

Notes on two interesting angiosperms from Assam, India

S. Baruah, J. Sarma¹, H. Roy² and S. K. Borthakur

Department of Botany, Gauhati University, Guwahati – 7810 14, Assam, India

¹Logging Division, Assam Forest Department, Tinsukia –7861 25, Assam, India

²Department of Botany, Silapathar Science College, Silapathar, Dhemaji – 7870 59, Assam, India

¹Corresponding author. E-mail: sanjibbaruah9@gmail.com

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Abstract

The present paper records the occurrence of two rare angiospermic plants viz., *Ardisia macrocarpa* Wallich of Myrsinaceae and *Acanthus leucostachys* Wallich ex Nees of Acanthaceae recollected after a gap of 105 and 56 years respectively from present political boundary of Assam.

Key words: *Ardisia macrocarpa*, *Acanthus leucostachys*, Recollection, Assam

INTRODUCTION

Assam is one of the eight states of Northeastern region of India and lies between 24°50' N to 28°18' N latitude and 89°49' E to 97°26' E longitude with an area of 78,438 sq km. The state is bounded on the east by Nagaland and Manipur; on the west by West Bengal; on the north by Bhutan and Arunachal Pradesh and, on the south by Meghalaya, Bangladesh, Tripura and Mizoram. A total of 4273 species comprising of 148 genera, distributed in 272 families of vascular plants were recorded from Assam, which represents about 25.12 % of the total flora of India (Chowdhury 2005). The vegetation of Assam was studied by a number of workers including Kanjilal *et al* (1934-40); Rao & Panigrahi (1961); Das & Rajkhowa (1968); Rao (1974). Even then, the region is still largely botanically unexplored.

During a recent floristic study undertaken in different parts in Assam the authors have collected some interesting specimens. After critical studies and scrutiny of literatures (Hooker 1886; Balakrishnan 1981) and herbarium materials deposited in ASSAM, the collected specimens were identified as *Ardisia macrocarpa* Wallich and *Acanthus leucostachys* Wallich ex Nees. Of these, two species viz., *Ardisia macrocarpa*, *Acanthus leucostachys* have been collected after a gap of 104 and 56 years respectively after their previous collections. Scrutiny of literature (Rao & Panigrahi 1961; Jain & Hajra 1978; Gogoi 1981; Sarma 1989; Barua 1992; Sarkar 1993; Hajra & Jain 1996; Devi 1998; Nath 1999; Baruah 2003; Bora & Kumar 2003; Sarmah 2006; Begum 2008; Daimary 2011; Kar *et al* 2012) revealed that these species have not been reported earlier from the present boundary of Assam. A detailed taxonomic account of the species along with their distribution and economic importance are provided here in the present communication. The voucher specimens have been prepared as per standard methods of Jain & Rao (1977) and deposited in the Herbarium of Botany Department, Gauhati University (GUBH) for future reference.



PLATE - I. Figs. A & B. *Ardisia macrocarpa*: A. Flowering twig; B. Fruiting twigs; Figs. C & D. *Acanthus leucostachys*, flowering twigs

Taxonomic account

Ardisia macrocarpa Wallich in Roxburgh in Fl. Ind. 277. 1824; A.DC. in DC., Prodr.VIII: 134. 1844; Clarke in Hooker f., Fl. Brit. India 3: 524. 1882. *Tinus crispata* var. *macrocarpa* O. Kuntze, Rev. Gen. II: 405. 1891; Kanjilal *et al*, Fl. Assam 3: 536. 1939. [**Myrsinaceae**]

Shrubs, 2 - 4 m tall; lamina 7.5 – 12.5 × 2-3.05 cm, narrowly lanceolate, crisped-crenulated, both ends acute, glabrous with a marginal row of dots; petiole very short or obscured by the long-attenuated base of lamina. Peduncles sub-terminal and short, or lateral 2 – 5 cm; pedicels minutely warty. Flowers pinkish; sepals 5 about 0.5 – 0.6 cm long, oblong; corolla lobes acute. Fruits 0.7 – 1.5 cm across, narrowly oblong, bright red dotted, not vertically striated. [**Plate I. Figs. A, B**]

Flowers & Fruits: July – December

Habitat: Moist evergreen and tropical forests

Distribution: INDIA: West Bengal, Sikkim, Assam; NEPAL and BHUTAN.

Specimens examined: Digboi Reserve Forest, Tinsukia district, Assam, 12th April, 2012, J. Sarma & S. Baruah, 560 (N 27° 25' 54.5" / E 095° 21' 54.9") / Elevation 116 m) (GUBH);

Nambor Reserve, Assam, 1 October, 1908, *U.N. Kanjilal*, 1433, ASSAM (Acc. No. 17308); Jashigong to Yangtzi, Eastern Bhutan, Butan, 14th March, 1965, *N.P. Balakrishnan*, 41350, ASSAM (Acc. No. 50167); Vawmbuk to Thalthlang, Mizoram, 12th July, 1963, *R.M. Dutta*, 39915, ASSAM (Acc. No. 41811).

Note: A specimen was collected by U.N. Kanjilal from Nambor Reserve Forest of Golaghat district of Assam but he has not shown its distribution in Assam instead mentioned its distribution as Khasi Hills of Meghalaya in the 3rd volume of *Flora of Assam* (1939). None of the subsequent floras on the state recorded the species. Hence, the present collection of the species, after a gap of 105 years since its last collection by Kanjilal in 1908 is one important record on the present distribution of this East Himalayan plant.

Acanthus leucostachys Wallich *ex* Nees in Wall. Pl. Asiat. Rar. 3: 98. 1832; N.P. Balakrishnan in Fl. Jowai 2: 351. 1983; Clarke in Hooker *f.*, Fl. Brit. India 4: 48. 1884; D.C. in Prodr. 11. 270; T. Anderson in J. Linn. Soc. 9: 501. 1867; Kanjilal *et al*, Fl. Assam 3: 536. 1939; Deb, Fl. Tripura State 2: 284. 1983. [**Acanthaceae**]

Stout herb, 15 – 40 cm, erect or decumbent at base, sparsely branched. Stem brown, *ca* 6 mm in diameter, viscous woolly. Leaves opposite, equal; lamina elliptic, oblanceolate, ovate-lanceolate, or lanceolate, 10 – 20 × 3.5 – 6 cm, abaxially glabrescent or brown pubescent along veins, adaxially glabrous, secondary veins 6 – 9 on each side of mid-vein and netted near margin, tertiary veins inconspicuous, base subcordate to round, sometimes inconspicuously dentate, margin spinose-dentate, apex; petiole 0.8 – 1.5 cm long, brown pubescent. Spikes terminal, to 14 cm, 4-ranked; rachis grayish pubescent; bracts ovate to obovate, 1 – 1.6 × 0.5 – 1 cm, abaxially pubescent, adaxially with dark purple spots, palmately veined, base rounded, tip acute to acuminate; bracteoles 2, lanceolate to oblanceolate, 1.3 – 2 × 0.2 – 0.4 cm, abaxially pubescent, adaxially hairy with purple spots, base rounded, entire and ciliate, rounded with a short tip. Calyx *ca.* 2 cm long, pubescent; lobes unequal, margin ciliate, anterior lobe *ca.* 1.7 × 0.4 cm, lateral lobes lanceolate and *ca.* 1.5 × 2.5 mm, posterior lobe oblong-lanceolate and *ca.* 2 × 0.5 cm; corolla white, *ca.* 2.1 cm long, villous; lobes orbicular, *ca.* 5 × 5 mm, apex emarginated; stamens didynamous; filaments *ca.* 8 mm long, glabrous, upper pair curved; anthers 1-loculed, oblong, beared; theca *ca.* 4.5 mm long, pilose; ovary 2-loculed, *ca.* 3 mm long, ovules 2 in each cell; style *ca.* 1.1 cm long, glabrous; stigma bifid. Capsule ellipsoid, *ca.* 10 × 3 mm long, glabrous; seeds 4, compressed, orbicular, *ca.* 2 × 2.5 mm, glabrous. [**Plate I. Figs. C, D**]

Flowers & Fruits: February – July

Habitat: In moist areas inside dense forest near streams, 100 – 1000 m.

Distribution: INDIA: West Bengal, Assam, Meghalaya; CHINA, LAOS, MYANMAR, THAILAND and VIETNAM.

Status: The species has been reported wrongly as endemic to Eastern Himalaya (Barik *et al* 2007).

Specimens examined: Gibon Wildlife Sanctuary, Jorhat district, Assam, 4th March, 2013, *J. Sarma & S. Baruah*, 553 (N 26° 41'67.6" and E 94° 26'74.9"; Elevation 6 m) (GUBH); Lakhpathar Area of Upper Dihing Reserve Forest under Digboi Forest Division, Assam, 12th April, 2013, *J. Sarma & S. Baruah*, 593; Kamrup district, Assam, 25th, May, 1957, *G. Panigrahi*, 9586, ASSAM (Acc. No. 16503); Nongkhla forest, Meghalaya, 7th March, 1932, *S.R. Sharma*, 9926, ASSAM (Acc.No.21513); Aka Hills (Arunachal Pradesh), 1st January, 1934, *N.L. Bor*, 15260, ASSAM (Acc. No. 21515).

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Note: The species was last collected by Dr. G. Panigrahi from Kamrup district of Assam in 1957 and since then during the last 56 years none of the published floras on Assam has neither reported nor collected the species from the state.

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