

NOTES ON THE NOMENCLATURE OF THE FAMILY LAURACEAE FROM INDIA

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While studying the family Lauraceae for Flora of India, these species viz., *Beilschmeidia deomalica* Bennet & Sum. Chandra, *Cinnamomum nicolsonianum* Manilal & Shylaja and *Phoebe hainesiana* Brandis are reduced as synonyms and two new combinations viz., *Cinnamomum tazia* (Buch.-Ham.) Kosterm. ex M. Gangop. and *Phoebe bootanica* (Meisn.) M. Gangop. are proposed accordingly.

I. *Beilschmeidia deomalica* Bennet & Sum. Chandra was published in 1987 based on a fruiting collection from Deomali forest of Siang district, Arunachal Pradesh. Later Kostermans (1988) had rightly transferred the species to the genus *Endiandra* Nees. A number of specimens of *Endiandra firma* Nees collected from North-East India and housed in ASSAM, DD and CAL were studied and found that most of them were misidentified under the several species of the genus *Beilschmeidia*. Both the genera could be distinguished by simply observing the foliage characters. Species of *Beilschmeidia* contains non glossy leaves with laxly reticulate minor nervules, whereas species (only one in the area) of *Endiandra* contains prominently areolate-reticulate minor nervules and glossy leaves.

During the study it was observed that the species *Endiandra firma* wall. ex nees has three major types of fruits and they could be classified as:

1. Smaller fruits: ellipsoid, ellipsoid-ovoid, 3 - 3.6 cm long, 1.6 - 2.2 cm wide, obtuse to acute at both ends.
2. Medium sized fruits: ellipsoid, 4.5 - 4.7 cm long, 2.2 - 2.4 cm wide, tapering at both ends.
3. Larger sized fruits: oblong-cylindric to ellipsoid-oblong, 5.8 - 7 cm long, 2 - 2.8 cm wide, obtuse or tapering at both ends.

The range of variations of shapes and sizes of the fruits are unique. The other characters of the specimens are almost alike. Unfortunately there are no flowering specimens in the studied materials excepting the type collection of Dr. Wallich. *Beilschmeidia deomalica* was described based only on a fruiting specimen which belongs to the third group. Therefore *Beilschmeidia deomalica* is reduced as a synonym of *Endiandra firma*.

The correct nomenclature of the species is as follows:

Endiandra firma Wall. ex Nees in Wall., Pl. Asiat. Rar. 2:68.1831 & Syst. Laur. 195. 1836; Meisn. in DC., Prodr. 15(1):79, 236. 1864; Hook. f., Fl. Brit. India 5:126.1886; Gamble, Man. Ind. Timb., ed. 2, 560. 1902; Brandis, Ind. Trees 529. 1906; Kanjilal & al., Fl. Assam 4: 54.1940; Bor, Man. Ind. For. Bot. 51.1953; Kosterm., Bibliogr. Lauracearum 486.1964.

Type: Mount Pandua, *F. de Silva* s.n. in Wallich, Cat. No. 2597 (CAL!).

Laurus firma Wall. Cat. No. 2597.1830, *nom. nud.*

Beilschmeidia deomalica Bennet & Sum. Chandra in Indian J. Forest. 9: 273. 1987 ('1986'), *syn. nov.*

Holotype: Arunachal Pradesh, Siang distr., Deomali forest division, 18.3.1982, *Bennet & Chandra* 3746 A (DD!); *isotype:* *ibid.*, *Bennet & Chandra* 3746 B (DD!).

Endiandra deomalica (Bennet & Sum. Chandra) Kosterm. in Reinwardtia 10: 461. 1988.

Distribution: NE. India, Bangladesh and Myanmar.

Specimens examined: India. Assam: Lakhimpur Dist. Makum Range, 100 m, 1914, *U.N.Kanjilal* 4095 (ASSAM); Jeypur Range, 28.02.1915, *U.N.Kanjilal* 134 P (ASSAM); Digboi Reserve, 08.4.1936, *C.R.Purkayastha* 13447 (ASSAM); Darang, Charduar Reserve, Feb. 1915, *U.N.Kanjilal* 4964 (ASSAM); Kamrup Dist., Feb. 1937, *N.L. Bor* 13596 (ASSAM); Aka hills, August 1934, *N.L. Bor* 17449 (ASSAM); Meghalaya: Khasi and Jaintia hill dist., Nongkla, 60 m. 12.12. 1915, *U.N.Kanjilal* 6365 (ASSAM); *ibid.*, Feb. 1937, *G.K.Deka* 23105 (ASSAM); Mizoram: Lushai hills, 20.02.1953, *G.K.Deka s.n.*, Acc. Nos. 41223 & 41224 (ASSAM); Without field data, *Coll. illeg.* 225 (CAL); Acc. No. 39643 (ASSAM); Bangladesh. Pundua (Sylhet), *F. de Silva s.n.* in Wallich, Cat. No. 2597 (CAL). Upper Burma. Ruby mines, March 1892, *A.Huk* 230 (CAL).

II. Manilal & Shylaja described *Cinnamomum nicolsonianum* in 1988 based on the specimens collected from Peruvannamuzhi, Peninsular India. They compared the new taxon with well known south Indian species *C. malabattrum* (Burm. f.) J. Presl. During the revision of the genus for Flora of India, many specimens deposited in several herbaria were examined besides the work of Kostermans (1985) and found that this commonest species of south India contains many variations and *C. nicolsonianum* just one of the variations of it. The distinguishing characters between the two taxa are insufficient and rather quantitative and confusing. The arrangement of leaves as stated by the authors is opposite in the new taxon but in figure it shows subopposite. The height of the tree is not a taxonomic character. The sizes of the tepal lobes of both the taxa are overlapping and the position of the panicle does not hold well. The delimitation of the species is mostly based on the characters of fruits within the genus. But in the description it was found "Fruit characters similar to those of *C. malabattrum*" It is probable that this new taxon is nothing but young flowering twigs of *C. malabattrum* as the young leaves are pubescent in various cases in the genus. The deposited type materials in CAL and MH could not be found. Therefore, *Cinnamomum nicolsonianum* is treated as synonym of *Cinnamomum malabattrum*.

The correct nomenclature of the species is as follows:

Cinnamomum malabattrum (Burm. f.) J. Presl, *Prir. Rostlin* 2: 36. 1825 (as '*malabathrum*'); Kosterm. in *Bull. Bot. Surv. India* 25: 102, f. 6. 1985 ('1983').

Laurus malabattrum Burm.f., *Fl. Indica* 92. 1768, *pro parte, quoad cit. Katou Karua* Rheede.

Type: Katou-Karua Rheede, *Hort. Ind. Malabar*. 5: t. 53. 1685.

Cinnamomum nicolsonianum Manilal & Shylaja in *Bull. Bot. Surv. India* 28: 111, figs. 1-7. 1988 ('1986'), *syn. nov.*

Type: India Peruvannamuzhi, 2. 2.1980, *Shylaja* CU 26217 (MH-holotype, CAL-isotype - *n.v.*).

Distribution: Peninsular India: Karnataka, Kerala, Maharashtra and Tamil Nadu.

III. *Laurus tazia* Buch.-Ham. was published in *Trans. Linn. Soc. London* 13: 557. 1822 based on the type "Habitat in montibus Emodi inferioribus ad Cosam fluvium (at Nathpur, on the Cosi River)". N. Wallich cited the collection in his catalogue with the number 2569 F (K-WALL) and stated the place of collection as Nepal. Nees (in Wall., *Pl. Asiat. Rar.* 2: 75. 1831) treated the taxon *L. tazia* Buch.-Ham. under *C. pauciflorum* var. β with a question mark with the characters "Foliis angustioribus; exquisite cuspidate" Later Meisner (in DC., *Prodr.* 15(1): 17 & 503. 1864) cited the name for the variety β *tazia* with a question mark. J.D. Hooker (*Fl. Brit. India* 5: 128. 1886) placed *L. tazia* Buch.-Ham. as a synonym of *C. tamala* (Buch.-Ham.) T. Nees & Eberm. Kostermans had determined the specimens collected by J.D. Hooker & T. Thomson and housed at Kew, C.B. Clarke and Wallich Cat. No. 2579 (none of them is type of *L. tazia*) with both the names viz., *C. pauciflorum* Nees in 1972 and *C. tazia* (Ham.) Kosterm. in 1978. The combination of *C. tazia* (Buch.-Ham.) Kosterm. was not published. The following new combination is proposed:

Cinnamomum tazia (Buch.-Ham.) Kosterm. ex M. Gangop., **comb. nov.**

Laurus tazia Buch.-Ham. in *Trans. Linn. Soc. London* 13: 557. 1822.

Type: "Habitat in montibus Emodi inferioribus ad Cosam fluvium (at Nathpur, on the Cosi river)" in Wall. Cat. No. 2569 F (K).

Cinnamomum pauciflorum Nees in Wall., Pl. As. Rar. 2: 75.1831 & Syst. Laur. 68. 1836; Hook.f., Fl. Brit. India 5: 129.1886; Kosterm., Bibliogr. Lauracea 334. 1964, *syn. nov.*

Type: Wallich Cat. No. 2579 (K-photo!).

Cinnamomum pauciflorum Nees var. *tazia* (Buch.-Ham.) Meisn. in DC., Prodr. 15(1): 17, 503. 1864.

Type: Wallich, Cat. No. 2569 F (K).

Cinnamomum pauciflorum Nees var. β Nees, l.c. 75. 1831.

Type: Wallich, Cat. No. 2569 F (K).

Laurus albiflora Wall. Cat. No. 2569 F. 1830, *nom. nud.*

Cinnamomum tamala sec. Hook.f., Fl. Brit. India 5: 128.1886, *pro parte, tantum quoad syn. C. pauciflorum* var. β *tazia* Meisn., *non* (Buch.-Ham.) T. Nees & Eberm., 1831.

Distribution: NE India, Bangladesh and Nepal.

Specimens examined: India. Meghalaya: Churra Poongee, May 1824, *F.deSilva* 36 in Wallich, Cat. No. 2579; *ibid.*, 12.5.1960, *G.Panigrahi* 19300 (ASSAM); Cherra valley, c.1700 m, 1878, *Geo. Gallatly* 227; Cherra punji to Maumluh, 27.9.1956, *G.Panigrahi* 3568 (ASSAM); *sine loc. exac.* 24.4. 1963, *S.K.Kataki* 32745 (ASSAM); Litumkharh, 30.4.1963. *G.K.Deka* 31759 (ASSAM); Elephant falls, Shillong, 8.5.1959, *H. Deka* 18329 (ASSAM); *ibid.*, 26.9.1956, *G.Panigrahi* 3387 (ASSAM); Shillong, c.1350 m. Aug. 1890, *H. Collett* 84; *ibid.*, 2000 m, 10.10.1890, *H.Collett s.n.*, acc. nos. 383714 & 383724; *ibid.*, c.1700 m, May 1878, *G. Mann* 827; *ibid.*, 1350 m, 26.7.1886, *C.B. Clarke* 44272 B; *ibid.*, April 1920, *H.G.Carter* 1143; *ibid.*, 25.10.1924. *Coll. illeg.* 109 (BSIS); Khasia, *W.Griffith s.n.*, acc. no. 383708; 1350 m, *J.D.Hooker & T.Thomson s.n.*, acc. no. 383709; Khasi hills, *D.Robertson s.n.*, acc. no. 383720; 1000-1700 m, May & June, 1876, *G.Mann* 201; *S.Kurz s.n.*, acc. no. 383719; Shampung, 1350 m, May 1890, *B. Khan s.n.*, acc. no. 383707; Valley of rocks, 1500 m, 8.5.1886, *C.B. Clarke* 43702 B; *ibid.*, c.1700 m, Sept. 1886, *C.B.Clarke* 45825 A; Maosingkvem, 1500 m, 27.8.1886, *C.B.Clarke* 44697 A; Pynursla, 25.11.1956, *G.Panigrahi* 4549 (ASSAM); *ibid.*, Laukar dam village, 21.5.1972, *S.Chandra & al.* 1103 (BSIS); Jowai, near bride of Jarain, 26.1.1957, *G.K.Deka* 5176 (ASSAM); Assam: *sine loc. exact*, *Simons* 2: *S.N.Bal* 109; *Coll. illeg.* 21001. *Sine loc. exact*, 1350 1700 m, June 1874, *G.Mann s.n.*, acc. nos. 383701 & 383702; *ibid.*, 1700 m, July 1898, *G.Mann* 1066; *ibid.*, *Collector illeg.* s.n., acc. nos. 383700, 33711 & 384313. Bangladesh. *Sine loc. exact*, *W.Griffith* 4239; Silhet, 1830, *Wallich s.n.* in Cat. No. 2579.

IV. The poorly known species *Machilus bootanica* was published by Meisner (1864) based on the collections of Griffith from Bhutan. Later Kostermans (1962) transferred the species from *Machilus* to the genus *Persea*. The type specimen is deposited in Kew. The specimen is with flowers only and the fruits are so far unknown. D.G. Long (1984) had included the species in his Flora but without any additional specimens from Bhutan. During the present study, two flowering specimens of the species were found in CAL which were collected by Griffith from the East Himalayas (without exact locality).

Phoebe hainesiana Brandis was published in 1906 based on specimens collected by Haines from West Duars. The species commonly occurs in Sikkim and West Bengal and rarely in Nagaland. During the study it was found that both the taxa are same and the fruits of *P. hainesiana* matched the genus *Phoebe* as it bears the clasping indurate tepal lobes below the fruits rather than reflexed tepal lobes below the fruits as occurs in *Persea*. Therefore, a new combination is proposed here.

***Phoebe bootanica* (Meisn.) M. Gangop., comb. nov.**

Machilus bootanica Meisn. in DC., Prodr. 15(1): 42. 1864; Hook. f., Fl. Brit. India 5: 138. 1886 & 861. 1890.

Type: Bootan, *Griffith* 2483 (K-photo!).

Persea bootanica (Meisn.) Kosterm. in Reinwardtia 6: 191. 1962; D.G. Long in Fl. Bhutan 1(2): 265.1984.

Phoebe hainesiana Brandis in Hook. Icon. Pl. t. 2803. 1906 & Ind. Trees 532. 1906; A.M. Cowan & Cowan, Trees N. Bengal 107. 1929; D.G. Long in Fl. Bhutan 1(2): 262, f. 24 m. 1984, *pro parte, excl. syn.* *P. goalparensis* Hutchinson, syn. nov.

Type: West Duars, May 1893, *H.H. Haines* 303 (K-photo!).

Distribution: India: Nagaland, Sikkim, West Bengal; Bhutan.

Specimens examined: East Himalaya, *sine loc. exact*, Griffith 4265 (CAL, K-photo!); *ibid. coll.* decipherable 1177 (CAL). West Bengal: West Duars, *H.H. Haines* 303 (acc. nos. 385212, 385220, 385221, 385225, 385226 & 385229 (fls.); 385222, 385227, 385228 & 385233 (seedlings); 385232 (detached frt.); 385223, 385224, 385230 & 385231 (sterile); Darjiling dist., C. 1350-2000 m. *H.H. Haines* 303 (acc. nos. 385217, 385219); *ibid.*, Gyabari, 1100 m, *S.K. Mukherjee* 10; Sikkim: *H.H. Haines* 303 (acc. no. 385213, 385215 & 385216); 1.4.1857, *Coll. illeg. s.n.*, acc. no. 385172. Nagaland: Naga hills, 1936, *N.L. Bor* 5082 (ASSAM). Bhutan. *sine loc. exact*, Griffith 2483 (K-photo!).

Note: The distribution of the species in Nagaland is somewhat disjunct. The specimen from Nagaland bears closer lateral veins in leaves and slightly larger fruit.

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