

STUDIES IN LEGUMINOSAE XXV: NEW TAXA IN THE
GENUS *DALBERGIA* LINN. F.

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ABSTRACT

Seven new varieties and two new forma in the genus *Dalbergia* Linn. f. (*Dalbergia rimosa* Roxb. var. *laevis* Thoth., *D. cultrata* Grah. ex Benth. var. *tavoyensis* Thoth., *D. cultrata* Grah. ex Benth. var. *maymyensis* Thoth., *D. confertiflora* Benth., var. *listeri* Thoth., *D. volubilis* Roxb. var. *assamica* Thoth., *D. stipulacea* Roxb. var. *kurzii* Thoth., *D. stipulacea* Roxb. var. *mogkokensis* Thoth., *D. stipulacea* Roxb. var. *stipulacea* f. *puberula* Thoth., *D. velutina* Benth. var. *velutina* f. *burmanica* Thoth.) are described with illustrations.

INTRODUCTION

Taxonomic studies of the tribe Dalbergieae (Leguminosae) in India, Burma, Ceylon, Pakistan and Bangladesh was completed by the author in 1973. During the revision on the genus *Dalbergia* Linn. f., a good number of taxa, new to science were discovered. A few of such new taxa are described in this paper with suitable illustrations.

***Dalbergia rimosa* Roxb. var. *laevis* Thoth.**
var. nov. (Fig. 1).

A varietate *rimosa* leguminibus adversus semina distincte laevibus differt.

The variety differs from the typical plant in the pods which are distinctly smooth over the seed.

Leaf imparipinnate, alternate, 12-17 cm long; leaflets 7, alternate, elliptic-oblong, obovate, $4.6.5 \times 1.5-3.2$ cm, subcoriaceous, entire, narrow to rounded at base, emarginate at apex, glabrous; rachis and petiolule glabrous; petiolule 1.5-2.5 mm long. *Infructescence* 19 cm long. *Pod* oblong, stalked, 1-seeded, rounded at both ends, glabrous, distinctly smooth over the seed.

Type: Nahmedaung, Henzada, Burma, Feb. 1903—*Shaik Mokim* 1355 (Holotype, CAL).

The subspecific taxa in *Dalbergia cultrata*

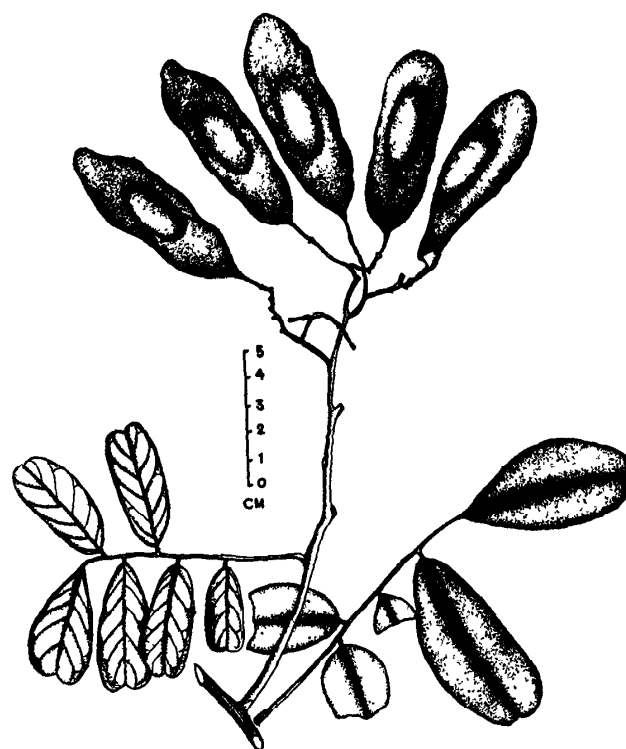


Fig. 1. *Dalbergia rimosa* Roxb. var. *laevis* Thoth. Grah. ex Benth. can be distinguished as follows:

KEY TO THE VARIETIES OF *D. CULTRATA*
GRAH. EX BENTH.

- A. Leaflets 7-11, larger ($2.5-6.4 \times 1.8-3.7$ cm)
- B. Pod oblong, obtuse to retuse at apex, narrow to rounded at base var. *cultrata*
- BB. Pod narrow at both ends, mucronate at apex, reticulately veined against the seeds var. *tavoyensis*
- AA. Leaflets 11-13, smaller ($1.8-3 \times 0.7-1.4$ cm), narrowly elliptic var. *maymyensis*

Dalbergia cultrata Grah. ex Benth. var. ***tavoyensis*** Thoth. var. nov. (Fig. 2).

A varietate *cultrata* leguminibus angustatis in duobus extremis praesertim inferne, apice mucronatis et adversus semina reticulatis differt.

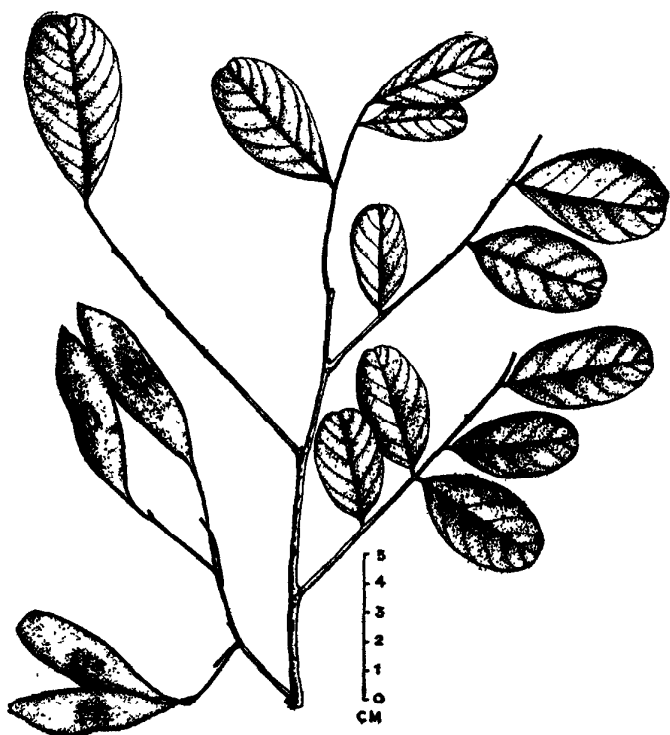


Fig. 2. *Dalbergia cultrata* Grah. ex Benth. var. *tavoyensis* Thoth.

This variety differs from the typical plant in possessing pods, narrowed at both ends especially below, mucronate at apex and reticulately veined against the seeds.

Leaf imparipinnate, alternate, 12-21 cm long; leaflets 7, ovate-elliptic to obovate, alternate, 3.5-6 × 1.7-3.4 cm, entire, retuse at apex, cuneate at base, glabrous above, glabrous to puberulous below, lateral veins 8-10 pairs; petiolule 2-3 mm long, glabrous. *Infructescence* axillary, 15.5-16.5 cm long. *Pod* oblong, 6-8.5 × 1.5-1.6 cm, stalked, narrowed at both ends especially below, slightly mucronate, 1-2-seeded, reticulately veined against the seeds.

Type: Tavoy, Tenasserim, Burma, Sept. 1901—*Manson* 71 (Holotype, CAL).

Fruit: September to December.

Distribution: Burma (Tavoy).

Specimen examined: Calyon village, Tavoy, Jan. 1901—*Shaik Mokim* 253 (CAL).

Dalbergia cultrata Grah. ex Benth. var. ***maymyensis*** Thoth. var. nov. (Fig. 3).

A varietate *cultrata* foliolis 11-13, parvioribus, anguste ellipticis differt.

This variety differs from the typical one in having 11-13, smaller, narrowly elliptic leaflets.

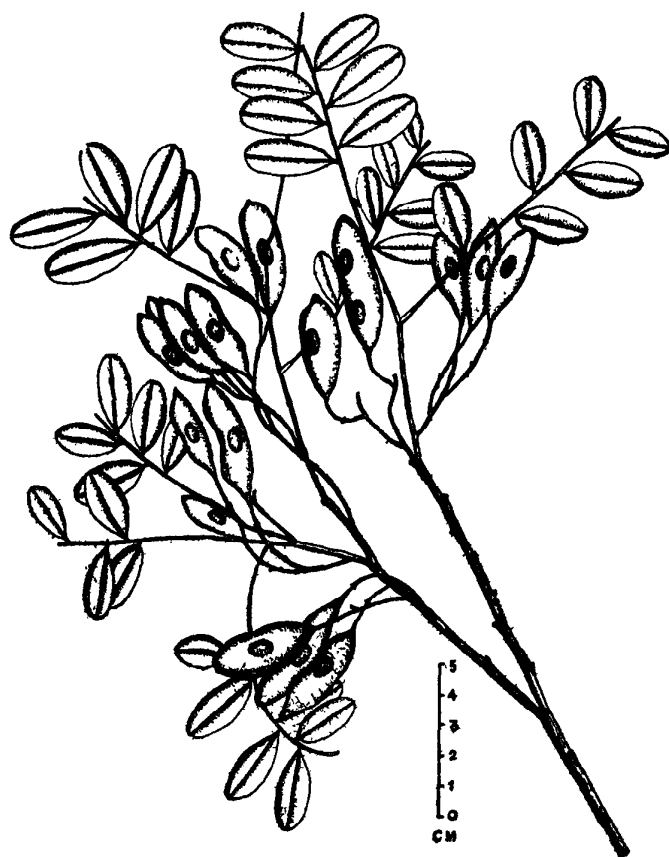


Fig. 3. *Dalbergia cultrata* Grah. ex Benth. var. *maymyensis* Thoth.

Branches lenticellate, glabrous. *Leaf* imparipinnate, alternate, 10-15 cm long, rachis glabrous; leaflets 11-13, narrowly elliptic, 1.8-3 × 0.7-1.4 cm, entire, obtuse at apex, narrow to rounded at base, chartaceous, glabrous; petiolule 2 mm long, glabrous. *Infructescence* axillary, short panicle, 4-6 cm long, rachis and branchlets glabrous. *Pod* indehiscent, flat, narrowly oblong, 3-4.5 × 1-1.2 cm, stalked, glabrous, more or less smooth, 1-seeded.

Type: Maymyo plateau, 1200 m, Upper

Burma, July 1908—*J. H. Lace* 4141 (Holo- ***Dalbergia confertiflora*** Benth. var. ***listeri***
type, CAL). Thoth. var. nov. (Fig. 4).



Fig. 4. *Dalbergia confertiflora* Benth. var. *listeri* Thoth.

A varietate *confertiflora* calycibus dense ferrugineis differt.

The variety differs from the typical plant in the calyx being densely ferrugineous.

A climber. *Leaves* imparipinnate, alternate, 9-11 cm long; leaflets 9, elliptic-oblong, $2.3-3.8 \times 1.5-2$ cm, alternate, entire, obtuse at apex, rounded at base, glabrous; petiolule 2 mm long. *Inflorescence* axillary and terminal panicles, 5-13.5 cm long, branches of the panicle ferrugineous. *Flowers* 6-8 mm long, sessile to minutely pedicelled; bract and bracteoles as in typical plant. *Calyx* campanulate, 5-toothed, densely ferrugineous, 3-4 mm long. *Corolla* vexillum obovate, 5.5-6.5 mm long, clawed, wings and keels oblong, clawed. *Stamens* 9, monadelphous, sheath 4-5 mm long. *Ovary* 5 mm long, stipitate, 4-ovuled, style short, stigma minute.

Type: Kasalong, Chittagong, Feb. 1876—*Lister* 8 (Holotype, CAL).

This variety occurs only in Bangladesh.

***Dalbergia volubilis* Roxb. var. *assamica* Thoth. var. nov. (Fig. 5).**

A varietate *volubile* leguminibus late oblongis cum superficiebus non reticulatis differt.

D. volubilis var. *assamica* differs from the typical plant in having widely oblong pods without any reticulations on its surface.

A large woody climber. *Leaf* imparipinnate, alternate, 13-18.5 cm long; leaflets 9, $3.5-5.2 \times 1.7-3.2$ cm, alternate, elliptic-oblong, entire, retuse at apex, narrow to rounded at base, glabrous; rachis glabrous, petiolule 2-3 mm long. *Flower* not known. *Infructescence* terminal and axillary panicle, 6-14.5 cm long. *Pod* indehiscent, elliptic-oblong, $6.5-7 \times 2-2.5$ cm, acute at apex, narrowed at base, glabrous, uniformly smooth without any reticulations, 1-seeded; seed reniform.

Type: Myantang valley, Khasia and Jaintia hills, Assam, Jan. 1916—*U. Kanjilal* 6574 (Holotype, CAL).

Distribution: Assam.



Fig. 5. *Dalbergia volubilis* Roxb. var. *assamica* Thoth.

Specimen examined: Assam: Fort Lungleh, 1000-3000 m, South Lushai hills, Apr. 1899—*Gage* 196 (CAL).

The key below will facilitate in the identification of the subspecific taxa in *Dalbergia stipulacea* Roxb.

KEY TO THE VARIETIES AND FORMS OF
D. STIPULACEA ROXB.

- A. Leaflets 9-11, wider and longer, $4.5-6.5 \times 1.8-2.5$ cm
var. *kurzii*
- AA. Leaflets 13-17, narrower, $2.5-4.5 \times 0.8-1.7$ cm.
 - B. Pod turgid against the seeds; leaflets more than 15
var. *stipulacea*
 - C. Rachis, branches and pedicels of panicle glabrous
f. *stipulacea*
 - CC. Rachis, branches and pedicels of panicle puberulous to pubescent
f. *puberula*
 - BB. Pod not turgid against the seeds; leaflets 13-15
var. *mogkokensis*

***Dalbergia stipulacea* Roxb. var. *kurzii* Thoth. var. nov. (Fig. 6).**

A varietate *stipulacea* foliolis 9-11, latioribus et longioribus differt.

D. stipulacea Roxb. var. *kurzii* Thoth. differs from the typical plant in having 9-11 leaflets which are always wider and longer.

Branchlets glabrous, striate. *Leaves* imparipinnate, alternate, stipulate, 17-23 cm

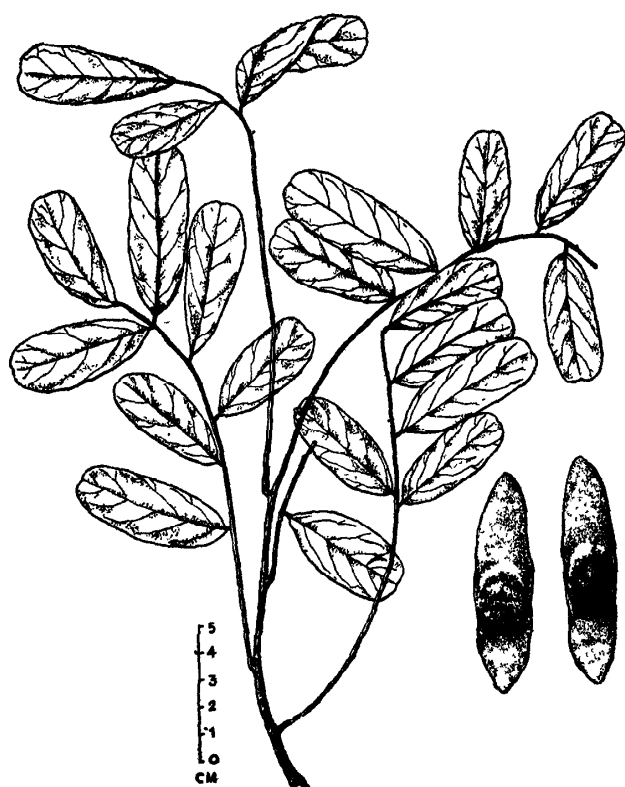


Fig. 6. *Dalbergia stipulacea* Roxb. var. *kurzii* Thoth.

long; leaflets 9-11, elliptic-oblong to obovate-oblong, $4.5-6.5 \times 1.8-2.5$ cm, entire, obtuse to slightly retuse at apex, mostly narrowed at base, rarely rounded, subcoriaceous, glabrous, lateral veins indistinct; rachis glabrous, petiolule 3-4 mm long, glabrous, stipules deciduous. *Pod* oblong, $8-10 \times 2-2.5$ cm, glabrous, smooth, 1-seeded, much thickened against the seed.

Type: Martaban, Burma—Kurz 1774 (Holotype, CAL).

Specimens examined: BURMA: Bookee ridges, Pegu—Kurz 1774 (CAL); Tenasserim—Kurz s.n. (CAL).

***Dalbergia stipulacea* Roxb. var. *mogkokensis* Thoth. var. nov. (Fig. 7).**

A varietate *stipulacea* foliorum numeris rhachidibus, pedicellis et foliolis deorsum puberulis ad pubescentibus, et leguminitus adversus semina non turgidis differt.

D. stipulacea var. *mogkokensis* Thoth. differs from the typical plant in the number of leaflets, rachis, pedicels and leaflets below being puberulous to pubescent and the pods being not turgid against the seed.

A small tree; branchlets glabrous. *Leaves* imparipinnate, alternate, stipulate, 12-17 cm long; leaflets 13-15, elliptic-oblong, $1.5-3.4 \times 0.8-1.2$ cm, mostly alternate, rarely opposite, subcoriaceous, entire, obtuse at apex, cuneate at base, sparingly pilose above, puberulous to pubescent below; rachis puberulous to pubescent, petiolule 1-2 mm long, pubescent. *Infructescence* axillary panicle, 10 cm long, rachis and branches puberulous to pubescent. *Pod* indehiscent, flat, oblong, $6.5-9 \times 2.2-2.7$ cm, entire, obtuse at apex, narrowed at base, stalked, glabrous, 1-2-seeded, reticulated especially against the seed but not turgid or thickened; seed reniform, compressed.

Type: Mogkok, 1334 m, Ruby mines division, Burma, May 1910—A. Rodger 332 (Holotype, CAL).

Distribution: Burma.

***Dalbergia stipulacea* Roxb. var. *stipulacea* f. *puberula* Thoth. form. nov.**

A forma *stipulacea* rhachidibus, panicularum ramis et pedicellis interdum puberulis ad pubescentibus differt.

D. stipulacea Roxb. f. *puberula* Thoth. differs from the typical plant in the rachis, branches of the panicle and pedicels of the flowers being puberulous to pubescent at times.

Inflorescence an axillary panicle, 6-9 cm long, rachis and branches of the panicle brown puberulous. *Flowers* pedicellate; pedicels 2.5-3.5 mm long, brown puberulous;

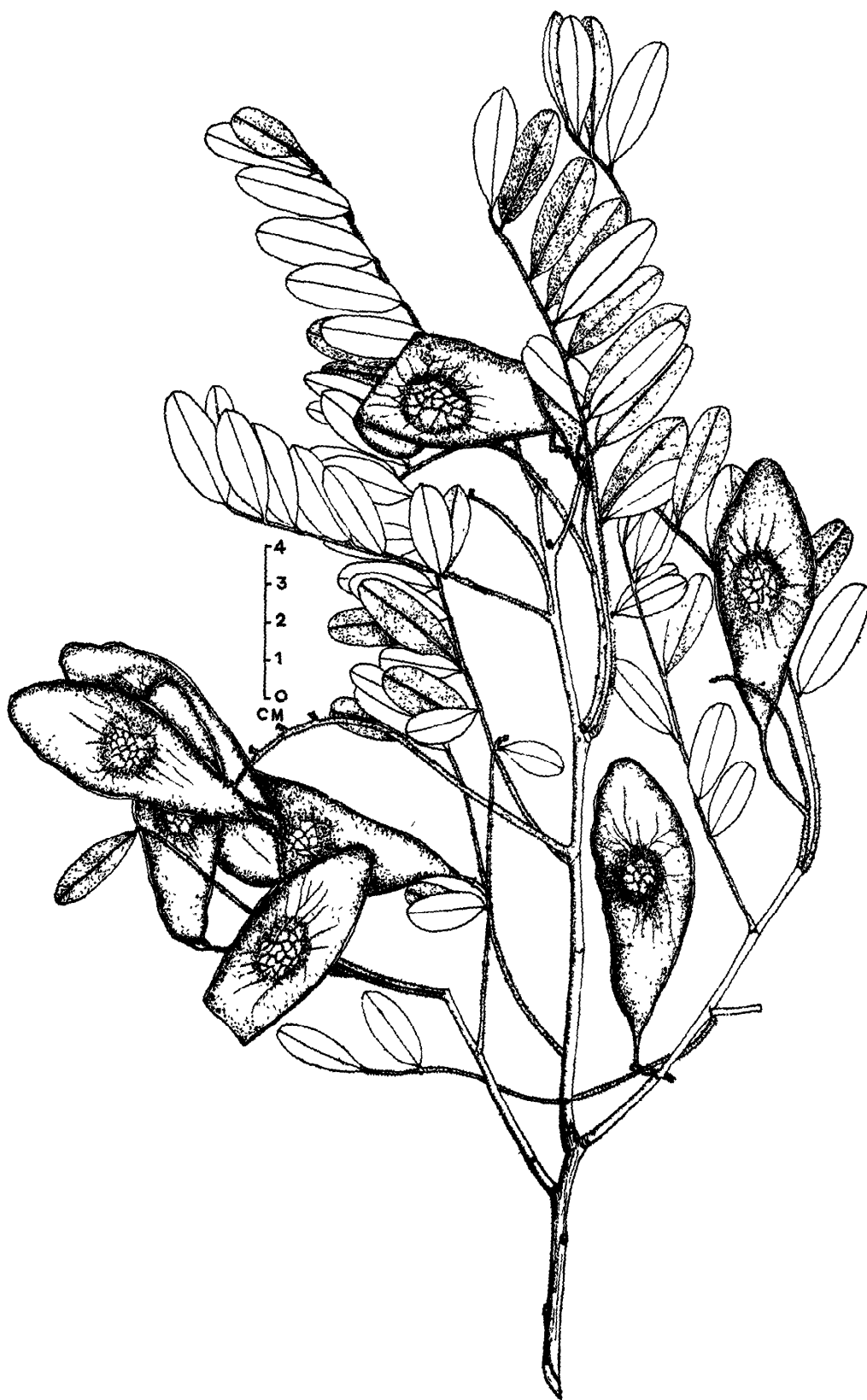


Fig. 7. *Dalbergia stipulacea* Roxb. var. *mogkokensis* Thoth.

bract and bacteoles too puberulous.

Type: Mandalay district, 1200 m, Burma, May 1915—*G. Rogers* 968 (Holotype, CAL).

Distribution: Burma and India (Eastern Himalayas).

Specimens examined: BURMA: Maymyo plateau, 1200 m, Apr. 1908—*Lace* 3108 & 3138 (CAL); Upper Chindwin, 1665 m, Apr. 1915—*Mackenzie* 20 (CAL). INDIA: Mungpoo, 800 m, Jul. 1914—*Cousins* 45 (CAL); Ryang valley, Sikkim, Mar. 1878—*Lister* s.n. (CAL).

The subspecific taxa in *Dalbergia velutina* Benth. can be distinguished from one another as in the key. Of these *D. velutina* Benth. var. *maingayi* was published by Prain (1897).

KEY TO THE VARIETIES AND FORMS OF *D. VELUTINA* BENTH.

- | | |
|---|----------------------|
| A. Leaflets velvety pubescent below; stipules large and prominent ... | var. <i>velutina</i> |
| B. Leaf 14-24 cm long; leaflets smaller, 3-6 × 1.5-2.2 cm ... | f. <i>velutina</i> |
| BB. Leaf 21-33 cm long; leaflets large, 4.5-8.7 × 2-3 cm ... | f. <i>burmanica</i> |
| A. Leaflets glabrous to puberulous below; stipules small ... | var. <i>maingayi</i> |

***Dalbergia velutina* Benth. var. *velutina* f. *burmanica* Thoth. form. nov.**

A typo foliis longioribus, folioliis majoribus differt.

The plant differs from the typical form in the longer leaves and larger leaflets.

Leaf 21-33 cm long, comparatively longer than in the typical form; leaflets 13-20, larger than the typical form, 4.5-8.7 × 2-3 cm.

Type: Mergui, Burma, Apr. 1909—*Lace* 4789 (Holotype, CAL).

Specimen examined: BURMA: Rangoon, May 1911—*Meebold* 15535 (CAL).

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