

***Caesalpinia sappan* Linnaeus (Caesalpinaceae): a new record for Assam as well as for Northeast India**

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Abstract

The *Caesalpinia sappan* Linnaeus (Caesalpinaceae) is collected from Kundaghat, Gujijan Wildlife Range under Tinsukia Wild-Life Division, Tinsukia district, Assam and is reported as new record for Assam as well as for Northeast India.

Key words: *Caesalpinia sappan*, Assam, Northeast India, New report

INTRODUCTION

Caesalpinia sappan Linnaeus (Caesalpinaceae) is an economically potential plant commonly known as *Brazil wood* or *Sappan wood* in English and *Patang* in Hindi (Badami *et al* 2004). The water kept in *Caesalpinia sappan* Linnaeus (*Sappan lignum*) heartwood is being used in Kerala as herbal drinking water for its antithirst, blood purifying, antidiabetic, improvement of complexion and several other properties. The plant is also being used worldwide for a large number of traditional medicinal purposes. Modern researches confirm its cytotoxic, antitumor, antimicrobial, antiviral, immunostimulant and several other activities. Brazilin is found to be the main constituent of the plant responsible for several of its biological activities (Badami *et al* 2003; Choi *et al* 1997). Cytotoxic, hypoglycemic, (Jeon *et al* 1999) and hepatoprotective (Sarumathy *et al* 2011) properties are also reported. Several flavonoids (Namikoshi *et al* 1987), phenols (Nagei *et al* 1986; Kim *et al* 1997), triterpenoids (Oswel & Garg 1993), and steroids have been isolated from its heartwood. The use of heartwood as a colouring agent for wine, meat, fabric, etc is well established. It has the potential to hit the market as a safe natural colouring agent with good medicinal value for food products, beverages and pharmaceuticals. In India it is found wild and as an escape in Kerala, Tamilnadu, Karnataka, Andhra Pradesh, West Bengal, Orissa and Madhya Pradesh, Malaya, and commercially cultivated in South India and West Bengal (Guha *et al* 1999; Badami *et al* 2004).

During a recent floristic study undertaken in Gujijan Wildlife Range under Tinsukia Wildlife Division, Tinsukia district in Assam the authors collected some interesting specimens. After critical studies and scrutiny of literatures (Hooker 1896; Sanjappa 1992; Khatun & Rahman 2006; Yingxin *et al* 2010) the collected specimens were identified as *Caesalpinia sappan* Linnaeus, a species hitherto not reported from Assam as well as from northeastern India. Hooker (1878) mentioned its distribution as Eastern and Western Peninsula, Peru and Malay Islands. Scrutiny of literature relating to the

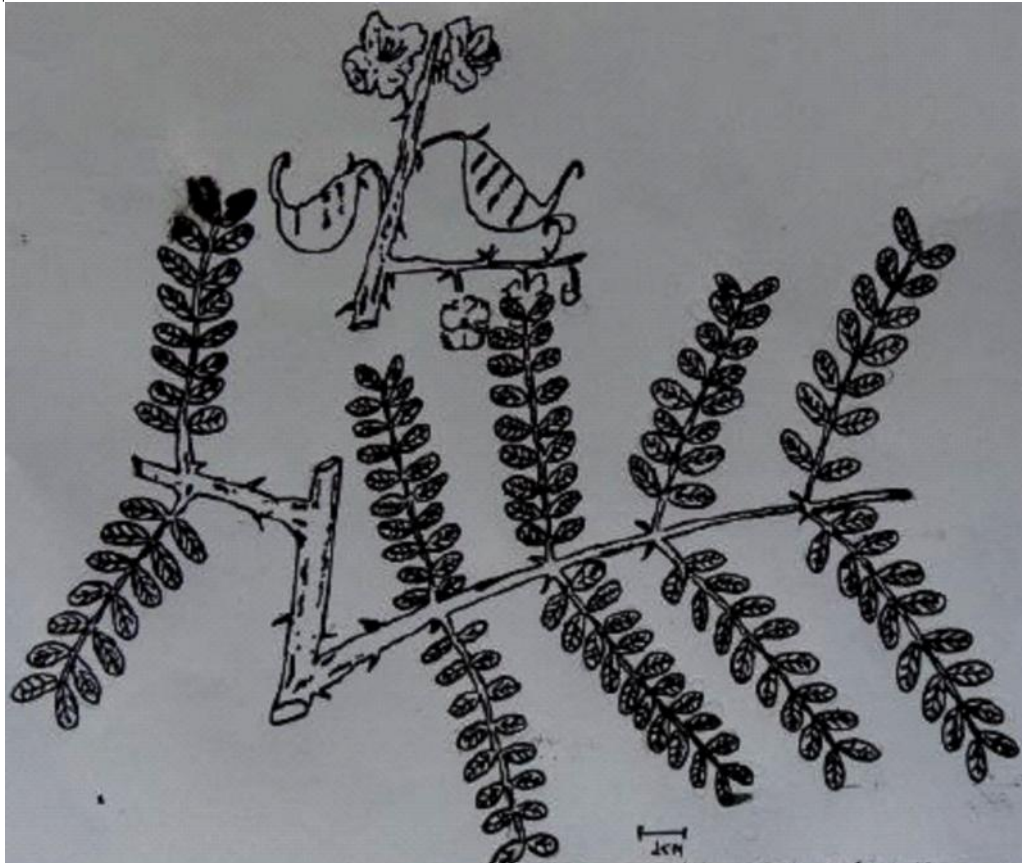


Fig. 1. A flowering twig of *Caesalpinia sappan*.

flora of Assam as well as of northeast India (Kanjilal *et al* 1934-40; Deb 1981, 1983; Blakrishnan 1981; Joseph 1982; Haridasan & Rao 1985, 1987; Chauhan *et al* 1996; Hajra 1996; Singh *et al* 2000; Singh *et al* 2002) revealed that the species has not been reported either from Assam or from other northeastern states of India. Further, in ASSAM Herbarium, Botanical Survey of India, ERC, Shillong the species is not represented even by a single specimen. A detail taxonomic account of the species along with illustration, distribution and economic importance is provided in the present communication. The voucher specimens are deposited in the Herbarium of Botany Department, Gauhati University (GUHB) for future reference.

Caesalpinia sappan Linnaeus, Sp. Pl.1: 381. 1753; Fl. Brtit. Ind. 2: 255. 1878; Fl. Brit. Burma. 1: 405. 1877; J. As. Soc. Beng. 66: 228. 1897; Fl. Thailand 4: 65. 1984; *C. minutiflora* Elmer, Leaf. Philip. Bot. 5: 1803. 1913. [**Figs. 1 & 2 A – F**].

A small prickly shrub or small tree of about 6 – 9 m height around 20 – 25 cm in diameter; bark with distinct ridges and many prickles, grayish brown; young twigs and buds hairy. Leaves compound; stipules 3 – 4 mm long, caducous; rachis 15 – 30 cm long; pinnae 8 – 12 pairs; leaflets 10 – 20 pairs, *ca* 1.0 – 2.0 × 0.6 – 1.0 cm, elliptic-oblong, sessile, very oblique at base, slightly emarginate at apex. Inflorescence supra-



Fig. 2 (A - F). Different parts of plant: **A.** Plant; **B.** A twig; **C. & D.** Trunk; **E.** Fruit; **F.** Seed.

axillary to terminal panicles, *ca* 20 – 40 cm long; bracts lanceolate, *ca* 6 mm long, caduceous; pedicels 1.5 – 2.0 cm long, pubescent; hypanthium short, bowl shaped; sepals golden brown, hairy outside, glabrous inside, the lowest one more concave and larger; petals 5, yellow, obovate, the standard smaller, constricted into a claw, hairy inside; stamens exserted; filaments slightly longer than petals, white, woolly in lower half; anthers glabrous; ovary 3 – 6 ovuled, gray, velvety; styles c 10 – 12 mm long; stigma ciliate. Pods dehiscent, obovate, obliquely oblong, 5.0 – 8.0 × 2.5 – 3.0 cm, flattened, woody, sessile on receptacle, green when immature, glabrous, prominently beaked, polished-brown, 7 – 10 cm x 3 – 4 cm. Seeds ellipsoid, 3 – 4 per pod.

Flowering & Fruiting: June – September

Exsiccatae: Kundaghat, Guiijan Wild-life Range, Tinsukia Wildlife Division, Tinsukia District, Assam, 12th August 2012, *J. Sharma & S. Baruah*, 119, 120 (N 27° 36'357", E 95°08'644", El. 97.8 m), GUHB.

Distribution: A native of CHINA, INDIA, MALAYSIA, MYANMAR, THAILAND and introduced in Indonesia, Papua New Guinea, Philippines, Solomon Islands, Sri Lanka, Taiwan, Province of China and US. Cultivated throughout the Asian Tropics.

Note: A patch of about sixty saplings along with two fruit bearing plants have been recorded in Kunda Ghat, the locality from where the plant has been spotted. The plants are growing near a stream.

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