

## Diversity of *Litsea* Lamarck [Lauraceae] in Terai and Duars regions of West Bengal, India

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### Abstract

There are about 622 species in the genus *Litsea* Lamarck (Lauraceae), distributed mainly in Australia, New Zealand, North & South America and Asia. Among those, 45 species of *Litsea* were reported from India. No comprehensive report is available on this genus from Terai and Duars regions, which are located at the foot of the Eastern Himalaya and located within the Himalaya Hotspot. Present paper reported the occurrence of nine species of *Litsea* from Terai and Duars belt along with their local names, salient features, exsiccatus, status, flowering and fruiting periods and geographic distribution. Collection of *L. assamica* Hooker f. from the Jaldapara National Park in Duars forms the new record for the state flora of West Bengal.

**Key words:** Genus *Litsea*, Terai, Duars, West Bengal, *Litsea assamica*, new record

### INTRODUCTION

The Terai and Duars region politically constitute the plains of Darjeeling and whole of Jaipauri districts of West Bengal. Northern part of West Bengal touching the foot of Eastern Himalaya is generally referred as Terai (25° 57' to 26° 36' N, Latitude and 89° 54' to 88° 47' longitude) and Duars (located between 26° 16' to 27° 0' N latitude and 88° 4' to 89° 53' E longitude) (Ghosh 2006; Das *et al* 2010; Roy *et al* 2009). Terai and Duars are famous for the tea gardens, which were first developed by the British planters. The beauty of the region lies not only in its tea gardens but also in the dense jungles those make up the countryside. Famous wildlife sanctuaries and national parks like Mahananda Wildlife Sanctuary, Gorumara National Park, Chapramari Wildlife Sanctuary, Buxa Tiger Reserve and Jaldapara National Park are located in this region. The vegetation of Terai and Duars are floristically very rich and covers all major groups of plants including several members of endemic and RET species (Chatterjee 1940; Das & Chanda 1987; Ghosh & Das 2009). Also, this area is falling under the IUCN recognized 'Himalaya Biodiversity Hotspot' (Conservation International 2005). The wide diversity in habitat structure helped numerous plant families to settle in this area (Kadir 2001; Rai & Das 2008). Lauraceae is one of the dominant families in this region (Banerjee 1993; Das *et al* 2010; Cowan & Cowan 1929).

The Lauraceae or Laurel family comprises a group of flowering plants included in the order Laurales of kingdom Plantae. Laurels contain about 55 genera and 2850 species world-

wide (Werff & Richter 1996; Mabberley 2008) of which *Litsea* Lamarck is the largest (Bhuinya *et al* 2008). *Litsea* has about 622 species distributed mainly in Australia, New Zealand, North America, South America and Asia (Agrawal *et al* 2011; Si *et al* 2012), of which about 45 species are growing in India (Bhuinya *et al* 2009).

Species of *Litsea* are economically important as sources of medicine, timber and nutritious fruits. Numerous species of *Litsea* contain several biologically-active compounds like alkaloids (Zhang *et al* 2012), flavonoids (Lee *et al* 2005), steroids (Choudhury *et al* 2013), terpenes, triterpenoids and essential oils (Wang *et al* 1999; Choudhury *et al* 1997). Several studies using modern techniques have authenticated its apply to cure diarrhea, dysentery, rheumatism and as an aid to longevity. Also, it has antibacterial (Hosamath 2011), antifungal (Yang *et al* 2010), antiseptic, anti-inflammatory, wound healing (Devi & Meera 2010) and antioxidant (Choudhury *et al* 2013) effects. Most importantly, numerous studies have shown its efficiency as anticancer (Ho *et al* 2010), cytotoxic and anti-HIV agents (Agrawal *et al* 2011).

So, the genus *Litsea* is economically very important. Unfortunately, there is no detailed floristic work available on these members in Terai-Duars belt. So, in the present study an attempt has been undertaken to investigate the distribution of *Litsea* species in Terai and Duars region.

## MATERIALS AND METHODS

Extensive random collections of *Litsea* Lamarck species were done during 2009 – 2012 from different parts of Terai and Duars region of West Bengal covering different seasons (mainly pre-monsoon, post-monsoon and winter) of the year. Collected specimens were processed into mounted herbarium sheets following conventional techniques (Jain & Rao 1977). The processed specimens were identified taking help of relevant taxonomic literature including Hooker (1886), Brandis (1906), Kanjilal *et al* (1940), Long (1984), Li *et al* (2008) and by matching with the previously identified specimens at NBU and CAL. Digital images of type sheets were acquired from K and E to confirm the identity of some specimens. Identified specimens were deposited in NBU Herbarium. [www.theplantlist.org](http://www.theplantlist.org) was mostly pursued for correct nomenclature of the recorded taxa. Distributional status in the world of the identified species was recorded also from different literature (Hooker 1886; Brandis 1906; Momiyama 1966; Long 1984; Alam 1988; Li *et al* 2008; Ara *et al* 2007). Uses, local names and status of different species were documented during field work from the local people and some of the information was noted down from available literature (Cowan & Cowan 1929; Kanjilal *et al* 1940; Prain 1903; Matthew 1981; Banerjee 1993).

## RESULT

The present study is the first taxonomic revision of genus *Litsea* Lamarck from the floristically very rich Terai & Duars belt of West Bengal. It is separated from the other genera by having umbellate inflorescences, solitary or clustered in leaf axis; unisexual and trimerous flowers, 9 – 12 stamens in 3 or 4 whorls of 3 each; 4-locular anthers; reduced tepals; superior ovary and seated fruit on enlarged perianth tube.

From the present survey, nine species of *Litsea* were recorded. An artificial Key for the recorded species were constructed based on significant vegetative, flower and fruit characters. All these species were enumerated below alphabetically accompanied by local names, salient features, exsiccatus, availability status, flowering and fruiting time, occurrence in Terai & Duars region and geographic distribution.

**Key to the studied species of *Litsea* Lamarck**

- |  |                       |
|--|-----------------------|
| 1a. Umbels peduncled, arranged usually in clusters, sometimes solitary or peduncles borne on a short stout axis upto 4 mm .....                | 2                     |
| 1b. Umbels peduncled, arranged in racemes or corymbs with a conspicuous slender axis 5 – 70 mm .....   | 7                     |
| 2a. Shoots with scaly terminal vegetative bud and ring of bud scale scars ...  | <i>L. elongata</i>    |
| 2b. Scaly terminal vegetative buds and ring of bud scale scars absent ...  | 3                     |
| 3a. Lamina lanceolate or narrowly elliptic-oblong, 2 – 5 cm broad (up to 8.5 cm broad in <i>L. salicifolia</i> ) .....                         | 4                     |
| 3b. Lamina ovate, obovate or broadly elliptic, 6 – 12 cm broad .....   | 6                     |
| 4a. Leaves coriaceous, pale or yellowish green above when dry, lateral veins 5 – 7 pairs .....   | <i>L. laeta</i>       |
| 4b. Leaves rather membranous, dark green or brown above when dry, lateral veins 8 – 15 pairs .....   | 5                     |
| 5a. Lamina lanceolate, glabrous beneath except on veins, lateral veins 8 – 12 pairs .....  | <i>L. cubeba</i>      |
| 5b. Lamina elliptic-oblong, minutely silky-pubescent beneath, lateral veins 10 – 15 pairs .....  | <i>L. salicifolia</i> |
| 6a. Lamina broadly ovate/obovate to ovate oblong, apex obtuse or apiculate, base rounded, tormentose beneath, lateral veins 6 – 13 pairs ..... | <i>L. monopetala</i>  |
| 6b. Lamina elliptic obovate, apex shortly acuminate, base cuneate, pubescent on veins beneath, lateral veins 9 – 15 pairs .....                | <i>L. hookeri</i>     |
| 7a. Lamina 4 – 12 cm long; petioles 8 – 14 mm long; fruits narrow-ellipsoid ...  | <i>L. assamica</i>    |
| 7b. Lamina 8 – 32 cm long; petioles 10 – 28 mm long; fruits globose or depressed globose .....   | 8                     |
| 8a. Lamina oblong or lanceolate, apex acuminate or shortly acute .....   | <i>L. panamanja</i>   |
| 8b. Lamina ovate-lanceolate, apex obtuse or rounded .....  | <i>L. glutinosa</i>   |

**ENUMERATION**

*Litsea assamica* Hooker f., Fl. Brit. Ind. 5: 161. 1886; Kanjilal *et al*, Fl. Ass. 4: 85. 1940.

**Local name:** *Timur*

Evergreen trees, up to 15 m high; branchlets glabrous, blackish brown. Leaves alternate; lamina elliptic, 4 – 12 × 2.5 – 6 cm, acute to bluntly acuminate, base cuneate, thinly coriaceous, rather glabrous, lateral veins 5 – 9 pairs; petioles 8 – 14 mm. Umbels axillary solitary; peduncle 9 – 15 mm. Fruits narrowly ellipsoid, 6 – 9 mm long.

**Exsiccatae:** Chilapata 88 m, *Dibakar Choudhury & AP Das 095*, dated 10.11.2009

**Status:** Less common

**Flowers:** May – June; **Fruits:** August – September

**Local distribution:** Found only in Jaldapara National Park.

**General distribution:** India [North–East India, West Bengal]; Endemic; a new record for West Bengal.

**Note:** Wood is used for making match boxes.

*Litsea cubeba* (Loureiro) Persoon, Syn. Pl. 2: 4. 1807; Momiyama in Hara, Fl. E. Him. 1: 101.1966; Long in Gierson & Long, Fl. Bhut. 1(2): 274. 1984. *Laurus cubeba* Loureiro, Fl. Cochinch. 1: 252. 1790.

**Local name:** *Siltimur*

Deciduous shrubs to small aromatic trees, up to 10 m high; branchlets glabrous. Leaves alternate; lamina lanceolate, 4 – 14 × 2 – 4 cm, long acuminate, base cuneate, dark green above when dry, pale beneath, both surfaces glabrous or sericeous-pubescent on veins; lateral veins 8 – 12 pairs; petioles 6 – 20 mm. Umbels solitary or clustered; peduncles 3 – 8 mm. Fruits subglobose, 6 – 7 mm.

**Exsiccatae:** Dhupjhora 127 m, *Dibakar Choudhury & AP Das 113*, dated 20.02.2010; North Sevoke 190 m, *Dibakar Choudhury & AP Das 142*, dated 24.02.2010; Sal Bagan, NBU 143 m, *Dibakar Choudhury & AP Das 155*, dated 15.03.2010.

**Status:** Less common

**Flowers:** February – March; **Fruits:** July – August

**Local distribution:** Found in Gorumara National Park, Mahananda Wild Life Sanctuary & NBU Campus.

**General distribution:** India [Arunachal Pradesh, Assam, Meghalaya, West Bengal, Sikkim], Nepal, Bhutan, Myanmar, Java, China.

*Note:* Fruit oil is added to food for flavouring and also as bio-pesticide.

*Litsea elongata* (Nees) Hooker *f.*, *Fl. Brit. Ind.* 5: 165. 1886; Momiyama in Hara, *Fl. E. Him.* 1: 101. 1966; Matthew, *Pl. Kurs.* 90. 1981; Cowan & Cowan, *Trs. N. Beng.* 110. 1929; Long in Gierson & Long, *Fl. Bhut.* 1(2): 275. 1984; Kanjilal *et al*, *Fl. Ass.* 4: 86. 1940. *Daphnidium elongatum* Nees, *Pl. Asiat. Rar.* 2: 63. 1831.

**Local name:** *Thulo pahenlay*

Evergreen trees, robust upto 18 m tall; branchlets often tomentose, brownish. Leaves alternate; lamina elliptic to oblanceolate or obovate, 8 – 18 × 2 – 6 cm, acute or obtuse, sometimes acuminate, base cuneate, lateral veins 6 – 13 pairs, much prominent beneath; petioles 6 – 16 mm. Umbels solitary, on slender peduncles, 10 – 15 mm. Fruits ellipsoid 10 – 14 mm, with minute apical point.

**Exsiccatu:** Sukna 220 m, *Dibakar Choudhury & AP Das 092*, dated 07.10.2009

**Status:** Less common

**Flowers:** July – September; **Fruits:** October – November

**Local distribution:** Found only in Mahananda Wild Life Sanctuary.

**General distribution:** India [Arunachal Pradesh, Assam, West Bengal, Sikkim, Himachal Pradesh] Nepal, Bhutan, Myanmar, Tibet, China.

*Note:* The species is a good fodder for cattle and wood is used for construction works, making furniture, etc.

*Litsea glutinosa* (Loureiro) C.B. Robinson, *Philipp. J. Sci.* 6(5): 321. 1911; Matthew, *Pl. Kurs.* 90. 1981; Long in Gierson & Long, *Fl. Bhut.* 1 (2): 277. 1984; Banerjee, *Pl. Res. Jal. Rhi. Sanc.* 52. 1993. *Sebifera glutinosa* Loureiro, *Fl. Cochinch.* 2: 638. 1790. *Litsea sebifera* Persoon, *Syn. Pl.* 2: 4. 1807; Hooker *f.*, *Fl. Brit. Ind.* 5: 124. 1886; Prain, *Beng. Pl.* 2: 902. 1903; Cowan & Cowan, *Trs. N. Beng.* 109. 1929; Kanjilal *et al*, *Fl. Ass.* 4: 82. 1940.

**Local name:** *Kawala*

Evergreen, aromatic trees, up to 18 m high; young branchlets gray-yellow tomentose. Leaves alternate, both surfaces tomentose when young; lamina elliptic-oblong or ovate-lanceolate,

7.5 – 22.5 × 3.5 – 10 cm, obtuse or rounded, base cuneate, obtuse or rotund, lateral veins 5 – 12 pairs, petioles 10 – 28 mm. Umbels solitary or several on short branchlets; peduncle 9 – 15 mm. Fruits globose, 7 – 9 mm.

**Exsiccatae:** Lataguri 102 m, *Dibakar Choudhury & AP Das 026*, dated 30.05.2009; Rajabhatkhawa 80 m, *Dibakar Choudhury & AP Das 051*, dated 09.06.2009; Sevoke 188 m, *Dibakar Choudhury & AP Das 063*, dated 26.06.2009; NBU campus 134 m, *Dibakar Choudhury & AP Das 174*, dated 10.05.2012; Salkumar 78 m, *Dibakar Choudhury & AP Das 060*, dated 15.09.2009

**Status:** Common

**Flowers:** March – June; **Fruits:** September – October

**Local distribution:** Found throughout the Terai and Duars region.

**General distribution:** Pakistan, India [almost throughout- Arunachal Pradesh, Assam, Nagaland, Tripura, Meghalaya, West Bengal, Sikkim, Bihar, Jharkhand, Orissa, Andhra Pradesh, Andaman & Nicobar Islands, Karnataka, Maharashtra, Madhya Pradesh, Uttarakhand, Punjab, Himachal Pradesh], Nepal, Bhutan, Sri Lanka, China, Myanmar, Philippines, Thailand, Vietnam.

*Note:* Bark is used for treatment of diarrhea, dysentery, rheumatic joint pain etc. and bark powder is used as an adhesive paste in incense stick production.

*Litsea hookeri* (Meisner) Long, Notes Roy. Bot. Gard. Edinburgh. 41: 510. 1984; Long in Gierson & Long, Fl. Bhut. 1(2): 276. 1984. *Cylicodaphne hookeri* Meisner, Prodr. 15(1): 209. 1864.

**Local name:** *Dude Lampate*

Evergreen trees, up to 12 m high; branchlets brownish tomentose. Leaves alternate; lamina elliptic-obovate, 12 – 26 × 6 – 10 cm, shortly acuminate, base cuneate, pubescent on veins beneath; lateral veins 9 – 15 pairs; petioles 8 – 15 mm. Umbels densely pubescent, clustered on shortest branchlets; peduncle 4 – 8 mm. Fruits ellipsoid, 11 – 17 mm long.

**Exsiccatae:** North Sevoke 214 m, *Dibakar Choudhury & AP Das 009*, dated 10.04.2009; Lataguri, Mahakaldham 127 m, *Dibakar Choudhury & AP Das 024*, dated 30.05.2009

**Status:** Less common

**Flowers:** May – June; **Fruits:** August – September

**Local distribution:** Found in Mahananda Wildlife Sanctuary & Gorumara National Park.

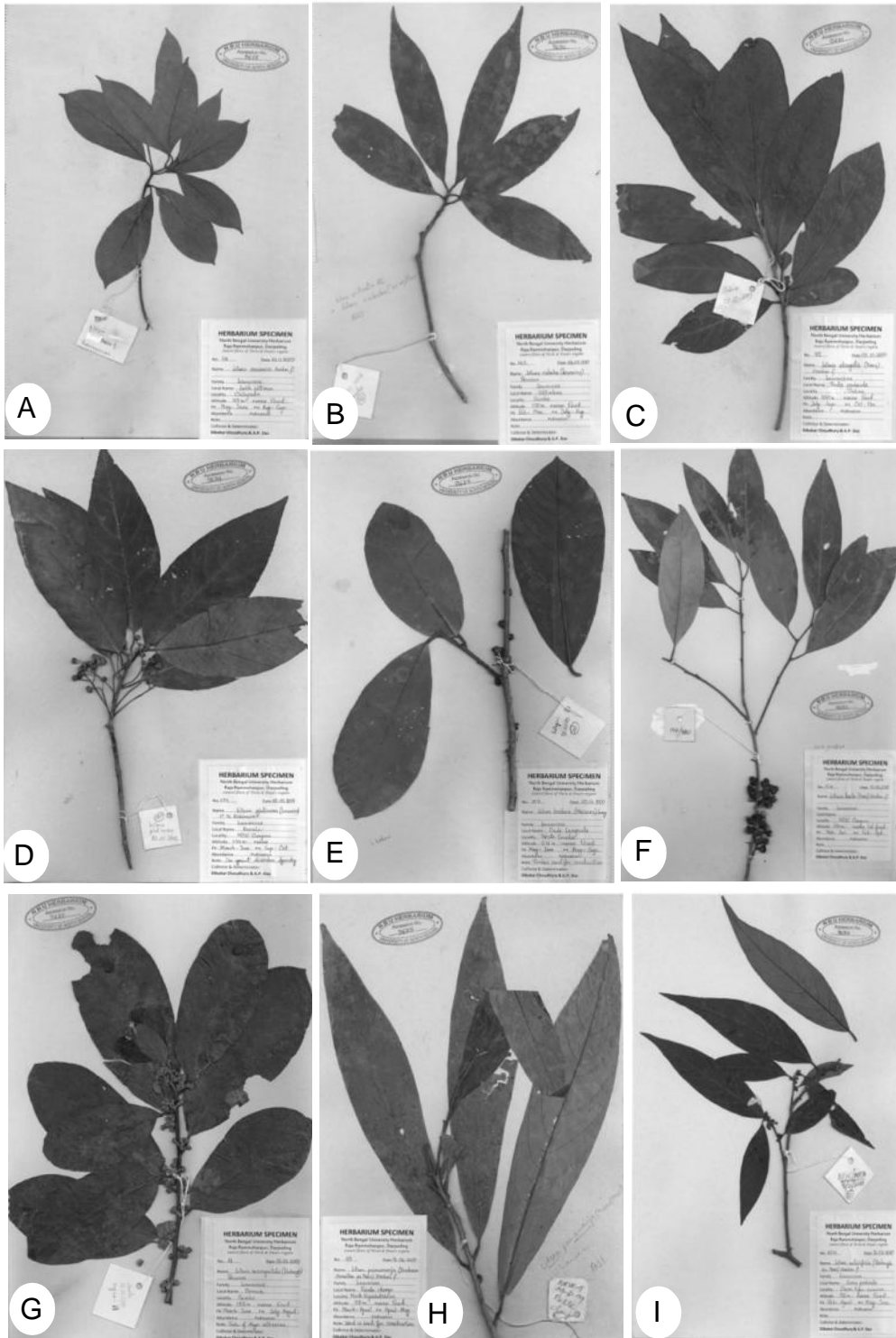
**General distribution:** India [Arunachal Pradesh, Assam, West Bengal] Bhutan, Thailand.

*Note:* Timber is used for constructing houses and for making furniture.

*Litsea laeta* (Nees) Hooker f., Fl. Brit. Ind. 5: 169. 1886; Matthew, Pl. Kurs. 90. 1981; Cowan & Cowan, Trs. N. Beng. 111. 1929; Long in Gierson & Long, Fl. Bhut. 1 (2): 275. 1984; Kanjilal et al., Fl. Ass. 4: 88. 1940. *Tetranthera laeta* Nees, Pl. Asiat. Rar. 2: 67. 1831.

Shrub or small trees up to 8 m high; young shoots generally finely ferruginous-pubescent. Leaves alternate, coriaceous; lamina oblong-elliptic, 10 – 20 × 3 – 5 cm, acute, base cuneate, glabrous; lateral veins 5 – 7 pairs; petioles 10 – 15 mm. Umbels axillary clusters, rarely solitary; peduncles 4 – 10 mm. Fruits obovoid or subglobose, 5 – 10 mm long.

**Exsiccatae:** Sukna 220 m, *Dibakar Choudhury & AP Das 090*, dated 07.10.2009; Garden of Medicinal plants, NBU 134 m, *Dibakar Choudhury & AP Das 154*, dated 15.03.2010



**PLATE – I:** Species of *Litsea* Lamarck in Terai and Duars region of West Bengal: **A.** *L. assamica*; **B.** *L. cubeba*; **C.** *L. elongata*; **D.** *L. glutinosa*; **E.** *L. hookeri*; **F.** *L. laeta*; **G.** *L. monopetala*; **H.** *L. panamanja*; **I.** *L. salicifolia*

**Status:** Less common

**Flowers:** November – January; **Fruits:** February – April

**Local distribution:** Found in Mahananda Wildlife Sanctuary and University of North Bengal campus.

**General distribution:** India [Arunachal Pradesh, Assam, West Bengal, Sikkim, Andhra Pradesh], Bhutan, Bangladesh.

*Note:* Seed oil is with high antioxidant activity (Choudhury *et al* 2013).

*Litsea monopetala* (Roxburgh) Persoon, Syn. Pl. 2: 4. 1807; Momiyama in Hara, Fl. E. Him. 1: 102. 1966; Matthew, Pl. Kurs. 89. 1981; Long in Gierson & Long, Fl. Bhut. 1(2): 276. 1984; Banerjee, Pl. Res. Jal. Rhi. Sanc. 52. 1993. *Tetranthera monopetala* Roxburgh, Pl. Coromandel. 2: 26. 1798. *Litsea polyantha* Jussieu, Ann. Mus. Natl. Hist. Nat. 6: 211. 1805; Hooker *f.*, Fl. Brit. Ind. 5: 162. 1886; Prain, Beng. Pl. 2: 903. 1903; Cowan & Cowan, Trs. N. Beng. 110. 1929; Kanjilal *et al*, Fl. Ass. 4: 83. 1940.

**Local Name:** *Bonsum, Kutmero, Patmero*

Evergreen trees, up to 15 m high, with spreading crown. Leaves alternate; lamina ovate-oblong, oblanceolate or elliptic-oblong, 7 – 25 × 6 – 12 cm, obtuse or apiculate, base rounded, lateral veins 6 – 13 pairs; petioles 8 – 20 mm. Umbels densely pubescent on tomentose peduncles, 3 – 10 mm. Fruits globose to ellipsoid, 7 – 12 mm long; blackish when ripe.

**Exsiccatae:** Lataguri 98 m, *Dibakar Choudhury & AP Das 109*, dated 20.02.2010; North Rajabhatkhawa 88 m, *Dibakar Choudhury & AP Das 050*, dated 09.06.2009; Sevoke 188 m, *Dibakar Choudhury & AP Das 011*, dated 10.04.2009; NBU campus 134 m, *Dibakar Choudhury & AP Das 172*, dated 10.05.2012; Jaldapara 80 m, *Dibakar Choudhury & AP Das 075*, dated 02.10.2009

**Status:** Abundant

**Flower:** March – June; **Fruit:** July – August

**Local Distribution:** Found throughout the Terai and Duars region.

**General Distribution:** Pakistan, India [Arunachal Pradesh, Assam, Tripura, Meghalaya, West Bengal, Sikkim, Bihar, Jharkhand, Orissa, Andhra Pradesh, Andaman & Nicobar Islands, Maharashtra, Madhya Pradesh, Uttarakhand], Nepal, Bhutan, China, Myanmar, Thailand, Malaysia, Vietnam, Cambodia.

*Note:* The leaves are used topically to treat arthritis and is a good food for rearing larvae of muga-silk moth.

*Litsea panamanja* (Buchanon–Hamilton *ex* Nees) Hooker *f.*, Fl. Brit. Ind. 5: 175. 1886; Prain, Beng. Pl. 2: 903. 1903; Long in Gierson & Long, Fl. Bhut. 1(2): 277. 1984; Kanjilal *et al*, Fl. Ass. 4: 90. 1940. *Tetranthera panamanja* Buchanon–Hamilton *ex* Nees, Pl. Asiat. Rar. 2: 67. 1831.

**Local name:** *Painle champ, Dudhi lampati*

Evergreen trees, up to 25 m high; branchlets pubescent and becoming glabrous. Leaves alternate; lamina oblong or lanceolate, 15 – 32 × 3 – 7 cm, acuminate or shortly acute, base cuneate, both surfaces glabrous, coriaceous; lateral veins 7 – 11 pairs; petioles 13 – 22 mm. Umbels 13 – 18 cm, racemosely arranged on short branchlets, pubescent. Fruits depressed globose, 6 – 8 mm in diameter.

**Exsiccatae:** Sursuti 102 m, *Dibakar Choudhury & AP Das 039*, dated 31.05.2009; North Rajabhatkhawa 88 m, *Dibakar Choudhury & AP Das 049*, dated 09.06.2009; Sevoke 210 m, *Dibakar Choudhury & AP Das 140*, dated 24.02.2010

**Status:** Less common

**Flowers:** March – April; **Fruits:** April – May

**Local distribution:** Found in forest areas throughout Terai and Duars.

**General distribution:** India [Arunachal Pradesh, Assam, Nagaland, Tripura, West Bengal, Sikkim, Andaman & Nicobar Islands], Nepal, Bhutan, Bangladesh, China, Myanmar, Vietnam, Malay Peninsula.

*Note:* Wood is used for house construction, making furniture and as fire wood.

*Litsea salicifolia* (Roxburgh *ex* Nees) Hooker *f.*, Fl. Brit. Ind. 5: 167. 1886; Prain, Beng. Pl. 2: 903. 1903; Cowan & Cowan, Trs. N. Beng. 110. 1929; Momiyama in Hara, Fl. E. Him. 2: 39. 1971; Long in Gierston & Long, Fl. Bhut. 1 (2): 275. 1984; Banerjee, Pl. Res. Jal. Rhi. Sanc. 52. 1993; Kanjilal *et al*, Fl. Ass. 4: 87. 1940. *Tetranthera salicifolia* Roxburgh *ex* Nees, Pl. Asiat. Rar. 2: 66. 1831.

**Local name:** *Sanu pahenle*

Evergreen trees, up to 10 m high; branchlets glabrous. Leaves alternate; lamina elliptic–oblong, 12 – 30 × 2.5 – 8.5 cm, acuminate or acute, base acute, dark brown above when dry, lateral veins 10 – 15 pairs, prominent beneath; petioles 8 – 12 mm. Umbels 7 – 16 in dense axillary clusters on 2 – 6 mm long peduncles. Fruits ellipsoid, 10 – 11 mm in diameter.

**Exsiccatae:** Dhupjhora 127 m, *Dibakar Choudhury & AP Das 112*, dated 20.02.2010; Buxa 96 m, *Dibakar Choudhury & AP Das 104*, dated 08.02.2010; Sevoke 190 m, *Dibakar Choudhury & AP Das 013*, dated 10.04.2009; NBU campus 134 m, *Dibakar Choudhury & AP Das 156*, dated 15.03.2010; Hollong 87 m, *Dibakar Choudhury & AP Das 077*, dated 02.10.2009

**Status:** Frequent in forests

**Flowers:** February – April; **Fruits:** May – June

**Local distribution:** Found in forest areas throughout Terai and Duars.

**General distribution:** Pakistan, India [Arunachal Pradesh, Assam, West Bengal, Sikkim, Bihar], Bangladesh, Nepal, Bhutan, China, Vietnam, Myanmar.

*Note:* Seed oil is used as bio-pesticide and leaves are good food for rearing larvae of muga-silk moth.

## DISCUSSION AND CONCLUSION

After intensive scrutiny of literature (Prain 1903; Hooker 1886; Brandis 1906; Cowan & Cowan 1929; Banerjee 1993; Das *et al* 2010) it is revealed that out of the recorded nine species of *Litsea* Lamarck only four species viz., *L. cubeba*, *L. glutinosa*, *L. monopetala* and *L. salicifolia* were reported earlier (without specifying locality in the earlier works) and other five species viz., *L. assamica*, *L. elongate*, *L. hookeri*, *L. laeta* and *L. panamanja* were not reported earlier from Terai and Duars belt of West Bengal. However, apart from *L. assamica*, all other species were known to grow from different other localities of the state. The distribution of *L. assamica* was earlier known only from North–East India



(Kanjilal *et al.* 1940; Bhuinya *et al.* 2009); or, in other words, the species was known as endemic to that region. The present collection of the species from Terai and Duars is a new record of its occurrence in West Bengal. Present study also indicates that several medicinal as well as economically useful species of *Litsea* are important assets in the vegetation of Terai and Duars belt.

However, with the rapid extension of human settlement areas, establishment of tea gardens, metalled roads, illegal timber extraction, monoculture plantations (mostly with fast growing exotic species), extensive tourism related activities and other socio-economic developmental activities adversely affecting the rich diversity of pristine vegetation of the entire area in which most of the presently recorded species of *Litsea* are surviving. So, the pressure for removal or death or extinction of many of these species, along with numerous other important and interesting species, is increasing at every moment. The activities in the name of 'eco-tourism' are creating havoc in many places especially in the Lataguri – Gorumara region. Active steps for the conservation under proper surveillance are deemed essential since a thorough scientific research is certain to reveal their benevolent aspects as well as ecological functions. Every one needs to remember that conservation is best when a species is permitted to grow undisturbed in its own home!

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