

## NOTES ON LECTOTYPIIFICATION OF GENUS *DUNBARIA* WIGHT & ARN. (LEGUMINOSAE)

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### ABSTRACT

*DUNBARIA* Wight & Arn. (Leguminosae) was established in 1834. Since then a number of species have been added to this genus from different regions of the Eastern and South Eastern Asia. This genus has been treated in earlier works for over a century without mention of type species. However, Hutchinson (1964) mentioned *Dunbaria heynei* Wight & Arn. as its lectotype species. Due to the nomenclatural changes the above species has since been transferred to the nearest related genus *CAJANUS* DC. Hence, a correct and proper selection of lectotype species has been necessitated for the generic name *DUNBARIA* Wight & Arn.

### INTRODUCTION

The genus *DUNBARIA* was established by Wight & Walker Arnott in 1834, based on three species, viz. *Dunbaria heynei*, *D. ferruginea* and *D. latifolia*. The generic name is so named in honour of Prof. George Dunbar of Edinburg (1784-1851). Since then a number of species have been added to this genus by later workers from different regions of the East and South-East Asian countries. Presently, it is estimated that there are about 15 species distributed in the tropics of the world and in Australia.

Voigt (1845) followed Wight & Arnott's treatment and mentioned *D. ferruginea* and *D. latifolia* in his *Hortus Suburbanus Calcuttenis*. Later Bentham (1852) added 3 more species to this genus. Miquel (1855) in his *Flora Indiae Batavae* described 12 species of *DUNBARIA* including 4 new ones. Bentham & Hooker (1865) also treated this genus with 12 species. Baker (1876) dealt with 7

species. Kurz (1876) mentioned 4 species. The next important contribution was that of Taubert (1897), who treated 11 species. In the same year David Prain added 3 new species under this genus. *DUNBARIA* Wight & Arn. was treated in many regional floras by workers like Trimen (1894), T. Cooke (1902), D. Prain (1903), J. F. Duthie (1903), J. S. Gamble (1918) etc.

During the course of time some of the species of this genus underwent nomenclatural changes and even merged with or transferred to other species of genera. Baker (1876), Gamble (1918) and Sanjappa (1992) treated *D. latifolia* Wight & Arn. as conspecific with *D. ferruginea* Wight & Arn. Later van der Maesen (1995) even described and published a new name *Rhynchosia courtallensis* van der Maesen based on *D. latifolia* Wight & Arn. In 1985, he also made a merger and transferred *D. heynei* Wight & Arn. to a closely related genus *CAJANUS* DC. Accordingly the name of this species has been changed as *Cajanus heynei* (Wight &

Arn.) van der Maesen. He clearly explained this merger by stating that "this species belongs to *CAJANUS*, as the pods have real depressions [similar to *C. platycarpus*

(Benth.) van der Maesen] and are not flat. The flat versus undulated pod is a key character used to distinguish *DUNBARIA* from other *Cajaninae* with more than 3 seeds"

Comparison between *DUNBARIA* Wight & Arn. and *CAJANUS* DC.

DUNBARIA	CAJANUS
1. Flowers yellow with or without red or purplish streaks.	1. Flowers yellow or lined with red or flag dorsally reddish.
2. Vexillum with or without two callosities near the base.	2. Vexillum without callosities near the base.
3. Style often swollen in the middle or not, upper part glabrous.	3. Style swollen above the middle. upper part glabrous or slightly hairy.
4. Pods flat, compressed, slightly depressed between the seeds but without sharp transverse lined.	4. Pods undulated, compressed. depressed between the seeds with sharp transverse lines almost septate between the seeds.
5. Seeds substrophiolate, strophiole consisting of two parallel flaps.	5. Seeds strophiolate, strophiole conspicuous or vestigial.

Probably Wight & Arnott (1834) did not see mature pods or depressions since these develop in later stages. The type material (Wallich 5572 A, holotype & isotypes : K) only has young fruits. Apparently neither Bentham (1852) nor Baker (1876) had additional material at their disposal, since they did not refer to it. Prain (1897) did see *Cajanus kulnensis* Dalz. material from Dalzell (1850) who described the constrictions clearly, but did refer it to the synonymy of *D. heynei*. Gamble (1918) had seen mature pods *D. heynei* while preparing the Flora of the Presidency of Madras and left *C. kulnensis* in synonymy with *Dunbaria heynei*. Unripe seeds of *C. heynei* have large strophioles, which shrivel at maturity to small but most *DUNBARIAS* which have substrophiolate seeds.

In all the above works the genus *DUNBARIA* was treated without mention of its type species. However, Hutchinson (1964) mentioned *Dunbaria heynei* Wight & Arn. as the lectotype of the genus *DUNBARIA* in his "Genera of Flowering Plants". Probably he selected this species as lectotype, by choosing the first amongst the three species of Wight & Arnott's original text. The same is followed by Farr *et al.* (1979), Thuan (1979) and Sanjappa (1992). But as stated earlier *D. heynei* Wight & Arn. is not existing as a species under *DUNBARIA* and the genus is once again left without type species. In this situation it has become necessary to select proper and valid lectotype species for the generic name *DUNBARIA* Wight & Arn.

In consideration of all the above facts,

Satyanarayana (1993) redesignated the lectotype species as *Dunbaria ferruginea* Wight & Arn., which is the only remaining and proper species of the original description by Wight & Arnott (1834). This lectotypification has been accepted by van der Maesen (1998) and cited in his recent revision of the genus *DUNBARIA* Wight & Arn. published in Wageningen Agricultural University papers 98 (1): 12.

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