



New Distributional Record of *Alysicarpus rugosus* (Willd.) DC. from the State Odisha, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

A wild habitat of *Alysicarpus rugosus* (Willd.) DC. is reported for the first time for the flora of Odisha from Rourkela Forest Division. A detailed description with nomenclature, habitat, associated species and photographs are provided for easy identification in the field.

Keywords: Fabaceae; new addition; shrub.

1. INTRODUCTION

Alysicarpus Necker ex Desvaux is a genus of the family Fabaceae and member of the tribe Desmodieae, Distribution of 31 species of this

genus is known globally [1,2]. About 19 species of this genus is reported so far from India [3,2,4]. During a floristic expedition, the research team found the species of *Alysicarpus* spp. at Kansbahal, Rourkela Forest Division, Odisha.

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After a detailed study on the genus *Alysicarpus* species of India with herbarium specimens and relevant literatures, it has been concluded that the species is *Alysicarpus rugosus* (Willd.) DC. It is distributed in tropical or sub-tropical regions like South Africa, Kenya, South America to South US, North Australia, China, Malaysia, Taiwan, Thailand, Japan, India, Pakistan, etc. In India, 18 species of this genus have been reported [3,2,5,6,7]. Out of these, seven are endemic. In 2019, *Alysicarpus bhuibavadensis*, a new species has been reported from Western Ghats which adds to total 19 species in India and 31 species all over the world [8]. 3 species have been reported from Thailand [9], 4 species from South Africa [10]. *Alysicarpus rugosus* is distributed in Indian states like Andhra Pradesh, Karnataka, Tamil Nadu, Telangana, Rajasthan,

Maharashtra, Uttarakhand, Himachal, Assam, Gujarat, Madhya Pradesh and Uttar Pradesh (Deepa et al. 2023) [8,11,12,13,14,15]. It has been reported from semi-arid regions of Kenya. The species is native to tropical countries like South Africa and Asian countries like China, India, Nepal, Pakistan, Myanmar, Thailand, Indonesia, etc [16,12]. In Taiwan, this legume is gradually naturalized [17].

2. TAXONOMIC TREATMENT

Alysicarpus rugosus (Willd.) DC., Prodr. 2:353(1825); *Fabricia rugosa* (Willd.) Kuntze Revis. Gen. Pl. 1:182(1891); *Hedysarum rugosum* Willd. Sp. Pl., ed. 4. 3: 1172 (1802).

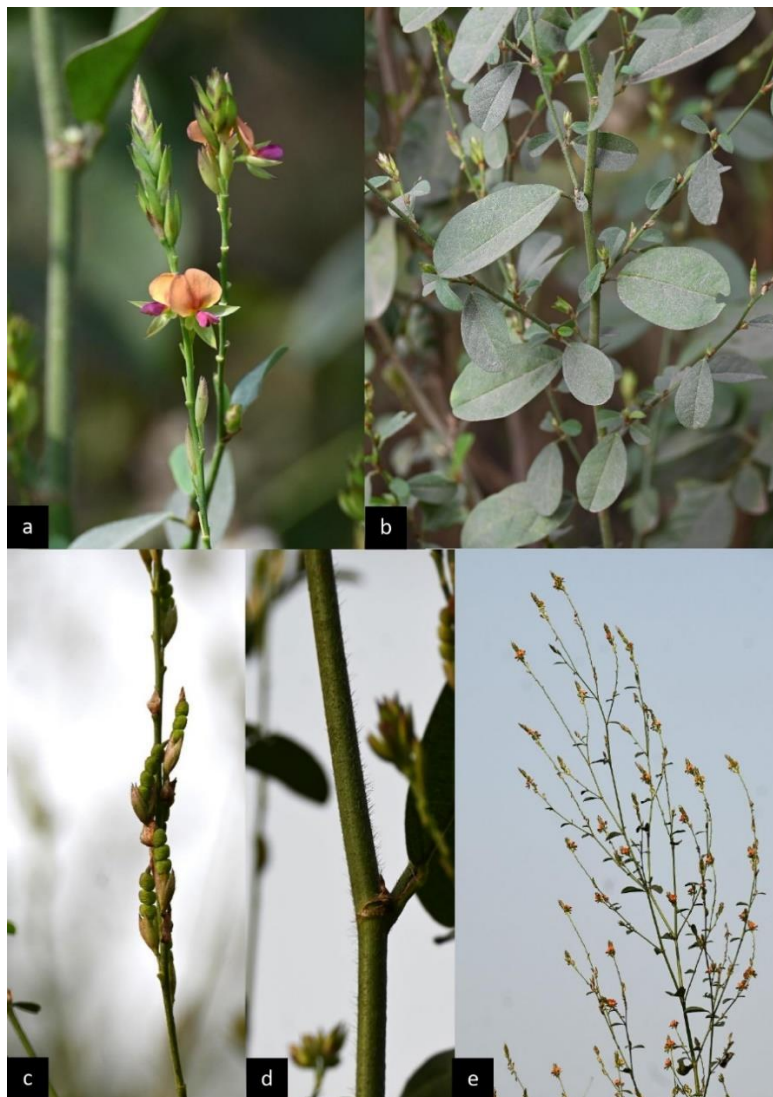


Fig. 1. *Alysicarpus rugosus*: a) Flower b) Leaves c) Fruits d) Stem e) Inflorescence

Description: It is an erect, upright annual shrub. Stem pilose or glabrous, cylindrical that extends up to 2.4 m tall, branched at the base. Leaves alternate, simple, obovate to elliptical, arise from every internode, mostly unifoliate 1-8 x 0.2-2.5 cm, abaxial surface glabrous, marked with slightly 5-7 pairs of slightly arched veins, adaxial surface pubescent with a network of fine reticulation, petiole 3-9 mm long, two papery lanceolate stipules at the base 5 mm long. Inflorescence axillary, simple or branched, terminal cluster, dense to lax, rachis 3-20 cm long, pedicels 2-5 mm long. Flower 5 mm long, calyx finely pubescent, divided into 5 peaks, corolla upper standard petal orange yellow 6-7 mm long, lower keel and a pair of wings petal red or dark pink to purple, 10 stamens, 9 filaments folded, Calyx 6-9 mm long, lanceolate, minutely ciliate. Fruit pods 5-12 mm long, 3-5 articulated

segments, each segment with one seed. Seeds oblong 1.2 mm long (Fig. 1).

Phenology: Flowering and Fruiting period from November to April.

Distribution: Andhra Pradesh, Karnataka, Tamil Nadu, Telangana, Rajasthan, Maharashtra, Uttarakhand, Himachal, Assam, Gujarat, Madhya Pradesh, Uttar Pradesh and Odisha (Present collection).

Habitat: This shrub is found in dry areas near roads, grazing grounds, valley forest, etc. in association with *Ageratum conyzoides* L., *Anisomeles indica* (L.) Kuntze, *Senna tora* (L.) Roxb., *Cenchrus pedicellatus* (Train.) Morrone, *Sida cordifolia* L., *Aeschynomene americana* L., *Alternanthera sessilis* (L.) DC., *Mimosa pudica* L., (Plate 1) grasses and sedges.

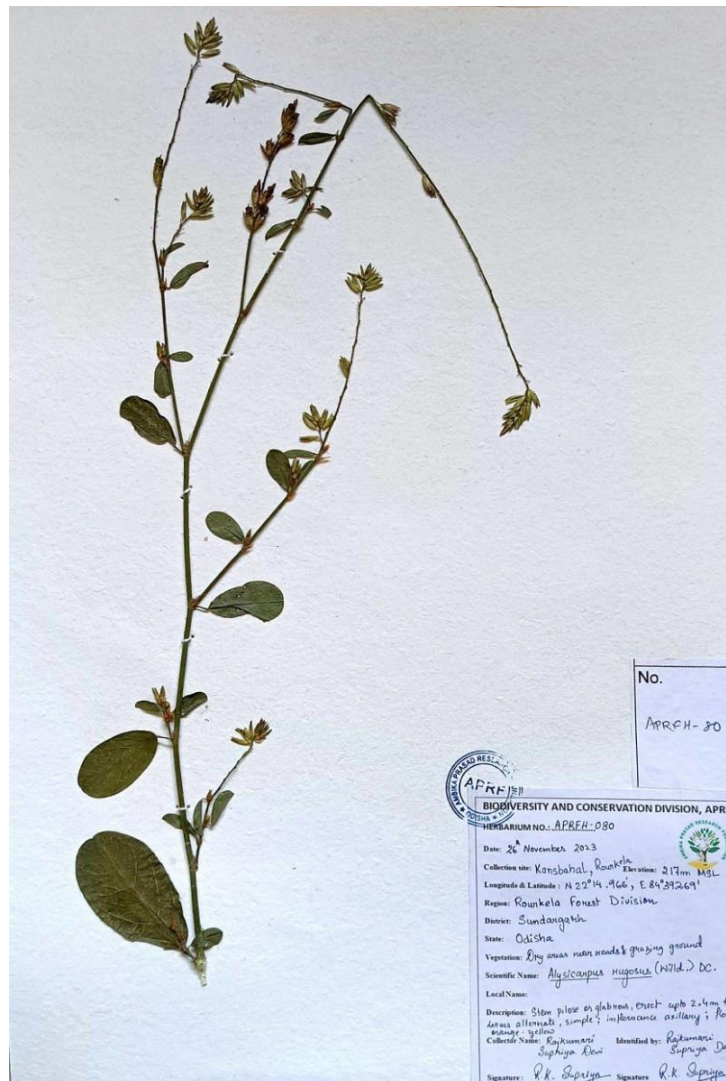


Fig. 2. Herbarium specimen of *Alysicarpus rugosus*

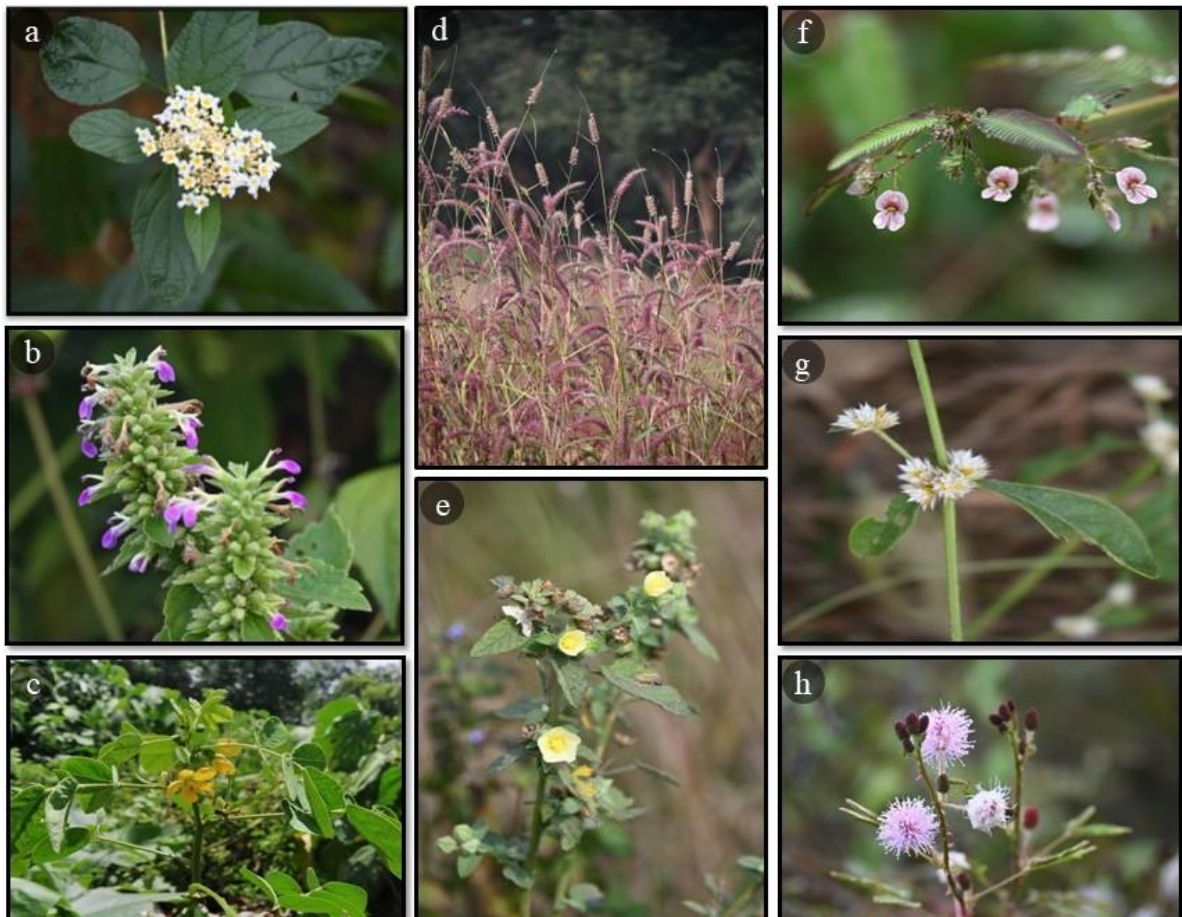


Plate 1. Associated plant species of *Alysicarpus rugosus*: a) *Ageratum conyzoides*, b) *Anisomeles indica* c) *Senna tora* d) *Cenchrus pedicellatus* e) *Sida cordifolia* f) *Aeschynomene americana* g) *Alternanthera sessilis* h) *Mimosa pudica*

Specimen examined: India, Odisha, Sundargarh district, Rourkela Forest Division, Kansbahal, N22°14.966', E84°39.269' elevation 217 m, 26th November 2023. R.S. Devi 080 (APRFH) (Fig. 2).

Note: *A. rugosus* is so far not reported from any parts of Odisha. In 2017, Sivaraj and his Coworkers documented an ethnic aspect of medicinal plants wealth of Eastern Ghats where Odisha lies in the Northern part of Eastern Ghats. The documentation has not specified the study area or the local communities and tribal people working ethnobotanical information. The larger stretch of Eastern Ghats viz. Chhattisgarh, Andhra Pradesh, Tamil Nadu and Karnataka mainly belong to the southern part of India and the authors of the said documentation belong to Southern India. The authors therefore assumed that the species has not been collected or sighted from Odisha [18].

3. CONCLUSION

The study concluded that *A. rugosus* is a new addition to the floral wealth of Odisha state, India.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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