne cylindrocarpa* (Burck) Heusden, which has significant potential as an anti-cancer agent (Litaudon & al. in *J. Nat. Prod.* 72: 480–483. 2009; Fotsop & al. in *J. Org. Chem.* 75: 7412–7415. 2010). Consequently, to maximize the stability of the names, it is appropriate to conserve *Meiogyne* against *Fitzalania*. Whereas at least 17 new combinations would be required if this proposal is not accepted, only two new combinations will be necessary (from *Fitzalania* to *Meiogyne*) if it is accepted.