



Nonea edgeworthii A. DC. (Boraginaceae): An interesting New Distributional Record from District Rewari, Haryana, India

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ABSTRACT

This paper enlists an interesting and locally very uncommon taxon *Nonea edgeworthii* A. DC., collected from a village in district Rewari of Haryana state. During Floristic survey of the region, under the ongoing research work of the first author, this interesting flowering plant species was reported. It was later identified as *Nonea edgeworthii* A. DC. with the help of relevant literature.

Keywords: Floristic Surveys, Haryana, New Record, Boraginaceae, *Nonea*

INTRODUCTION

Nonea Medik. commonly known as Monkswords in spite among the largest genera of family Boraginaceae tribe Boragineae is lesser known and explored, includes annual or perennial, hispid herbs. The genera have 08 accepted synonyms and 45 accepted species worldwide (Weigend *et al.* 2016, POWO, 2019). Pontic-Caucasian Mountains and Irano-Turanian-Natolian highlands are two centers of diversity of this genus (Selvi *et al.* 2006, Falatoury *et al.* 2011).

Its native range varies from North Africa to temperate Eurasia and introduced to North western Europe and America. The genus *Nonea* is paraphyletic and has been described based on the accrescent fruiting calyx and the hairy fornices inserted at the throat of the corolla (Baytop, 1979). A palynological survey of tribe Boragineae has shown that *Nonea* contains the greatest diversity in the tribe, with five pollen grain types none of which fits into sections described by De Candolle (1846) Bigazzi & Selvi (1998); Selvi *et al.* (2006). Another survey of stigma forms in the tribe has confirmed *Nonea* as being the most variable genus, with six types largely corresponding to the pollen types (Bigazzi and Selvi 2000).

In India, this genus is represented by three species: *Nonea edgeworthii* A. DC., *N. melanocarpa* Boiss. and *N. pulla* (L.) DC.

MATERIAL AND METHOD

Study Area and Finding

In the course of study of Floristic diversity of Southern Haryana, the author came across a wild hispid herb, near Peafowl and Chinkara breeding centre, Jhabua, Bawal district Rewari, Haryana. Only two individuals of an interesting plant were seen among grasses. Looking at the scarce distribution, only a single specimen was collected for future reference. To record maximum morphological aspects of this plant, many photographs were recorded in the field, covering each part and from all possible angles.

After detailed study of abundant relevant literature and available herbarium records, together with additional analyses, convinced us the specimen was to be referred as *Nonea edgeworthii* A. DC. It differs from its close relative *N. turcomanica* in having denticulate

margin of leaves. No previous records of the species could be found in published literature for Haryana state (Jain *et al.* 2000; Kumar 2001), as well as states of Himachal Pradesh, Uttarakhand and Uttar Pradesh. Therefore, it is hereby being reported as the first authentic distribution record from the region.

RESULTS AND DISCUSSION

Taxonomical Note and Description

Nonea edgeworthii A. DC. in DC., Prodr. 10: 30. 1846. Riedl, in Rechinger, Flora Iranica 48: 249, 1967; Kazmi, Jour. Arn. Arb. 52: 674, 1971.

An Annual, procumbent, hispid herb, about 10-40 cm or more tall. Stem many, sometimes solitary, ascendant to erect, branched (10-16cm. long) from base, ascending, pubescent to hairy, with shorter

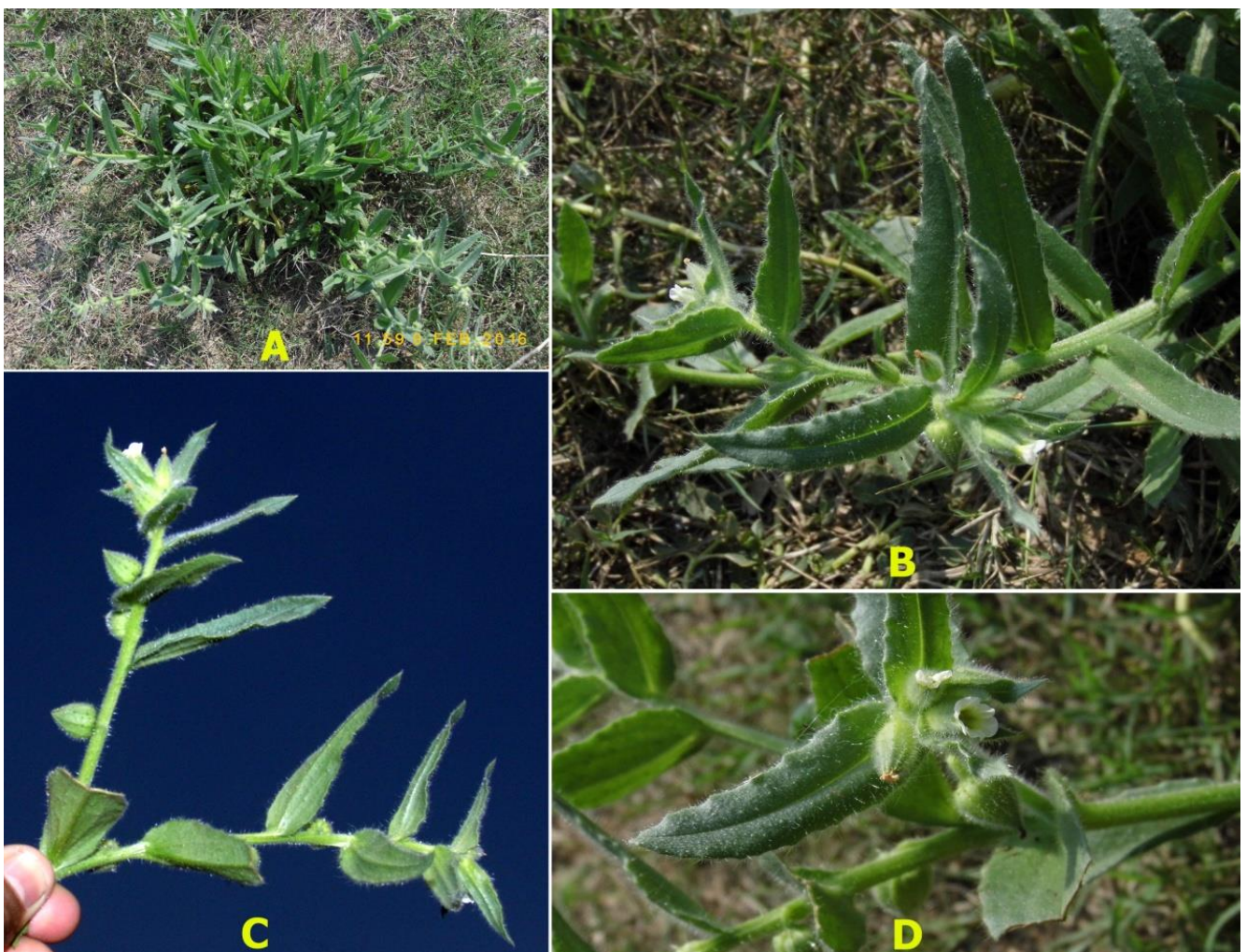


Fig. 1. *Nonea edgeworthii* A. DC. A. Habit; B.-D. Leaves and Inflorescence

adpressed or spreading hairs mixed with pungent, stout, erect ones up to 0.5 to 1.5 mm long trichome especially on ridge, arising from prominent tuberculate bases; Leaves basal and cauline, basal one oblanceolate to lanceolate, spatulate, obtuse from middle gradually narrowed towards base ultimate in short petiole; petioles winged, densely on upper sparsely on lower surface with trichomes; cauline on middle portion are sessile, lanceolate, entire to irregularly dentate; obtuse to sub-acute. Basal and cauline leaves 35-100 x 5-15 mm, hairs similar to those on stem and branches. Inflorescence elongated in fruit, short otherwise. Flowers subsessile. Pedicels pubescent, recurved, up to 3-4 mm in fruit. Calyx 5-7 mm long, up to 10-13 mm in fruit, dense puberulous, divided halfway; lobes saccate, triangular in fruit, otherwise linear to lanceolate. Corolla creamy white, tube 6-7 mm long, glabrous; somewhat infundibuliform; indistinctly zygomorphic; lobes obtuse-crenulate, throat with minute group of hairs (in twos) Anthers 1.5-1.7 mm long, narrow oblong, stigma obscurely bibbed. Nutlets approximate 5 mm long, transversely ovoid, glabrous, rugulose, dark brown-black with white spots; collar thickened 0.5- 0.6 mm high, plicate, longitudinally denticulate.

Flowering Period: March-April.

Distributional Status and Significance

Nonea edgeworthii A. DC. is a rare weed and are distributed in the plains and hilly areas of Pakistan and India (Ali & Qaiser 1993). *Nonea edgeworthii* A. DC. is a microphyllous, therophyte grows naturally in loamy dry soil along with some other plant species like *Heliotropium curassavicum* L., *Gnaphalium* species etc. (Ishaq *et al.*, 2017). Global Biodiversity Information Facility (GBIF) has listed 8 collection records for this species from India, all of them from Punjab (Sangrur and Behlolpur have been mentioned). These collections have Recent work by Sharma (2021) has listed this plant as a very common weed of the fallow fields, especially the semi-arid parts of Punjab state. However, none of the distributional records have been confirmed from geographical vicinities of the area under study (i.e. district Rewari) or even the entire state of Haryana. It is worth mentioning here that during subsequent explorations in 2021, especially for recollection of the specimens of this species, this plant could not be located. Therefore, despite all the reports of earlier published works, the author is of the view that this species locally very uncommon. A very brief

flowering period, along with its uncommon distribution is probably one of the major reasons why this plant has not been reported till now from this part of the country.

The importance of plant can also be attributed by some significant work on its ethno-medicinal properties. It has been used for the treatment of cough, lung infection, respiratory disruption and in microbial infections (Matin *et al.*, 2001; Shinwari *et al.* 2006). Plant is found to possess antioxidant, antibacterial as well as anti fungal activity against potential pathogens like *Pseudomonas aeruginosa*, *E. coli*, *Salmonella typhi* and *Alternaria alternata* being contain important phenols, alkaloids and saponins (Rehman *et al.*, 2017) (Hazrat *et al.* 2020).

Conflicts of Interest: The authors declare no conflict of interest.

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