

## *Oenothera rosea* L' Her. ex Ait. (Onagraceae): A New Generic Record to the flora of Rajasthan

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### Abstract

*Oenothera rosea* L' Her. ex Ait. of the family Onagraceae, a new species is reported for the first time from Pratapgarh district of Rajasthan. The detail description, up to date nomenclature, time of flowering & fruiting and ecological notes of this species has been provided for easy identification.

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## 1. Introduction

During botanical explorations in Rajasthan, the authors collected some plant specimens from Sitamata wild life sanctuary (74<sup>0</sup>25' to 74<sup>0</sup>40' E longitude and 24<sup>0</sup>4' to 24<sup>0</sup>23' N latitude) in Pratapgarh districts of Rajasthan. After a thorough survey of literature, critical examination and expert opinion from Botanical Survey of India, Jodhpur, the specimens determined as *Oenothera rosea* L' Her. ex Ait., belonging to the family Onagraceae, a genus not recorded by the earlier workers from Rajasthan (Bhandari 1978; Sharma & Tiagi 1979; Shetty & Pandey 1983; Singh 1983; Shetty & Singh 1993; Prasad et al., 1996; Singh et al., 2001; Sharma 2002; Tiagi & Aery 2007; Yadav & Meena 2008, 2009, 2011; Meena & Yadav 2010a, 2010b; Yadav et al., 2011; 2012, Meena 2010a, 2010b, 2010c, 2012a, 2012b, 2012c, 2013a, 2013b, 2014, 2014a; Meena et al., 2013). The present paper deals with the detailed description, phenological data, time of flowering and fruiting and ecological notes of this species.

The genus *Oenothera* L. (Onagraceae), consisting of about 200 species in the world (Dietrich et al.,

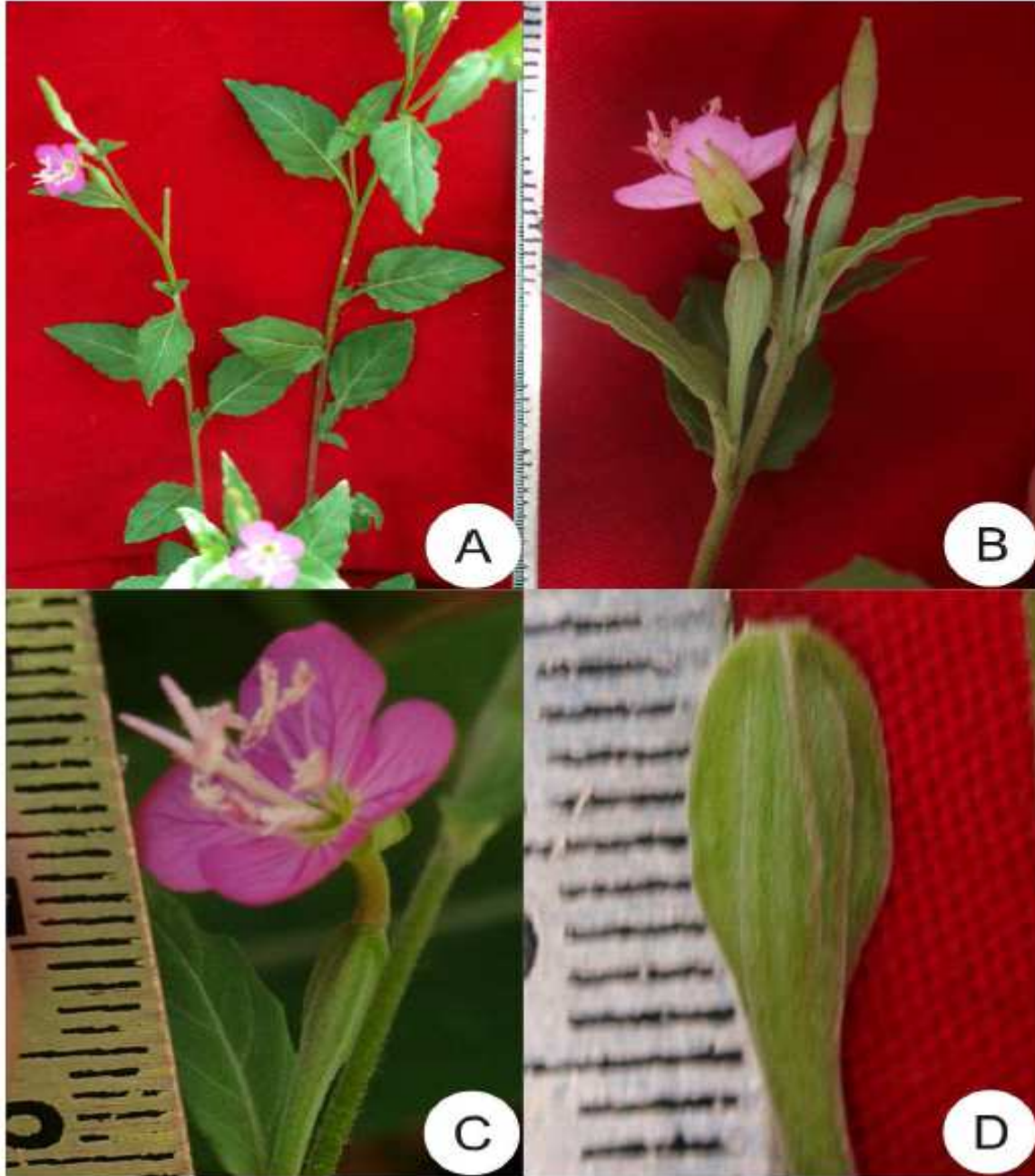
1997; Mabberley, 1997). Now the genus has been naturalized world-wide (Dietrich et al., 1997). Most of the invasive species, especially those invading into temperate regions, belong to the section *Oenothera* subsection *Oenothera*. From India, 1 species of the genus have been reported from Pune and Satara of state Maharashtra (Venkanna & Prasanna, 2001). Thus, present findings constitute to be a novelty for Rajasthan. Hence, it is described as a new species for Rajasthan.

## 2. Results

### 2.1 Citation

*Oenothera rosea* L'Héritier ex Aiton, Hort. Kew. 1. 2: 3. 1789; Clarke in Hook. f., Fl. Brit. Ind. 2: 582. 1879; Raven in Tutin et al., Fl. Eur. 2: 308. 1968; R. R. Stewart, Ann. Cat. Vasc. Pl. W. Pak. & Kashm. 508. 1972. *Hartmannia rosea* (L' Hér. ex Ait.) G. Don in Sweet, Hort. Brit. ed. 3. 236. 1839. *Xylopleurum roseum* (L'Hér. ex Aiton) Raim. Nat. Pflanzenfam. 96 [III,7]: 214 1893 (Plate 1).

**Plate 1 (A-D):** *Oenothera rosea* L' Her. ex Ait. (A) Habit, (B) Inflorescence, (C) Flower, (D) Fruit



### 2.2 Description

Herbs ascending to decumbent up to 45 cm high, perennial, with basal rosette. Stems strigillose. Leaves petiolet, elliptic to oblanceolate or oblong-ovate, 1-6 × 0.4-2.5 cm, base attenuate, margin subentire to coarsely dentate, apex acute to obtuse, glabrous to sparsely strigillose. Inflorescence a lax open simple raceme. Floral tube 4-8 mm long. Sepals 5-10 mm, with free tips 0.4-1 mm. Petals pink to rose-purple, 5-12 mm. Anthers 2-3.5 mm; pollen ca. 50% fertile. Ovary usually densely strigillose; stigma surrounded by anthers. Capsules clavate or narrowly obovoid, 4-12 mm, valves angled or weakly winged, attenuate to slender sterile stipe (pedicel) 5-20 mm. Seeds in several

indistinct rows per locule, brown with dark spot at each end, obovoid, 0.5-1.2 mm, finely papillose.

### 2.3 Flowering and Fruiting

March - June.

### 2.4 Specimens examined

India, Rajasthan, Sitamata Wildlife Sanctuary, Meena 1266 (MLVGCB Herbarium).

### 2.5 Distribution

Native from central and southern Texas, USA, throughout Mexico and Central America to El Salvador, and throughout South America; naturalized throughout the warmer regions of the world

## Research Highlights

1. These studies will result in a valuable reference for all plants for taxonomy and ethnobotany.
2. Also these will be useful to foresters, Medical scientists and those interested in biodiversity, traditional knowledge of indigenous people and conservational aspects of plants.
3. The information will also be useful for the department of forest for conservation of *Oenothera rosea* L'Héritier ex Aiton, from this region.
4. According to the present study the area of its occurrence must be immediately fenced off from biotic interference, as well as artificial regeneration programmes should be urgently raised.
5. To determination and availability of plant species and their categorization as per IUCN standards.

## Limitations

The study is solved the problems for availability form the Rajasthan flora related to family Onagraceae. It is interesting for Rajasthan this taxon has reported from new geographical region.

The danger of extinction of such elements is ahead, therefore, to ensure the survival of germplasm, necessary measures need to be taken for their protection, conservation and multiplication. Keeping in mind intensive field surveys in the vicinity of its type locality to determine its true status. This taxon has been first reported from the geographical area, it is rare in this area but it has not been selected in RET category by any one of previous workers to highlighting potential taxa for conservation concern.

## Recommendations

The paper contains all the required information about the new geographical is for this species. We think no unrelated matter and photographs was provided in the paper.

## Funding and Policy Aspects

The awareness programmes should be started for conserving such type of endangered species. We recommend to department of forests, for species were identified by field survey with taxonomist. The forest department should be requested for recruit the students of Plant taxonomy for their district or sanctuary level each, so such type of species is identified and preserved before eliminated from nature forever.

## Author's Contribution and Competing Interests

The species collected from the area is not surveyed by previous workers. The species is collected, identified with reputed literature and photographed. The collected specimens have been deposited to the herbarium. Department of botany, MLV Government College, Bhilwara. Rajasthan, India.

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