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CREPIS WILLDENOWII: A NEW RECORD FROM SABALAN MOUNTAIN, NW IRAN

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Abstract
Crepis willdenowii (Asteraceae) was collected and identified from northwest Iran in the Sabalan Mountain. *Crepis willdenowii* is an Irano-Turanian element previously recorded from Transcaucasia, Turkey, and Georgia. It primarily grows on limestone , igneous slopes, screes, and alpine zones of mountains. This species has not been reported from Iran, so far, and this collection is the first record of Iran. Taxonomic details, color images, habitat characteristics of the species, and further insights into its taxonomy will be discussed. Based on these findings, *C. willdenowii* is potentially classified as Critically Endangered (CR) in Iran. The establishment of this species and the preservation of its existing habitats necessitate specific protective measures.

Keywords: Ardabil; Caucasus; Cichorieae; distribution; Iran; Mt. Savalan

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گزارش جدید ***Crepis willdenowii*** برای فلور ایران از کوه سبلان

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چکیده: گونه *Crepis willdenowii*، متعلق به تیره‌ی Asteraceae، از ارتفاعات سبلان در استان اردبیل، شمال غرب ایران جمع‌آوری و شناسایی شد. *C. willdenowii* در واقع یک عنصر ایرانو–تورانی است و عمدتاً در استپ‌های کوهستانی و شیب های سنگلاخی و واریزه‌ای رشد می‌کند. این گونه که تاکنون از

ترکیه و قفقاز گزارش شده است، در این مقاله برای اولین بار از ایران گزارش می‌گردد. همچنین شرح آرایه‌شناسی، تصاویر رنگی، ویژگی‌های زیستگاهی و همچنین نکاتی در مورد تاکسونومی آن ارائه می‌گردد. بر اساس پایش‌های انجام گرفته، تا کنون گیاه *C. willdenowii* تنها با یک جمعیت کوچک در ارتفاعات سبلان مشاهده شده است، بنابراین در محدوده مرزهای ایران گونه‌ای در بحران انقراض (CR) است. بر این اساس، استقرار این گونه و پایداری رویشگاه‌های موجود به تدابیر حفاظتی ویژه‌ای نیاز دارد.

INTRODUCTION

The genus *Crepis* L. belongs to the tribe Cichorieae Lam. & DC. (1806), and sub-tribes Crepidinae Cass. ex Dumort., in the Asteraceae family (Lack 2007). This genus includes 293 taxa recognized as accepted, making it the second-largest genus in the tribe Cichorieae (Badalamenti & al. 2022). *Crepis* is believed to have originated in the Altai/Tien Shan region of Central Asia, though its current center of diversification lies in the circum-Mediterranean region (Babcock 1947). Members of this genus are predominantly found in the Northern Hemisphere and thrive in diverse habitats, including alpine zones, swamps, grasslands, forests, and even beaches (Bidarlord 2024).

Crepis is present in Iran with 30 species, 28 listed in the Flora Iranica (Rechinger 1977), with later additions, one species introduced in the Flora of Iran (Heidarnia 2013) and a new record from Northwest of Iran (Bidarlord 2024). They are primarily found in the northern, northwestern, and center of the country.

During fieldwork for the Floristic Studies of the Sabalan Alpine Zone Project, some intriguing species were collected. Mount Sabalan (also known as Savalan), with a peak elevation of 4,811 m. a. s. l. is the third-highest mountain in Iran, after Mount Damavand and Alam Kuh. The mountain's pastures are enriched by diverse vegetation due to its cold, humid climate influenced by Siberian, Hyrcanian, and Mediterranean regions (Sharifi & al. 2016). These pastures host various rare and endemic plant species, contributing to the ecological significance of the area. Since 2002, altitudes above 3,600 meters, covering an area of 6,643 hectares, have been designated as a National Natural Monument by Iran's Environment Organization to ensure better protection (Aali Pourardi & al. 2016).

MATERIALS AND METHODS

The specimen was identified using various floras, including Flora Orientalis (Boissier 1875), The genus *Crepis*. I (Babcock 1947), Flora of Turkey (Lamond 1975), Flora Europaea (Sell 1976), Flora Iranica (Rechinger 1977), Flora of Armenia (Avetisyan & Oganesyan 1995), Flora of the USSR (Czerepanov 2000), and Flora of Iran (Heidarnia 2013). Additionally, online resources such as the Global Biodiversity Information Facility (GBIF 2024), Plants of the World Online (POWO 2025), *Cichorieae* Systematics Portal (Killian 2025), and the Compositae Working Group (CWG 2025) were consulted for further taxonomic information and distribution data on the studied taxon. Morphological characteristics were meticulously observed in the field, and subsequently, the collected herbarium material was compared with images available in various herbaria: E, JACQ, K, MHA, and P, as referenced in Thiers (2025). The specimens have been deposited and preserved in the GILAN and TARI herbaria.

RESULTS

Crepis willdenowii Czerep. in V.L. Komarov (ed.), Fl. URSS 29: 645. (1964).

≡*Hieracium pinnatifidum* Willd., Sp. PL 3(3): 1560 (1803); *Crepis pinnatifida* Froel., Prodr. [A. P. de Candolle] 7(1): 167 (1838), nom. illeg. [non *Crepis pinnatifida* Willd., Sp. Pl. ed. 4, 3: 1604 (1803)]; *Hieracioides pinnatifida* (Willd.) Kuntze, Revis. Gen. Pl. 1: 346. (1891).

Perennial, herbaceous, 5-10 cm high. Caudex woody, covered with dark brown remnants of petioles of dead leaves. Flowering stems scape like, erect, obscurely sulcate or terete, hollow, 1-capitulate, whole plant usually densely canescent-tomentose. Rosette leaves 2-7 x 1-2 cm, oblanceolate to elliptic, usually deeply pinnatifid into triangular to oblong sinuate-dentate lobes, apex, and teeth acute to mucronate, with more or less dense, short, yellowish spinules along margin; Stem leafless or sometimes in the middle, with small, scale-like one leaf. Capitula solitary, erect, 25-60-flowered; involucre campanulate, 10-16 x 7-9 mm, phyllaries usually with dark median veins and longer, often with gland-tipped hairs. Receptacle foveolate, glabrous shortly ciliate -fimbriate above. Florets yellow, almost two times as long as involucre. Corolla 16-18 mm long, golden yellow; corolla tube sparsely pubescent from fine conical hairs. Style branches yellow. Achenes all alike 5.5-7 mm, unbeaked, Pappus partly exserted from involucre (Fig. 1).

Examined specimens: Iran. Ardabil province, Sabalan, Alvares, alpine grassland, 38°13'18"N,

47°52'19"E, 3390 m, 27 Jul 2023, M. Bidarlord 11881GILAN.
Phenology: Flowering in late June-July fruiting in July-August

Distribution and Habitat: *Crepis willdenowii* grows on the Sabalan Mountain, in the northwest region of Iran. This species thrives in alpine stony and gravelly grassland, typically at altitudes ranging from 3200 to 3500 meters above sea level (Fig. 2). It predominantly grows and coexists with various plant species, including in association with *Festuca sabalanica* E.B.Alexeev, *Ranunculus caucasicus* M.Bieb., *Erigeron caucasicus* Steven, *Asperula prostrata* (Adams) K.Koch, *Noccaea pumila* (Steven) Steud., *Veronica orientalis* Mill., *Myosotis lithospermifolia* (Willd.) Hornem., *Draba bruniifolia* Steven.

DISCUSSION

Crepis willdenowii was first described under the name, *Hieracium pinnatifidum* Willd. Then, it was transferred to the genus *Crepis* by Josef Aloys Froelich (1838). Despite the name *Crepis pinnatifida* Willd. (1803), the new combination was considered an illegitimate name. Then, the accepted name was introduced in Flora URSS (Czerepanov 2000). *Crepis willdenowii* was classified in *C*. sect. *Macropodes* Babc (Babcock 1947).

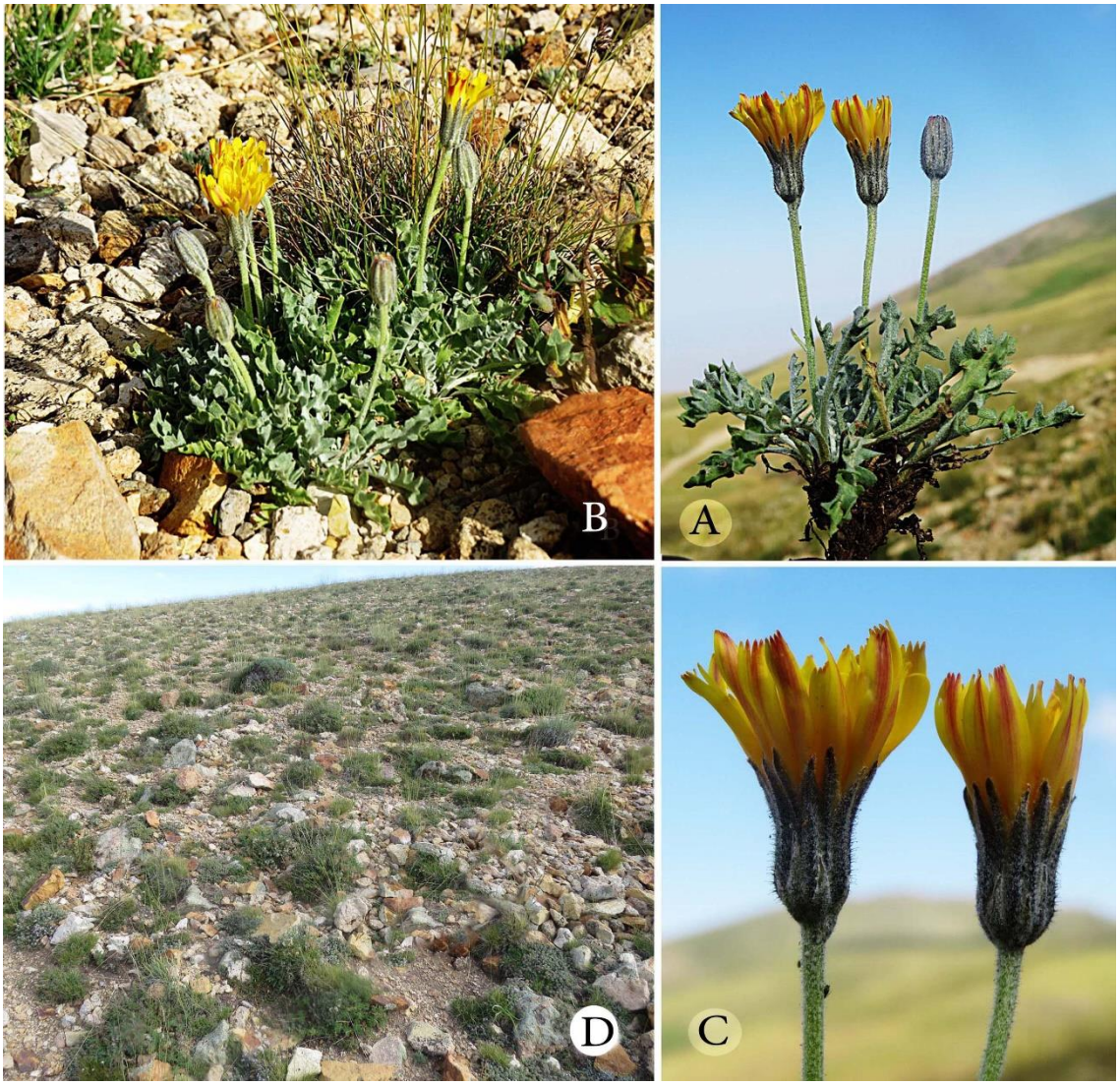

Fig. 1. *Crepis willdenowii*. A-C, habit; D, habitat. Sabalan altitudes, northwest of Iran (Photo by Bidralord).

Fig. 2. Distribution map of *Crepis willdenowii* (after GBIF 2025) and the distribution point in Iran (pentagon).

Crepis willdenowii is an Irano-Turanian Element (Lamond 1975). This species was reported from Armenia, Southern and East Turkey, and Georgia. (Lamond 1975, GBIF 2025, Kilian 2025). We report it here for the first time from Iran, Sablan Mountain. This species was recorded from steppe, limestone, and igneous slopes and screes in the Flora of Turkey (Lamond 1975), the alpine zone of mountains in Caucasus and Transcaucasia in the Flora of the USSR (Czerepanov 2000). In Sabalan altitudes, *Crepis willdenowii* thrives in alpine zones scattered and in small populations, at stony grasslands (Fig. 2).

The species is rare and occurs in two populations in Northwest Iran and based on IUCN (2019) categories, criteria B1 and B2b (i, ii)) is considered critically endangered (CR) in Iran.

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