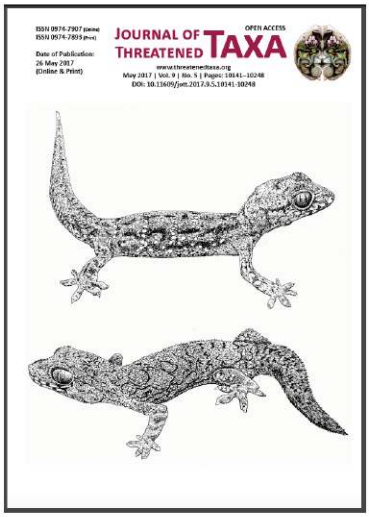
OPEN ACCESS

The Journal of Threatened Taxa is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under Creative Commons Attribution 4.0 International License unless otherwise mentioned. JoTT allows unrestricted use of articles in any medium, reproduction, and distribution by providing adequate credit to the authors and the source of publication.



Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

Note

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

Deiji Narah, Nazir Ahmad Bhat & Yogendra Kumar

26 May 2017 | Vol. 9| No. 5 | Pp. 10229–10232
10.11609/jott.3131.9.5.10229-10232

For Focus, Scope, Aims, Policies and Guidelines visit http://threatenedtaxa.org/About_JoTT
For Article Submission Guidelines visit http://threatenedtaxa.org/Submission_Guidelines
For Policies against Scientific Misconduct visit http://threatenedtaxa.org/JoTT_Policy_against_Scientific_Misconduct
For reprints contact <info@threatenedtaxa.org>

Publisher/Host

Partner

Journal of Threatened Taxa | www.threatenedtaxa.org | 26 May 2017 | 9(5): 10229–10232



ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

OPEN ACCESS



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

Deiji Narah [1], Nazir Ahmad Bhat [2] & Yogendra Kumar [3]

[1,2,3] Taxonomy lab, Centre for Advanced Studies in Botany, North Eastern Hill University, Shillong, Meghalaya 793022, India
[1] deijinarah0@gmail.com, [2] nazirsultan786@gmail.com (corresponding author), [3] yktaxo786@gmail.com

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°52'32.25"N & 95°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;

DOI: http://doi.org/10.11609/jott.3131.9.5.10229-10232

Editor: K. Haridasan, FRLHT, Bengaluru, India. Date of publication: 26 May 2017 (online & print)

Manuscript details: Ms # 3131 | Received 14 November 2016 | Final received 09 May 2017 | Finally accepted 13 May 2017

Citation: Narah, D., N.A. Bhat & Y. Kumar (2017). *Ixora polyantha* Wight (Rubiaceae) - a new record for northeastern India. *Journal of Threatened Taxa* 9(5): 10229–10232; http://doi.org/10.11609/jott.3131.9.5.10229-10232

Copyright: © Narah et al. 2017. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use of this article in any medium, reproduction and distribution by providing adequate credit to the authors and the source of publication.

Funding: University Grants Commission (F1-17.1/2016-17/2015-17-ST-ASS-3136).

Competing interests: The authors declare no competing interests.

Acknowledgements: Authors are highly grateful to the Head, Centre for Advance Studies in Botany, NEHU Shillong for providing necessary facilities and University Grants Commission (F1-17.1/2016-17/2015-17-ST-ASS-3136), Government of India for the financial support. We are thankful to head Botanical Survey of India (Eastern Circle, Shillong) for permitting to consult the library and herbarium and Mr. H. Choudhury, for assisting us in illustrations.

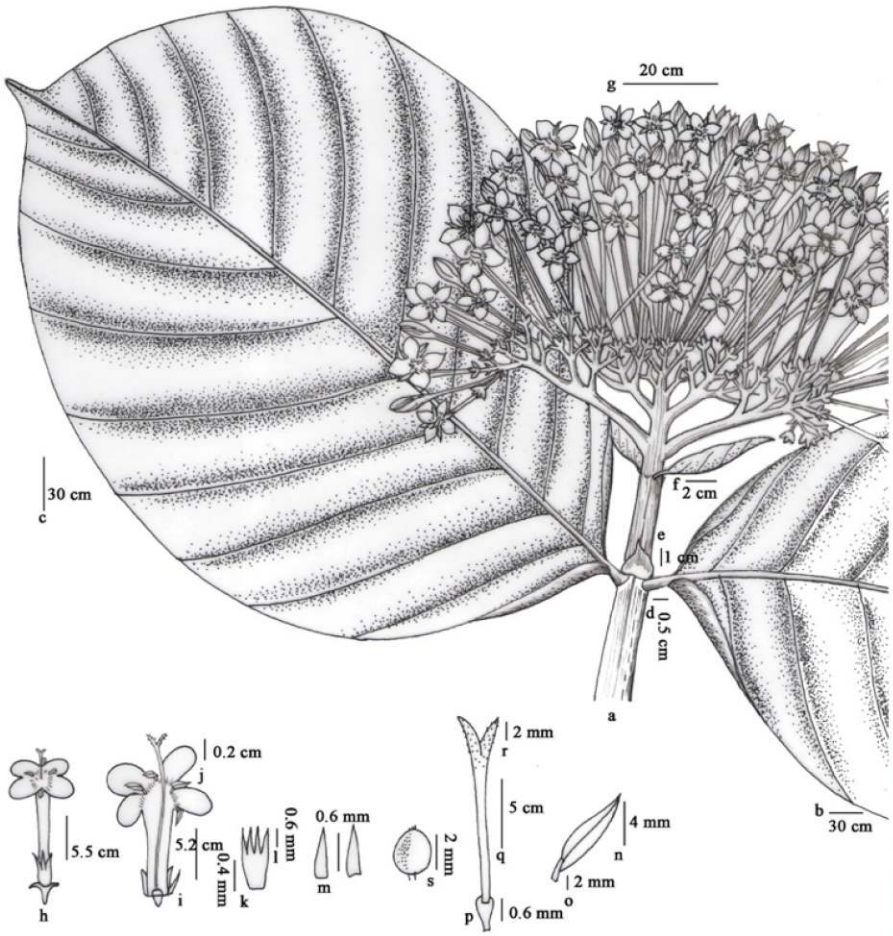


Figure 1. ***Ixora polyantha*** **Wight.**
a - Flowering twig; b - Leaf length;
c - Leaf width; d - Petiole;
e - Stipules; f - Involucres;
g - Flower head; h - Individual flower;
i - Corolla tube; j - Corolla lobe;
k - Calyx tube; l - Calyx lobe;
m - Bract & Bracteole; n - Anther;
o - Filament; p - Ovary;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

References

Biswas, K. (1966). *Plants of Darjeeling and Sikkim Himalayas - Vol. 1*. West Bengal Government Press, Alipore, Calcutta, West Bengal, 540pp.

Bridson, D. & L. Forman (1998). *The Herbarium Handbook.* Royal Botanic Gardens, Kew, UK, 334pp.

De Block, P. (1998). The African species of *Ixora* (Rubiaceae-Pavetteae). *Opera Botanica Belgica* 9: 1–218.

Deb, D.B. (1981). *Flora of Tripura State - Vol. 1*. Today & Tomorrow Printers & Publishers, New Delhi, 67–71pp.

Fosberg, F.R. & M.H. Sachet (1989). Three cultivated *Ixoras* (Rubiaceae). *Baileya* 23: 74–85.

Gamble, J.S. (1921). *Flora of Madras*: Botanical Survey of India, Calcutta, 444pp.

Hajra, P.K., D.M. Verma & G.S. Giri (1996). *Materials for the Flora of Arunachal Pradesh - Vol. 1*. Botanical Survey of India, Calcutta, 693pp.

Hooker, J.D. (1880). *The Flora of British India - Vol. 3*. Reeve and Co., London, 137–149pp.

Husain, T. & S.R. Paul (1989). *Taxonomic Studies on Indian Species of Genus Ixora L. (Rubiaceae).* Additional Series 6. Scientific Publishers, Jodhpur, India, 205pp.

Jain, S.K. & R.R. Rao (1977). *A Handbook of Field and Herbarium Methods*. Today & Tomorrow Printers & Publishers, New Delhi, 157pp.

Kanjilal, U.N., P.C. Kanjilal, A. Das & R.N. Dey (1939). *Flora of Assam - Vol. 3*. Government Press, Shillong, India, 67–71pp.

Mabberley, D.J. (2008). *Mabberley's Plant-Book - A Portable Dictionary of Plants, their Classification and Uses*. Third Edition. Cambridge University Press, 1021pp.

Mao, A.A., B.K. Sinha, D. Verma & N. Sharma (2016). *Checklist of Flora of Meghalaya.* Meghalaya Biodiversity Board and Botanical Survey of India, Government of India, 93pp.

Mohanan, M. & A.N. Henry (1994). *Flora of Thiruvananthapuram.* Botanical Survey of India, Calcutta, 235pp.

Nayar, T.S., A.R. Beegum & M. Sibi (2014). *Flowering Plants of the Western Ghats - Vol. 1*. JNTBGRI, Thiruvananthapuram, Kerala, India, 386pp.

Puff, C., K. Chayamarit & V. Chamchumroon (2005). *Rubiaceae of Thailand A Pictorial Guide to Indigenous and Cultivated Genera.* The Forest Herbarium, National Park, Wildlife and Plant Conservation Department, Bangkok, Thailand.

Saldhana, C.J. & D.H. Nicolson (1976). *Flora of Hassan District Karnataka*. Amerind Publishing Co. Pvt. Ltd., New Delhi, 579pp.

Sasidharan, N. (2004). *Biodiversity Documentation for Kerala*: *Part 6. Flowering Plants*. Kerala Forest Research Institute, Peechi, Kerala, 232pp.

Sasidharan, N. (2013). *A digital database of Flowering Plants of Kerala*: CD-ROM ver. 2. Kerala Forest Research Institute, Peechi, Kerala.

Singh, N.P., A.S. Chauhan & M.S. Mondal (2000). *Flora of Manipur - Vol 1*. Botanical Survey of india, Kolkata, 471pp.

Singh, N.P., K.P. Singh & D.K. Singh (2002). *Flora of Mizoram - Vol 1*. Botanical Survey of India, Kolkata, 681pp.

Talbot, W.A. (1912). *Forest Flora of Bombay Presidency & Sindh - Vol. 2*. Today & Tomorrow Printers & Publishers, New Delhi, 574pp.

Journal of Threatened Taxa

OPEN ACCESS

The Journal of Threatened Taxa is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under Creative Commons Attribution 4.0 International License unless otherwise mentioned. JoTT allows unrestricted use of articles in any medium, reproduction, and distribution by providing adequate credit to the authors and the source of publication.

ISSN 0974-7907 (Online); ISSN 0974-7893 (Print)

May 2017 | Vol. 9 | No. 5 | Pages: 10141–10248
Date of Publication: 26 May 2017 (Online & Print)
DOI: 10.11609/jott.2017.9.5.10141-10248
www.threatenedtaxa.org

Article

Dna barcoding, population genetics, and phylogenetics of the illegally hunted Philippine Duck *Anas luzonica* (Aves: Anseriformes: Anatidae)
-- Ardea Mingoa Licuanan, Mariano Roy Martin Duya, Perry Sim Ong & Ian Kendrich Carandang Fontanilla, Pp. 10141–10150

Communications

Population dynamics of medium and large mammals in a West African gallery forest area and the potential effects of poaching
-- Emmanuel M. Hema, Yaya Ouattara, Mamadou Karama, Fabio Petrozzi, Massimiliano Di Vittorio, Wendengoudi Guenda & Luca Luiselli, Pp. 10151–10157

A comparative study of avian diversity in Teknaf Wildlife Sanctuary, Inani Reserve Forest and Chittagong University campus in Bangladesh
-- M. Farid Ahsan & Ibrahim Khalil Al Haidar, Pp. 10158–10170

On two little-known terrestrial South Asian geckoes *Hemidactylus reticulatus* and *Hemidactylus scabriceps* (Reptilia: Gekkonidae)
-- S.R. Ganesh, M. Rameshwaran, Naveen A. Joseph & Ahamed M. Jerith, Pp. 10171–10177

Freshwater fish fauna of Hiranyakeshi River, the northern Western Ghats, India
-- Pradeep Kumkar, Sanjay S. Kharat, Nitin S. Sawant, Unmesh Katwate & Neelesh Dahanukar, Pp. 10178–10186

Short Communications

A new species of sea squirt *Rhopalaea bilobata* (Ascidiacea: Diazonidae) from the Andaman Islands, India
-- Jhimli Mondal, C. Raghunathan & Tamal Mondal, Pp. 10187–10193

Observations on the association of *Scaphula deltae* Blanford (Mollusca: Bivalvia) in Garanga Wetland of Pobitora Wildlife Sanctuary, Assam, India
-- Girindra Kalita, Pp. 10194–10197

Butterfly fauna of Baghmundi, Purulia, West Bengal, India: a preliminary checklist
-- Supriya Samanta, Dipanwita Das & Sudipta Mandal, Pp. 10198–10207

Butterflies of the Kole Wetlands, a Ramsar Site in Kerala, India
-- S. Sarath, E.R. Sreekumar & P.O. Nameer, Pp. 10208–10215

A first record of three hitherto unreported species of bats from Kerala, India with a note on *Myotis peytoni* (Mammalia: Chiroptera: Vespertilionidae)
-- Bhargavi Srinivasulu & Chelmala Srinivasulu, Pp. 10216–10222

Notes

New distribution records of some wild crop relatives from India
-- K. Pradheep, R.S. Rathi, K. Joseph John, S.M. Sultan, B. Abraham, Anjula Pandey, E. Roshini Nayar, S.P. Ahlawat & Rita Gupta, Pp. 10223–10228

***Ixora polyantha* Wight (Rubiaceae) a new record for northeastern India**
-- Deiji Narah, Nazir Ahmad Bhat & Yogendra Kumar, Pp. 10229–10232

***Euphorbia royleana* Boiss., (Euphorbiaceae) a new record for the Eastern Ghats, India**
-- N. Sarojinidevi & Rudraraju Reddi Venkataraju, Pp. 10233–10235

Notes on the extended distribution of two threatened species of *Strobilanthes* Blume (Acanthaceae) in Kerala, India
-- E.J. Josekutty, P. Biju & Jomy Augustine, Pp. 10236–10239

A first report of the Broad-Tail Royal *Creon cleobis* Godart, 1824 (Insecta: Lepidoptera: Lycaenidae) and its host plant from Agasthyamalai Biosphere Reserve of the southern Western Ghats, India
-- Raveendran Lekshmi, Pp. 10240–10241

A photographic record of the Rusty-spotted Cat *Prionailurus rubiginosus* (Mammalia: Carnivora: Felidae) in a forest plantation on the east coast of Tamil Nadu, India
-- M. Bubesh Guptha & M. Eric Ramanujam, Pp. 10242–10245

Stomach contents of the Indian Pangolin *Manis crassicaudata* (Mammalia: Pholidota: Manidae) in tropical forests of southern India
-- Mohanarangan Ashokkumar, Dipika Valsarajan, M. Arjun Suresh, Anuraj R. Kaimal & George Chandy, Pp. 10246–10248

zooh! ZÜRICH

WILD ZOO Threatened Taxa