



An extended distribution of *Exacum lawii* C. B. Clarke (Gentianaceae-Exaceae), Gujarat state, India

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Abstract

Exacum lawii C. B. Clarke (Gentianaceae-Exaceae) is reported for the first time from Aravalli district of Gujarat state. A taxonomic account of *Exacum lawii* C. B. Clarke has been given after detailed study. Plant description, notes, photographs and Fig of herbarium sheet, distributional records are provided to facilitate easy identification.

Keywords: extended distribution, *Exacum lawii* C. B. Clarke, Gujarat state, India

Introduction

The Aravalli district has been named for the Aravalli hills that run across Gujarat and Rajasthan, recorded with rich in floristic diversity and well explored by various plant taxonomists [1-10]. During recent floristic explorations the authors spotted a population of interesting species of *Exacum*, 8-10 individuals from Vagheshwari forest in Bhiloda taluka forest area of Aravalli district. The specimens were collected and properly processed for herbarium by using the standard herbarium methods [11-12] and after critical examination with dissected floral parts and other morphological features they were confirmed as *Exacum lawii* C. B. Clarke [13]. The genus *Exacum* L. belongs to tribe Exaceae of family Gentianaceae, represented by 22 species in India [14]. *Exacum lawii* C. B. Clarke is an endemic species to India and only known to occur in the state of Kerala, Tamilnadu, Karnataka and Maharashtra [15-17]. Prior this finding, there were 04 (four) species of *Exacum* reported from the Gujarat state. *Exacum lawii* C. B. Clarke was not reported from the Gujarat state [18-25] and that constitutes as a new addition to the flora of Gujarat state as well as new distributional record. Brief description, phenology, distribution and photographs are provided here to facilitate easy identification of the species in the wild. The distribution and current localities of *Exacum lawii* C. B. Clarke in India is depicted in Fig. 1. A voucher specimen (SKP-63, Date-09-09-2018) has been deposited at the Department of Botany, M. S. Univeristy, BARO Herbaria, Baroda (Gujarat).

Exacum lawii C.B. Clarke in Hook. f., Fl. Brit. India 4: 98. 1883; Gamble, Fl. Madras 2: 874. 1923; Klack., Opera Bot. 84: 53. 1985; Fig 1 & 2.

Herbs, 10-15 cm tall. Stems pale green, 4-angular, minutely winged-4-lineolate, unbranched to sparsely branched; branches confined to the upper part of the stem; internodes much longer than the leaves. Leaves sessile or subsessile; lamina ovate-orbicular, 3-nerved at base, acute-obtuse at apex, cuneate at base. Flowers solitary or few in terminal or axillary lax cymes; tetramerous, bracts ovate, pedicels 0.5-5 cm long, slender, terminal one often longer and slightly curved than the axillaries. Calyx green, persistent, wingless; lobes-4, elliptic-broadly ovate, fused towards the very base, prominently nerved, accrescent in fruit; acute-acuminate at

apex. Corolla tube white, lobes-4, blue-violet, broadly obovate, acute-obtuse at apex. Stamens-5; filaments short, white, fused to the corolla, anthers yellow, erect, rectangular, opening by apical pores that later do not widen to slits, papilla absent. Ovary green, ovate, style bluish white, 2-3 mm long, straight as long as the stamens or a little beyond; stigma simple, capitate, faintly 2-lobed. Capsule brown, Seeds many, irregular or tetrahedral with shallowly sunken sides.



Fig 1: Location map of *Exacum lawii* C.B. Clarke in India

Flowering & Fruiting: September - November

Notes: It is small herb and closely associated with the grass species, found on the top of the hill in plain terrain. Very few individuals of the species are recorded; status in the Gujarat state is still unknown.

Specimen examined: SKP-63, 09.ix.2018, Hanuman Kot (23.95555556 N & 73.48638889 E, 544m), Vagheshwari forest area, Bhiloda, Aravalli District, Gujarat, India. (College S.K. Patel, Gujarat Arts and Science College, Ellis bridge, Ahmedabad, Gujarat) (Fig 2-3).



Fig 2: *Exacum lawii* C.B. Clarke; a. Habit; b. Flower

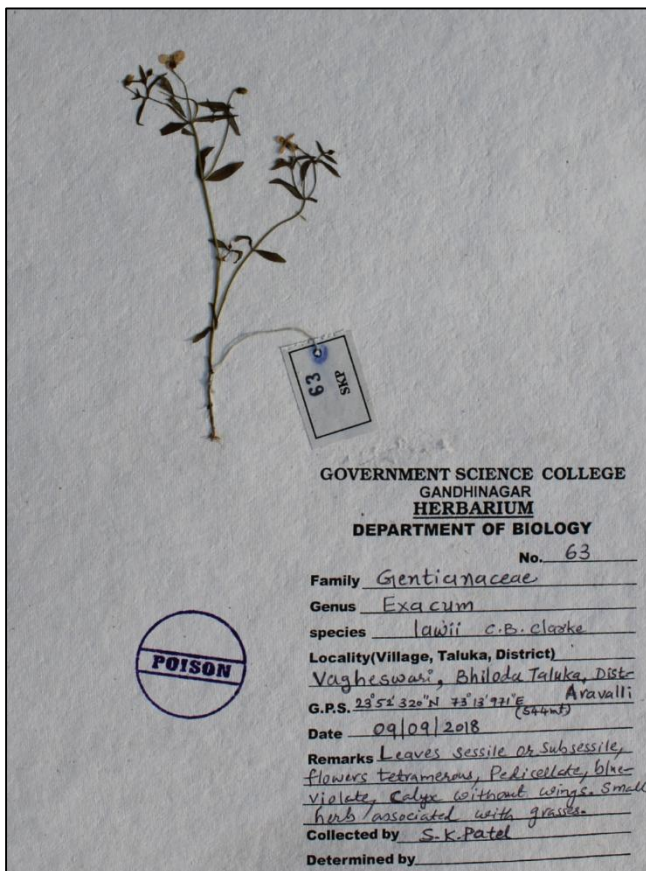


Fig 3: Herbarium sheet of *Exacum lawii* C.B. Clarke

Conclusion

Exacum lawii C. B. Clarke is Endemic species in India and it is new distributional record for the Gujarat state. There is an urgent need to take action plan to conserve this species. Intensive Status Survey (ISS) is suggested to understand the

ecological status and environmental significance of this species as well as long-term conservation of the species. As well as more participatory conservation, mobilizing forest frontline staff towards the importance and rarity of this species in the state.

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