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Note

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Ixora polyantha Wight (Rubiaceae) a new record for northeastern India

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Ixora L. is the second largest genus of family Rubiaceae after *Psychotria* and is represented by c. 560 species worldwide (Mabberley 2008). The species are largely pantropical, commonly distributed in the tropical and subtropical regions and its center of diversity (with at least 200 species) is in South East Asia (Fosberg & Sachet 1989; De Block 1998; Puff et al. 2005). Around 46 species have been reported from the Indian sub-continent (Husain & Paul 1989), of which 22 are reported from southern part of India (Gamble 1921; Sasidharan 2004, 2013; Nayar et al. 2014). Northeastern India also harbours 18 species of the genus (Kanjilal et al. 1939; Biswas 1966; Deb 1981; Hajra et al. 1996; Singh et al. 2000; Singh et al. 2002; Mao et al. 2016).

During a recent floristic assessment of Poba Reserved Forest (27^{0}52'32.25"N & 95^{0}23'41.01"E), Dhemaji District of Assam some interesting plant specimens were collected. On critical examination and scrutiny of the relevant literature, it was identified as *Ixora polyantha* Wight. The identification was done by consulting published literature (Hooker 1880; Kanjilal et al. 1939; Talbot 1912; Saldhana & Nicolson 1976; Gamble 1921; Mohanan & Henry 1994) and matching with herbarium specimens, housed at Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). The pressing and mounting of specimen was done using standard procedures (Jain & Rao, 1977; Bridson & Forman 1998). The specimens have been deposited at Herbarium of Botany Department of North Eastern Hill University, Shillong, Meghalaya. So far *Ixora polyantha* Wight had been reported only from Western Ghats of India (Maharashtra, Karnataka, Tamil Nadu and Kerala), and from Vietnam. In addition, the species is considered to be very rare in Western Ghats and has not been collected since 1913, the latest collection by Rao in 1913 from Kottur (Mohanan & Henry 1994). The current study presents a new record of the species for northeastern India (Image 1 & 2). A detailed taxonomic description, illustration and phenology are given to facilitate easy identification.

Taxonomic enumeration

Ixora polyantha Wight, Icon. Pl. Ind. Orient. 3: t. 1066. 1846; Hook. f., Fl. Brit. India. 3: 140. 1880; Talbot, Forest Fl. Bombay 2: 112. 1912; Gamble, Fl. Madras 2: 444. 1921; T. Cooke, Fl. Pres. Bombay 1: 609. 1902; C. J. Saldhana & Nicolson, Fl. Hassan Distr.: 579. 1976; R. Ansari, Fl. Kasaragod Div.: 196. 1985; V.S. Ramach. & V.J. Nair, Fl. Cannanore Distr.: 222. 1988; T. Husain & S.R. Paul, J. Econ. Taxon. Bot. Addit. Ser. 5, 137.1989; M. Mohanan & A.N. Henry, Fl. Thiruvanthapuram: 235. 1994; N. Anil Kumar et al., Fl. Pathanamthitta: 256. 2005; R. Narayanan, Flor. Study Wayanad Distr.: 424. 2009.

An evergreen shrub or undershrub up to 2m tall. Branches woody, green to brown, glabrous, round;

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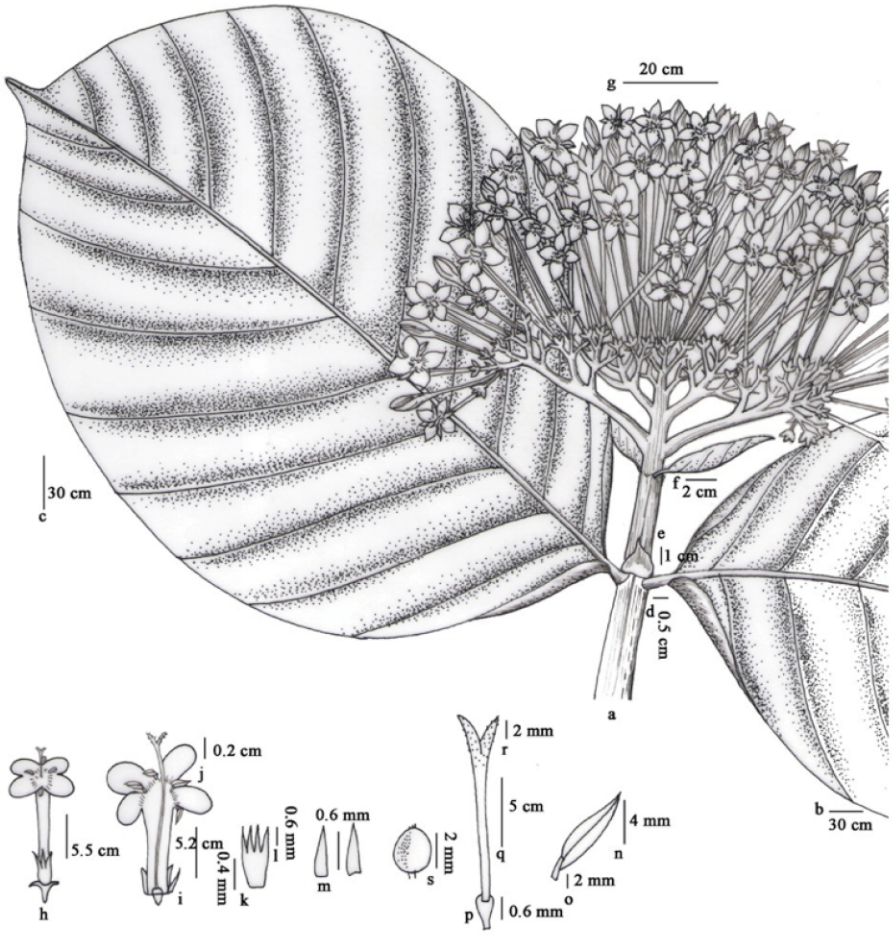

Figure 1. ***Ixora polyantha*** **Wight.**
a - Flowering twig; b - Leaf length;
c - Leaf width; d - Petiole;
e - Stipules; f - Involucres;
g - Flower head; h - Individual flower;
i - Corolla tube; j - Corolla lobe;
k - Calyx tube; l - Calyx lobe;
m - Bract & Bracteole; n - Anther;
o - Filament; p - Ovary; q - Style;
r - Stigma; s - Fruit.

internodes 3.5–4.5 cm long. Leaves large, opposite-decussate, 20–30x13–17 cm, ovate to obovate, elliptic, coriaceous, glabrous on both sides, apex acute or acuminate, base acute; margins entire; petiole c. 5mm long, fleshy; stipule c. 1cm long, interpetiolar, broad at base and tapering upwards to end, glandular and hairy. Inflorescences in terminal, corymbiform cymes, subcapitate, head 18–20 cm across, subsessile to peduncled; peduncle 0.5–1.2 cm, stout, glabrous; bracts 4–13 x 0.5–1.2 mm, narrowly lanceolate, glabrous; bracteoles 2 or 4 at base of hypanthium, 2–5 x 0.3–0.5 mm, narrowly lanceolate, glabrous, apex acuminate. Young inflorescence covered with a pair of persistent involucre, light green in colour. Flowers 80–200 per head, white, sweet fragnant, each flower 5.5–5.7 cm; pedicellate, tetramerous; pedicel stout, glabrous. Calyx red, c. 1cm long, longer than ovary; tube c. 0.4mm with a few scattered hairs; lobes c. 0.6 mm elliptic–lanceolate, glabrous, apex acute. Corolla white, tubular, c. 5.2cm long, slender, glabrous or sparsely pubescent at throat and terminated into four broadly elliptic lobes; each lobe c. 5mm long, glabrous, apex obtuse or rounded at apex. Stamens 4, epipetalous, 4–6 mm long, extrorse; anther yellow, 4–5 mm long, dorsifixed, apex acute; filament 1–2 mm long, dehiscing longitudinally. Style 5–6.5 cm exserted; stigma pale yellow, 2–3 mm long; bifid, stigmatic arms recurved; ovary inferior, 1–1.5 mm long, Fruit round, 2–2.5 mm hairy, red (Fig. 1).

Flowering: April–June

Fruiting: July–October

Elevation: 100–200 m.

Specimen examined: NEHU-439 (12050), 29.v.2015, 27°52’32.25”N & 95°23’41.01”E, elevation 102m, Tinimile area, Poba Reserve Forest, Jonai, Dhemaji District, Assam, India, coll. D. Narah (deposited at Herbarium of Botany Department, NEHU, Shillong, Meghalaya).

Distribution: Vietnam, India: Western Ghats - Kerala, Karnataka, Maharashtra and Tamil Nadu.

Ecology and conservation: A woody shrub growing deep inside humid mixed evergreen rain forests, preferably under shady and wet places. It grows in association with *Tabernaemontana divaricata* (L.) R.Br. ex Roem. &

Image 1. *Ixora polyantha* Wight. A - habit; B - flower bud with involucres; C - flowers arranged in trichasia; D - flowers in full bloom; E - individual flower; F - dissected flower.
© A–D: Deiji Narah;
© E–F: Nazir Ahmad Bhat.

Table 1. Comparison between *Ixora polyantha* Wight and its related species *Ixora acuminata* Roxb and *Ixora balakrishnii* Deb & Rout.

Characters	*I. polyantha*	*I. acuminata*	*I. balakrishnii*
Habit	Shrubs or undershrub, 2m high	Shrubs or undershrub, 1.0 –1.5 m high	Small tree, up to 3m high
Branches	Round, glabrous	Ribbed or angular, glabrous	Pubescent or tomentose
Leaves	20–30×13–17 cm, ovate to obovate, glabrous, acute leaf base	30–40×6–15 cm, obovate to oblong, glabrous, cordate leaf base	10–35×5–10 cm, broadly oblong to lanceolate, tomentose, rounded or cuneate leaf base
Petiole	0.5cm long	1–2 cm long	0.5–1 cm long
Corymbs	Subsessile to pedunceled, glabrous, penduncle 0.5–1.2 cm long	Sessile to sub sessile, pubescent, penduncle up to 0.5cm long	Pedunceled, tomentose, up to 25cm long, penduncle 5–10 cm long
Calyx	Calyx tube ca. 0.4mm with spreading hairs, red, lobes ca. 0.6mm long	Calyx tube 1.5–2.5 mm long, glabrous, purple, lobes ca. 1–9 mm long	Calyx tube 1.2mm long, pubescent, lobes ca. 1. 3mm long
Corolla	Corolla tube ca. 5.2cm long, lobes ca. 5mm long	Corolla tube 1.5–2.5 mm long, lobes 9–13 mm long	Corolla tube 25 mm long, slender, 7–10 mm long
Fruit	Ovoid, 2–2.5 mm in diam, hairy, red	Ovoid – ellipsoid, 1.5–2 cm in diam, hairy, pale green	Sub globose, 0.7–1 cm in diam, red

Schult., *Alangium chinense* (Lour.) Harms, *Ardisia humilis* Vahl, *Callicarpa longifolia* Lam., *Chloranthus elatior* Link, *Floscopa scandens* Lour., *Ocotea lancifolia* (Schott) Mez, *Coffea benghalensis* B. Heyne ex Schult. and *Dioscorea alata* L. It has a rare occurrence and grows in small, scattered populations with narrow geographic range. The species is affected by many anthropogenic factors such as collection of wild edible plants, grazing by livestock, clearing of bushes for fuel purposes and rampant deforestation. The combinations of all these factors have resulted into its habitat destruction and if the process continues, it will result into extinction of the species in the area. Therefore, immediate conservation measures need to be undertaken to protect its habitat and check the anthropogenic disturbances. The forest patches where the species occurs needs to be protected by forest department and the local people should be encouraged to grow the species in home garden as a species that can be of great ornamental value because of its beautiful flowers. The species should be introduced to suitable wild habitats after raising the species using various propagation methods such as tissue culture, seeds or vegetative parts, so that the pressure on its wild habitat is reduced.

Image 2. Herbarium of *Ixora polyantha* Wight.

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