

**SOME RARE AND THREATENED VASCULAR PLANTS OF SENAPATI DISTRICT,
MANIPUR,NORTH EAST INDIA**

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Received : 21.1.16; **Accepted** : 4.3.16**ABSTRACT**

Six species of rare and threatened vascular plants are reported from Senapati district, Manipur. The species are *Aeginetiaindica* L., *Arundinagraminifolia* (D.Don). Hochr., *Boesenbergialongiflora* (Wall.) Kuntze., *Cycaspectinata* Buch-Ham., *Magnolia griffithi* Hook and *Renantheraim schootiana* Rolfe.

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KEY WORDS : Endemic, Rare, Senapati, Threatened.

Introduction

The North Eastern region India supports a large number of endemic, rare and threatened species^{1,9,10}. Manipur is located in the north east India and has rich flora and fauna. The floristic composition of the state falls in the Indo-Burma Biodiversity Hotspot⁸. The forest type ranges from tropical to sub-tropical and temperate deciduous forests reflecting the regions rich floral diversity as well as high degree of endemism. Even though the state has been floristically rich, its complete flora reflecting the threatened and endemic species has not yet come out.

Study site

Senapati district of Manipur is located between 24°38' and 25°91'N latitudes and 93°45' and 94°29' E longitudes in north eastern region of India. It covers an area of 3271 sq. km. and has six reserve forests viz. Kangchup (2.9sq. km), KangchupChiru(9.60 sq.km), Kanglatongbi-Kangpokpi (85.47 sq.km), Khamenlo-Gwaltabi

(85.47 sq.km), Khumanching(9.60 sq. km) and Tadubi-Maram(7.77 sq. km). The altitude ranges from 880-2665m above msL.

Materials and Methods

An extensive survey of vascular plants was carried out from October 2012 to March 2015 in various localities of the district. Field observations including habit, habitat and morphological features of taxonomically interested plants were collected and recorded. The elevation, latitude and longitude of the collected plants locality were also recorded by using GPS(etrex 30 Gramin). Assessment of rare and threatened species followed the three qualitative categories: range restricted to isolated localities occurred in small numbers but in many localities as a few individuals in few localities or in one locality⁵. The specimens were identified with the help of available literatures, Floras and by comparing with the herbarium specimens of Botanical Survey of India, Shillong. The herbarium specimens were deposited in the Herbaria of

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Ethnobotany & Medicinal Plants Conservation Laboratory, Department of Ecology & Environmental Science, Assam University, Silchar. The plants have been enumerated alphabetically with a brief taxonomic description.

Enumeration of taxa:

Aeginetia indica L. (Orobanchaceae)

Aeginetia indica L. Sp. Pl. 632, 1753; Kanjilal *et al.*, *Fl. Assam* 3:385, 1939

Plants 15-40 cm tall, root slightly fleshy with small branches, stem unbranched or branched from near base, leaves red, ovate lanceolate, 5-10 x 3-4 mm, glabrous; flowers usually solitary, pedicel usually erect, 10-30 cm long, ca 3 mm in diam, calyx apex acute or acuminate; corolla purple red striate, indistinctly bilabiate, tubular-campanulate, 2-4.5 cm; tube slightly curved; lobes subentire, filaments purple, 7-9 mm, glabrous; anthers yellow, ovary 1-locular; parietal placentas 4; style 1-1.5 cm; stigma yellow, capsule conical or long ovoid globose, 2-3 cm; seeds yellow, ellipsoid, ca 0.004 mm.

Habitat: shaded forest floor during monsoon; parasitic on roots of grasses

Flowering & Fruiting: August-October

Specimens Examined: Langolreserve forest (Tharon village); N 24°52.71', E 93°48.35'; 854 m; 20.09.2013 Th. Sunita 0525. Fig. 1.A.

Arundinagra minifolia (D. Don) Hochr (Orchidaceae)

Arundinagra minifolia (D. Don) Hochr in Bull. New York Bot. Gard. 6:270. 1910 *A. Bambusifolia* (Lindl), ex wall. Numer. List.: 131.n. 3751. 1851. *Fl. Brit. India*. 5:857. 1890.

Terrestrial, stem (0.5-2) m high, raceme stout, simple or laxly paniced; bracts 0.5 cm broad, coriaceous subacute; flowers not ever opening fully, deep magenta in colour; sepals similar, the laterals connate below the lip by their basal half glabrous; petals broader; lip trumpet shaped, enclosing the column, the top half flaring, rhomboid when spread out; tip deeply bilobed, margin oranulate, deep purple in the throat; pollinea-8, lenticular in two rows of four each.

Habitat: terrestrial

Flowering & Fruiting: July-December

Specimens Examined: Makuii iii; N 25°13.99', E 93°59.53'; 1330 m; 12.08.2014. Th. Sunita

0594. Fig. 1.B. ***Boesenbergia longiflora*** (Wall.) Kuntze (Zingiberaceae)

Boesenbergia longiflora (Wall.) Kuntze, Revis Gen. Pl. 2:685. 1891. *Gastrochillus longiflora* Wallich, Pl. Asiat. Rar. 1:22. t. 25. 1829; Baker in Hook. f. Fl. Brit. India 6:217. 1890; Hains, Bot. Bihar & Orissa 3:1186. 1924, Prain, Bengal plants 2:1039. 1903. *Curcumorpha longiflora* (Wallich) A.S. Rao & D.M. Verma, Bull. Bot. Surv. Ind. 13:339. 1974.

Herbs, 50-60 cm tall, stemless with robust fleshy fibrous roots; separate leafy and floral shoots, shoots consisting of 1-few leaves. Leaves distichous, 30-40 x 10-30 cm, oblong, acute, long petioled, base cordate, tinged with purple beneath; petiole about 30 cm long, channeled. Inflorescence on separate shoots, radical arising from rhizomes; bracts ovate, distichous, spirally arranged, 4-5 cm long, villous, each enclosing one flower, successively blooming one after the other, apex acuminate; flowers in radical spikes; bracts ca. 5 cm long, many imbricated, oblong lanceolate, scarious; calyx shorter than the bract, spathaceous; corolla campanulate, tube slender, 5-7.5 cm long; labellum oboratecuneate; lip half as long as the corolla segments, tinged with up to throat, oblong, cuneate, crisped on incurved margins, stamens large, truncate, anther cells parallel; 10 cm long, 0.6 cm broad, connective not crested, nor spurred, ovary oblong, 3 celled; style filiform 4.5 cm long; stigma thickened, sub-globose.

Habitat: terrestrial

Flowering & Fruiting: July-September.

Specimens examined: Motbung, N 24°52.71', E 93°48.51'; 08.08.2014. Th. Sunita 0585, Fig. 1.C

Cycas pectinata Buch-Ham (Cycadaceae)

Cycas pectinate Griff. Notul. Pl. 4:10. 1854; Hook. f. Fl. Brit. India. 5: 657. 1888; Kanjilal *et al.*, Fl. Assam 4:347. 1940.

An evergreen small palm like tree, glabrous; leaves 1-2 m long, segments 15-25; rachis ca 45 cm long with a few distant thorns near the base; base more or less sheathing; male cone about (45 x 15) cm; antheriferous scales ca. (2 x 2.5) cm; carpophylls 15 cm long densely silky; blade almost orbicular ca 7.5 cm across, cut into subulatepectinate spiny teeth (1.2-1.5) cm long; stalk about as long as the blade; ovules 2-3 pairs, glabrous, seeds ovoid, glabrous, 3-5 cm long, orange or yellowish orange.

Specimens examined: Saikulpanjang N 25°05.16', E 94°02.92'; 1692 m. 27.10.2012 Th.

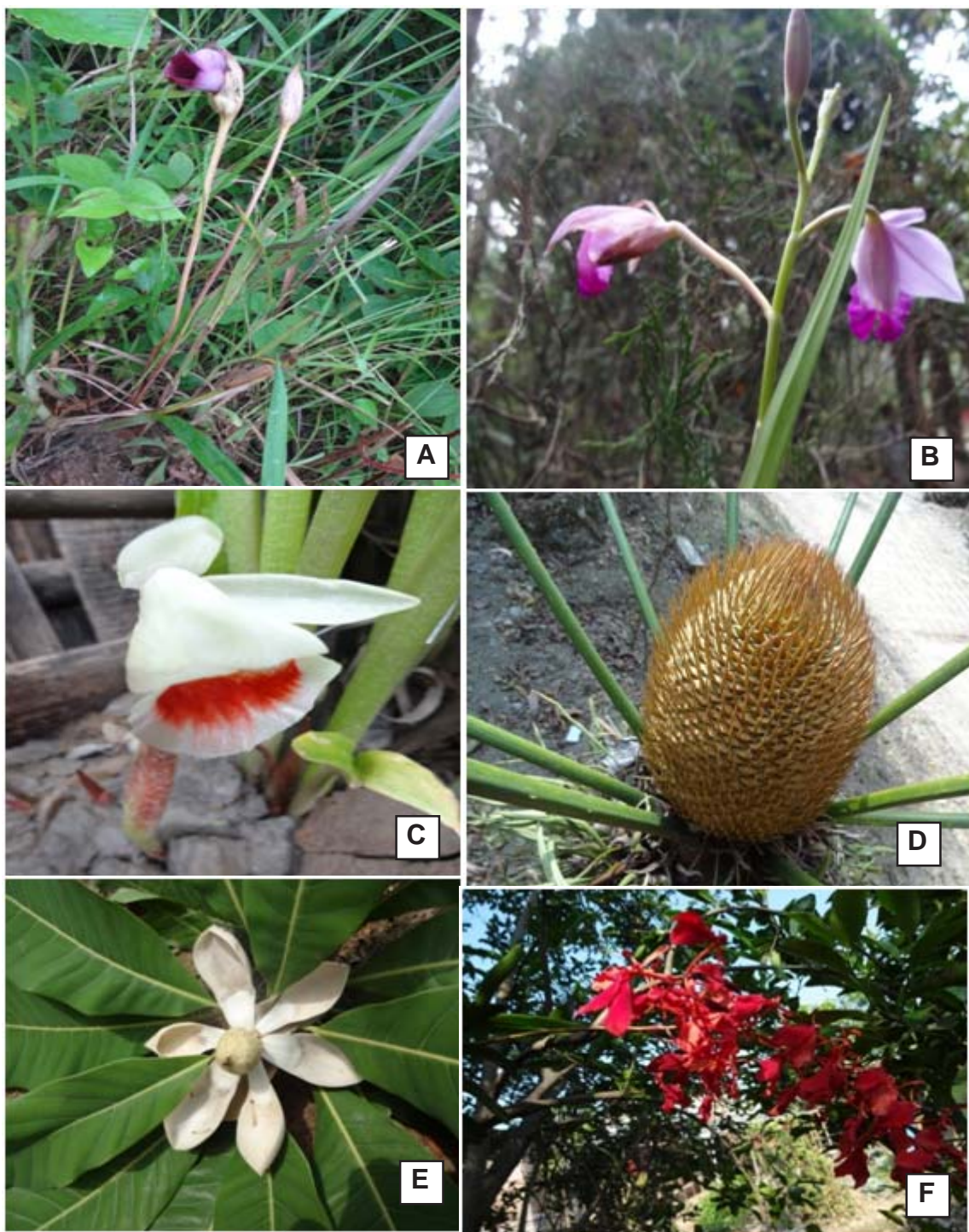


Fig. (photo plate)-1. A. *Aeginetia indica* L. B. *Arundinagramini folia* (D. Don.) HOCHR. C. *Boesenbergia longiflora* (Wall.) Kuntze. D. *Cycaspectinata* Buch-Ham. E. *Magnolia griffithii* Hook. F. *Renantheraim schootiana* Rolfe.

Sunita. 0502 Fig.1.D.

***Magnolia griffithii* Hooke.f. & Thomson
(Magnoliaceae)**

Magnolia griffithii Hooke.f.& Thomson, *Fl. Ind.* **77**. 1855 & in hook. f. *Fl. Brit. India* **1**:41.1872; Kanjilal *et al.*, *Fl. Assam* **1**:14.1934; *Deb in Bull.Bot. Surv. India* **3**:254. 1961.

Evergreen trees, ca 20 m tall; young branches and buds silky tomentose, finely glabrate ; leaves persistent , 25-35 x(12.5 -15) cm , oblong to elliptic, acute pale beneath , coriaceous , glabrous above ; flowers 6-10 cm across , pale white to yellow, slightly fragrant ; sepals 6 ; petals 6, enclosed in silky bract; fruiting receptacles ca 15 cm long ; seeds 1-2 in each carpel, reddish brown.

Flowering & Fruiting: June-september.

Specimens Examined: KangchupChingkhong.N 24°52.35' E 093°48.47'; 890 m. 12.07.2013. Th. Sunita 0569 Fig.1.E.

***Renantheraim schootiana* Rolfe.(Orchidaceae)**

Renantheraim schootiana Rolfe.,Gen.Sp. Orch. 388,1883.

Stem, solitary, woody upto about 90 cm long; leaves dark green, oblong, obtuse, bilobed at the apex; ca. 10 cm long and 1.5 cm broad; inflorescence long, horizontally spreading, ca. 45 cm long, many flowered, loosely arranged; flowers ca 6 cm across, vermilion, long lasting, sepals and petals linear-ligulate, narrow, lip small, sessile, joined at the base of the column; lateral lobes small, triangular; mid lobe roundish.

Habitat: epiphyte

Flowering& Fruiting. : July- November.

Specimens examined: Henbung: N 25°14.07', E 93°59.89'; 1174m;29.01.2014; Th. Sunita 0565. Fig.1.F.

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