

Ixora fernandoi (Rubiaceae), a new species from Dinagat Island, Philippines

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Abstract

A new species of *Ixora* (Rubiaceae), *Ixora fernandoi* C.B. Moran, from Dinagat Island, Philippines is formally described and illustrated. This species is easily recognized from other known *Ixora* species by its inflorescence that are erect to drooping, articulate throughout, flower bud with rounded apex, calyx tube not more than 2 mm long; corolla tube 6–8 mm long; corolla lobes elliptic oblong.

Introduction

The pantropical genus *Ixora* Linnaeus is the third largest genus in the family Rubiaceae with more than 530 species worldwide (Davis et al. 2009, Banag et al. 2017), growing mostly in humid forests. It is a genus of shrubs and small trees easily recognizable because of its articulate petioles, hermaphroditic flowers, hypocrateriform corollas, two-locular ovaries with a solitary ovule per locule, bilobed stigma, and drupaceous fruits (De Block 1998, Mouly et al. 2009).

In the Philippines, 34 species of *Ixora* are currently recognized (Pelser et al. 2011) and four of these 34 species can be found in Dinagat Islands namely, *I. angustilimba* Merrill, *I. confertiflora* Merrill, *I. gigantifolia* Elmer, and *I. philippinensis* Merrill (Banag et al. 2015). The Dinagat Islands are composed of an aggregate of various land formations on the northeastern edge of Mindanao Island in the Philippines (Tamayo et al. 2021) and are home to an array of microendemic species of animals and plants (e.g. Musser et al. , 1985; Mohagan et al., 2013; Brown et al., 2014; Sanguila et al., 2016; Fernando et al., 2018; Robinson et al., 2019; Fernando and Wilson, 2021).

A recent botanical expedition in Mt. Redondo in Dinagat Island has led to the collection of an undescribed *Ixora* species and does not match with any of the known Philippine and other Asian *Ixora* species. Hence, a detailed description, illustration, live photographs, and notes on this new species are here provided.

Ixora fernandoi C.B. Moran, sp. nov. (Fig. 1–2)

Type: Philippines. Mindanao: Dinagat Province, Mt. Redondo, 01 September 2016, 875 m. a.s.l., E.S. Fernando, 4201 (holotype: PNH; isotypes PUH, USTH).

This species is easily recognized from other known *Ixora* species by its erect to drooping, articulate throughout, flower bud with rounded apex, calyx tube not more than 2 mm long; corolla tube 6–8 mm long; corolla lobes elliptic oblong.

Description

Shrub or small tree 2–3 m tall; young internodes, grayish to reddish-brown, terete; all external parts glabrous. Stipules persistent, sheath triangular, 1–1.5 mm long, awn 1–1.5 mm long. Leaves with petioles 2–3 mm long; blades lanceolate to oblanceolate, 2.5–6.5 × 1–3 cm, coriaceous, drying brown or dark brown above;

apex acute; base acute; secondary veins ca. 8 each side. Inflorescence terminal or on short lateral branches, erect or drooping, with 12–45 flowers, pedunculate, articulate throughout, lax to moderately compact, 2.5–3 × 3.5–4.5 cm; one pair of modified inflorescence supporting leaves present, subsessile, blades lanceolate, 1.4–3.5 × 0.5–2 cm, base acute; peduncle 2–5.5 cm long; central first order axis 0.5–1 cm long, lateral first order axes 0.5–1 cm long; first order bracts with stipular parts absent and the foliar parts filiform, 0.5–1 mm long; higher order bracts with stipular parts absent and foliar parts filiform, up to 1.5 mm long. Ultimate flower triads with flowers subsessile or shortly pedicellate; pedicels of lateral flowers 1–2 mm long, central flower sessile or with pedicels as long as the lateral ones. Flowers with ovary and calyx red sometimes green, corolla white (tinged with pink), style, stigma white, filaments and anthers yellow; flower bud with rounded apex; bracteoles present on most pedicels, opposite on the pedicel, narrowly triangular to filiform, apices acute, 0.5–1 mm long; calyx tube ca. 2 mm long; calyx lobes narrowly triangular, their bases not overlapping; corolla tube 6–8 mm long; corolla lobes elliptic oblong, 1–2 × 0.5–1 mm, apices obtuse or rounded; filaments ca. 1 mm long, anthers 0.5–1 mm long; style exerted from corolla tube for 0.5–1 mm, stigmatic lobes 0.5–1 mm long, erect or spreading. Fruits globose, 3–4 × 2–3 mm, with persistent calyx.

Etymology

This species was named after Dr Edwino S. Fernando, Professor Emeritus of Department of Forest Biological Sciences, College of Forestry and Natural Resources, University of the Philippines Los Baños - recognized for his outstanding research on the taxonomy of the plant family Palmae and one of the leading plant taxonomists in the Philippines.

Phenology

This species was observed to be flowering and fruiting in September.

Distribution and Habitat

Ixora fernandoi is currently known only in Mt. Redondo within the municipality of Loreto in Dinagat Island (Fig. 3). It occurs on dwarf forest on ultramafic soil at 875 m elevation.

Conservation Status

Direct observations of *Ixora fernandoi* made *in situ* satisfy the IUCN 3.1 Red List CR (Critically Endangered) Criteria B1ab(ii,iii)+2ab(i,ii,iii) (IUCN, 2012), i.e. the species has an EOO < 100 km² and is known from only a single location with documented decline in area of occupancy and quality of habitat, and an AOO < 10 km² at the single location with a reduction in area of occurrence, occupancy, and extent and quality of habitat.

Notes

Ixora fernandoi strongly resembles *I. confertiflora* due to highly similar vegetative structures, so non-flowering individuals could easily be mistaken for the latter. But there are significant morphological differences in the flowers of *I. fernandoi* that separate it from *I. confertiflora* specifically in the subcapitate inflorescence of *I. confertiflora*.

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