NOTE

Supplements to the Root Parasitic Plant in India. A New Recorded Species *Christisonia siamensis* Craib. (Orobanchaceae)

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ABSTRACT: *Christisonia siamensis* Craib. is newly recorded in India. This species is very rare and known only one location in India. This species can be distinguished from others by its delta-shaped calyx teeth, purple corolla, and glabrous filaments. A key to the related India taxa and taxonomic description, phenology, distribution map and photograph are provided here.

KEY WORDS: *Christisonia,* India, new record, Orobanchaceae, parasite.

INTRODUCTION

Orobanchaceae comprises 15-16 genera and 150-200 species worldwide (Parnell, 2001). It is a comsmopolitan family but absent from eastern South America, Eastern Australia and New Zealand. This family is closely allied to the Scrophulariaceae. Nine genera and 42 species of Orobanchaceae are represented in China, of which nine species are endemic to China. Parnell (2001) reported the occurrence of two genera (*Aeginetia* and *Christisonia*) and three species of Orobanchaceae in Thailand. The genus *Christisonia* Gardn. is a root parasite plant, consisting of about 16 species distributed in India, Laos, Sriland and Thailand. In India, Hooker (1884) reported the occurance of seven species namely *Christisonia neilgherrica* Gardn., *C. bicolor* Gardn., *C. hookeri* Clarke, *C. tubulosa* Benth, *C. calcarata* Wight, *C. lawii* Wight and *C. subacaulis* Gardn. and Erady (1967) described a new species *Christisonia keralanesis* Erady *sp. nov*., from Nelliyampathi in Western Ghats and it has been recollected from North East India by Dey et al. (2010). Anilkumar (2006) described another new species from Western Ghats i.e. *Christisonia indica* Anilkumar *sp. nov.*

During the botanical exploration tour to Tuensang district of Nagaland, India, the authors came across an interesting unrecognised root parasite. After critical examination of the material with the help of authentic liteature, it is turned out to be *Christisonia siamensis* Craib, so far known only from Thailand and reported as endemic to Thailand (Parnell, 2001). But recently we have collected the species from Shemjila forest area of Nagaland, North East India. There have been no record of its occurnece in India. (Hooker, 1881; Anilkumar, 2006; Dey et al., 2010). On sending images to John Parnell (per. comm) he confirmed its identity as *Christisonia siamensis* Craib.

The citation, description, specimen examined, ecology, earlier records, distribution map are provided along with the photograph for easy identification of the species (Fig. 2. B & C and Fig. 3. A-J). The voucher specimens are deposited in the herbarium of Botanical survey of India, Arunachal Pradesh Regional Centre, Itanagar. This description of this newly collected specimen from Arunachal Pradesh is furnished below.

TAXONOMIC TREATMENTS

Christisonia siamensis Craib, Bull. Misc. Inform. Kew, 1914: 129. 1914; Craib in Barnett, Fl. Siam Enum, 3: 196, 1962; P. H. Ho, Cayco Vietnam 3: 2. 1992; *Aeginetia siamensis* (Craib) Vivera. Ann. Roy. Bot. Gard. (Peradeniya) 10: 155. 1927. Type: Thailand, Lampang, Sop Nao, c.f. Ngao River, *Kerr* 2406.

Small parasitic fleshy herbs ca. 10-13 cm. Stems 0.5-2.5 cm; pedicels usually very short. Buds covered in copious, translucent tasteless slime when immature. Flower relatie large. Calyx whitish or yellowish, sometimes dark purple, tubular ca. 2-4 cm, 3-5 toothed, teeth ca. 2-4 mm long. Corolla long ca. 4-8 tubular, companulate, somewhat curved when fresh, 5 lobed; tube dirty white outside, tinged with purple; lobes ca. 1-2 cm, bluish to violet with a yellow patch on the middle of the lower lip stretching down the intrior of

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the tube. Stamen included; filaments yellow; point of attachment with a distinct tuft of hairs these effectively closing the throat of the corolla tube; anthers 1-celled,massed together; 1 pair often prominently spurred; spur with an obvious conical projectionat the tip; dehiscence by apical pore. Style long. Stigma peltate. Capsule bivalved; seeds minute. Pollen spherical.

Key to the species of genus *Christisonia* in India

1. Anthers conform; one loculus fertile; other sterile mostly sickle- to spur-shap……..……2
1. Anthers of each filament conform, bilocular; both loculus conform, obtuse, probably all fertile ……..***C. subacaulis***
2. Plant almost glabrous. Stem dense and imbricate scaly. Flowers short pedicellate. Calyx keeled, 3 cm long. Sterile theca as long as the fertile, but more narrow……..***C. neilgherrica***
2. Plant numerous hairy.Stem lax scaly. Flowers long 3.5-5 cm pedicellate and in lax racemes. Corolla pinkish or yellow. Sterile theca subulate, longer than the fertile...…….3
3. Calyx tube narrow, 2 cm long and 1 cm wide, dense and distinctly pubescent. Calyx teeth triangular, 5 mm long. Tube of the slender corolla clearly exserted ...……..……4
3. Calyx tube broader, 2 cm long, sparsely short villous to subglabrous. Calyx teeth to 2.5 mm acute. Corolla tube concealing by the calyx tube ……..…….***C. bicolor***
4. Calyx teeth 5 (rarely 4), unequal triangular or lanceolate, 2 teeth large (0.5-1 cm long), 3 lobes ovate, mucronate. Style glabrous Corolla tube white, seam violet. Thecas fertile small0.4-0.8 cm long), acute, rarely rounded …….. ***C. hookeri***
4. Calyx teeth 5, unequal, 2 teeth large, acuminate, 3 teeth agglutinate to a lip. Corolla tube white, lower mucronate. Style sparse glandular hairy.lip with large yellow spot. Thecas fertile, globose …….....5
5. Flowers 4-6.5 cm long. Pedicles 2.5-10 cm long. Corolla blue-violet. Filaments glandular above ……..……..…***C. tubulosa***
5. Flowers 6.2-7.6 cm long. Upper lip of corolla bloody glabrous, red-violet, lower lip pink, seam yellow. Filaments ……..…...6
6. Pedicles approx. as long as the calyx or shorter……..……...7
6. Pedicles multiple longer than the calyx ……..……..8
7. Flowers up to 7 cm long. Corolla blue-white, lobes entire. Filaments usually glabrous above. Anthers free…….....… ……..……***C. calcarata***
7. Flowers 6 cm. Pedicles up to 3 cm long. Calyx teeth 2 or 4-5, delta-shaped. Seam of corolla purple Filaments glabrous..... ……***C. siamensis***
8. Calyx tubular-spathaceous, 2-4-lobed, 2-2.5 cm long …….…9
8. Calyx tubular, 5-toothed, 1 cm long. Corollapubescent, seam blue-purple. Filaments small crisppubescent. Anthers acuminate-mucronate , appendixnarrow, sharp sickle-shaped instructed ……..…***C. lawii***
9. Calyx tubular-campanulate, 2.5-3.8 cm long. Corolla 3,5-5 cm long, 5-lobed, throat yellowish with a tinge orange, to the seam bright violet. Lobes of corolla small, orbicular, 0.8-1 cm diam. Filaments glandular hairy ……..……..…….***C. keralensis***
9. Calyx campanulate, ca.3.2 cm long, 5-lobed. Lobes ovate, acute and ca. 7 mm long. Corolla 4-5 cm long, 5-lobed, yellowish white to pale rose. Lobes of corolla large, ca. 2 × 1.5 cm. Filaments glabrous…… ……..……..……***C. indica***

Distribution: India and Thailand. Thailand: Northern. Chiang Mai (Op Luang), Lampang (Sop Nao); North Eastern: Loei (Phu Kradueng); South Western: Kanchanaburi (Huai Ban Kao, Ka Tha Lai, Thong Pha Phum), Phetchaburi (Kaeng Kra Chan), Lop Buri (Bo Ri). During our survey we only found two populations in North East India (Fig. 1). Very Rare.

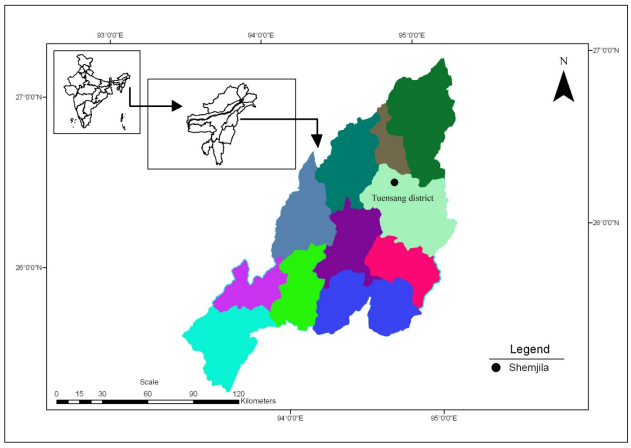


Fig. 1 Distribution map of *Christisonia siamensis* Craib from Shemjila, Tuensang district of Nagaland, North East India

Speciman exmained: INDIA, Nagaland, Tuensang distict, Shemjila forest area, *A. Benniamin 28359 (ARUN) 25. 07. 11.*

Ecology: Terrestrial, usually parasitic on *Tetrastigma* sp. on interior forest at an altitude of 1830 m.

Note: Parnell (2001) reported *C. siamensis* is endemic to Thailand. But it is very interesting to see that this species are collected from Nagaland of North East India. It is related to *C. hookeri* but differs in the shape of the anthers and possesion of a yellow corolla tube. This specimen are sparsely represented in herbaria.

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Fig. 2. A: View of Shemjila forest area. B & C: Population of *Christisonia siamensis.*

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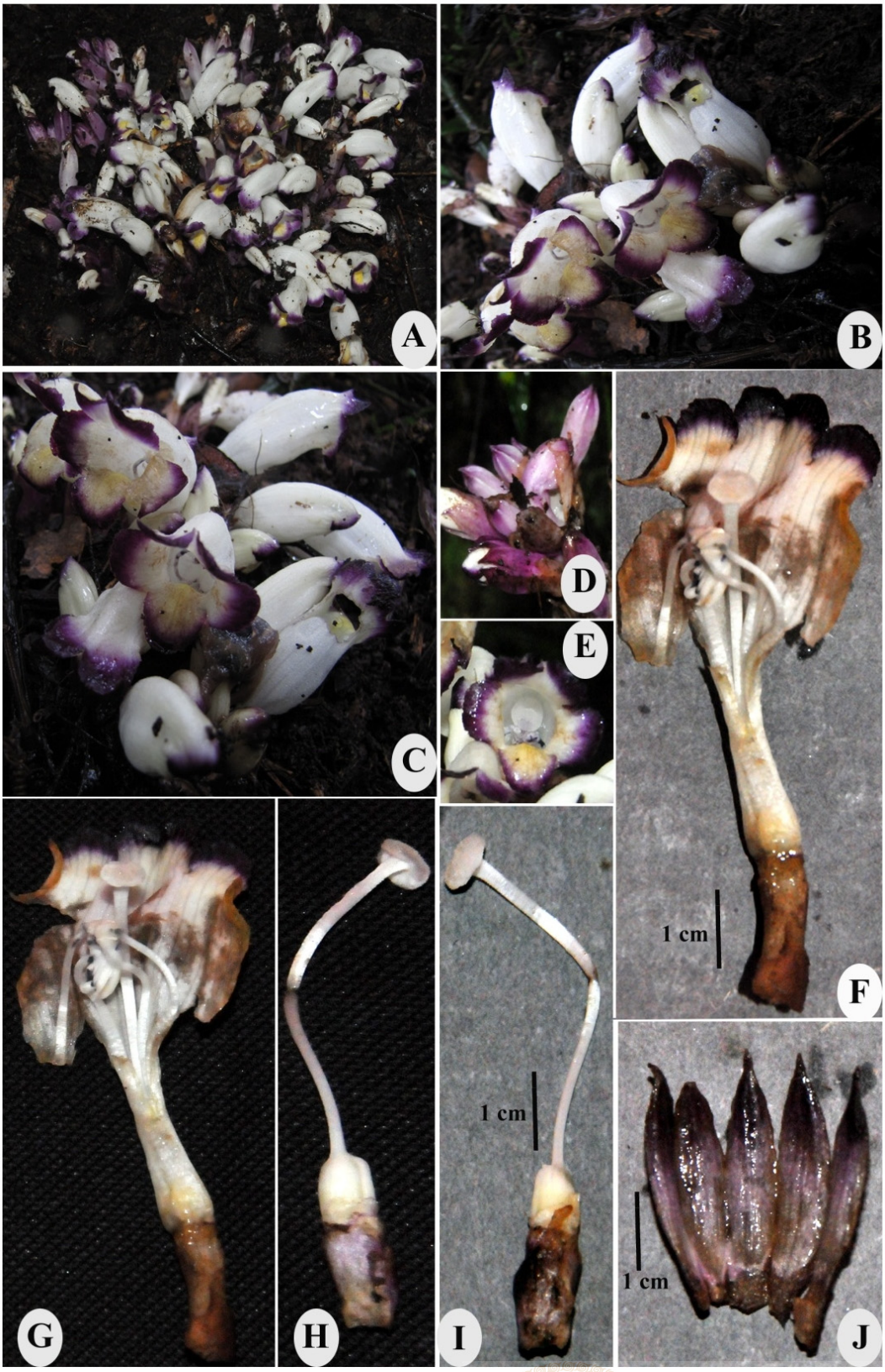


Fig. 3. A-C: Population of *Christisonia siamensis*. D: Flower bud. E: Single flower with yellow patch. F & G: Cross section of Flower. H & I: Style. J: Calyx.

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列當科根寄生性植物 – 暹羅假野菰在印度的新紀錄分布

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摘要：本文首度報導在印度發現的暹羅假野菰新記錄分布，本物種在印度極為稀少，因此分佈地點目前只有一處。獨特的三角狀花萼齒、紫色花冠及光滑的花絲使此種易於辨認。本文除提供此種的描述外，也包含了照片、物候及分佈資訊，和印度的相關分類群之檢索表。

關鍵詞：*Christisonia siamensis*、印度、新紀錄、列當科、寄生。

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