

# A NEW RECORD AND A KEY TO THE SPECIES OF THE GENUS *OXALIS* (OXALIDACEAE) IN IRAN

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*Oxalis* is the only genus of Oxalidaceae in Iran. Rechinger in Flora Iranica has mentioned *Oxalis corniculata* L. from Iran. Afterwards two other species were reported from Iran (*O. articulata* and *O. corymbosa*). *Oxalis latifolia* is reported here as a new record for the flora of the Iran. A new identification key of the species of the genus is presented here.

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Key words. *Oxalis*, Oxalidaceae, New record, identification key, Iran.

گزارش یک گونه جدید و کلید شناسایی گونه‌های جنس *Oxalis* L. در ایران  
منصوره خداهشناس، مربی پژوهش مرکز تحقیقات کشاورزی و منابع طبیعی استان کرمان.

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جنس *Oxalis* تنها جنس متعلق به خانواده Oxalidaceae در ایران است. رشینگر در فلور ایرانیکا تنها یک گونه از این جنس را برای ایران معرفی کرد. پس از آن و بر اساس مطالعات تکمیلی حضور دو گونه چند ساله *O. articulata* و *O. corymbosa* نیز در ایران گزارش شد. در بررسی تاکسونومیکی خانواده Oxalidaceae در ایران نمونه‌های مختلفی از جنس *Oxalis* مورد مطالعه قرار گرفت. گونه *Oxalis latifolia* Kunth به عنوان گزارش جدیدی از شمال ایران به همراه کلید شناسایی جدید جنس *Oxalis* در ایران ارائه می‌گردد.

## INTRODUCTION

Genus *Oxalis* L., belongs to the family Oxalidaceae, a family of including six genera and about 775 species, occurring mainly in the tropical but also in temperate regions of both the New and Old World. *Oxalis* is a cosmopolitan genus of perhaps 500 species distributed mostly in Africa and South America (Shixiao et al. 2006). It is the largest and most widespread genus in the family. Many of the *Oxalis* species are invasive garden and greenhouse weeds. It comprises annual or perennial herbs and has two center of diversity: South America to the Southern part of North America and South Africa. The habitats of *Oxalis* species are in wetlands, moist disturbed places, waste places, along watercourses, roadsides of disturbed places or is often found along the roads, in gardens or in pots.

According to Flora Iranica (Rechinger 1967) only one species occur in Iran (*O. corniculata* L.). Ghahremaninejad & Gholamian (2006) and Naqinezhad & Sharifi (2007) reported *O. articulata* and *O. corymbosa* respectively from North of Iran as new records. The first author has been preparing the draft of Flora of Iran. During the studies of Herbarium

specimens of Mazandaran, Nowshahr, we found *Oxalis latifolia*, a bulbous species of the genus *Oxalis* with obverse-deltoid leaves and purplish flowers among the specimens. The aim of this paper is to report *Oxalis latifolia* as a new report from Iran and to present an identification key to the species of the genus in Iran.

## MATERIALS AND METHODS

The specimens of several herbaria in Iran including TARI and several provincial herbaria were studied. Some *Oxalis* specimens were collected in the fieldwork in different regions in Kerman province too. Identification of the species were done by using Flora Iranica (Rechinger 1976), Flora of Turkey (Cullen 1967), Flora of Pakistan (Nasir & Ali 1980), Flora of the U.S.S.R (Gorshkova 1949) and Flora Europaea (Young 1968).

## RESULTS AND DISCUSSION

### New record to Iran

*Oxalis latifolia* Kunth in Humb. Bonpl. & Kunth., Nov. Gen., 5 (22): 237 (1822), Fig. 1.

Materials examined. Mazandaran, Nowshahr, Botanical

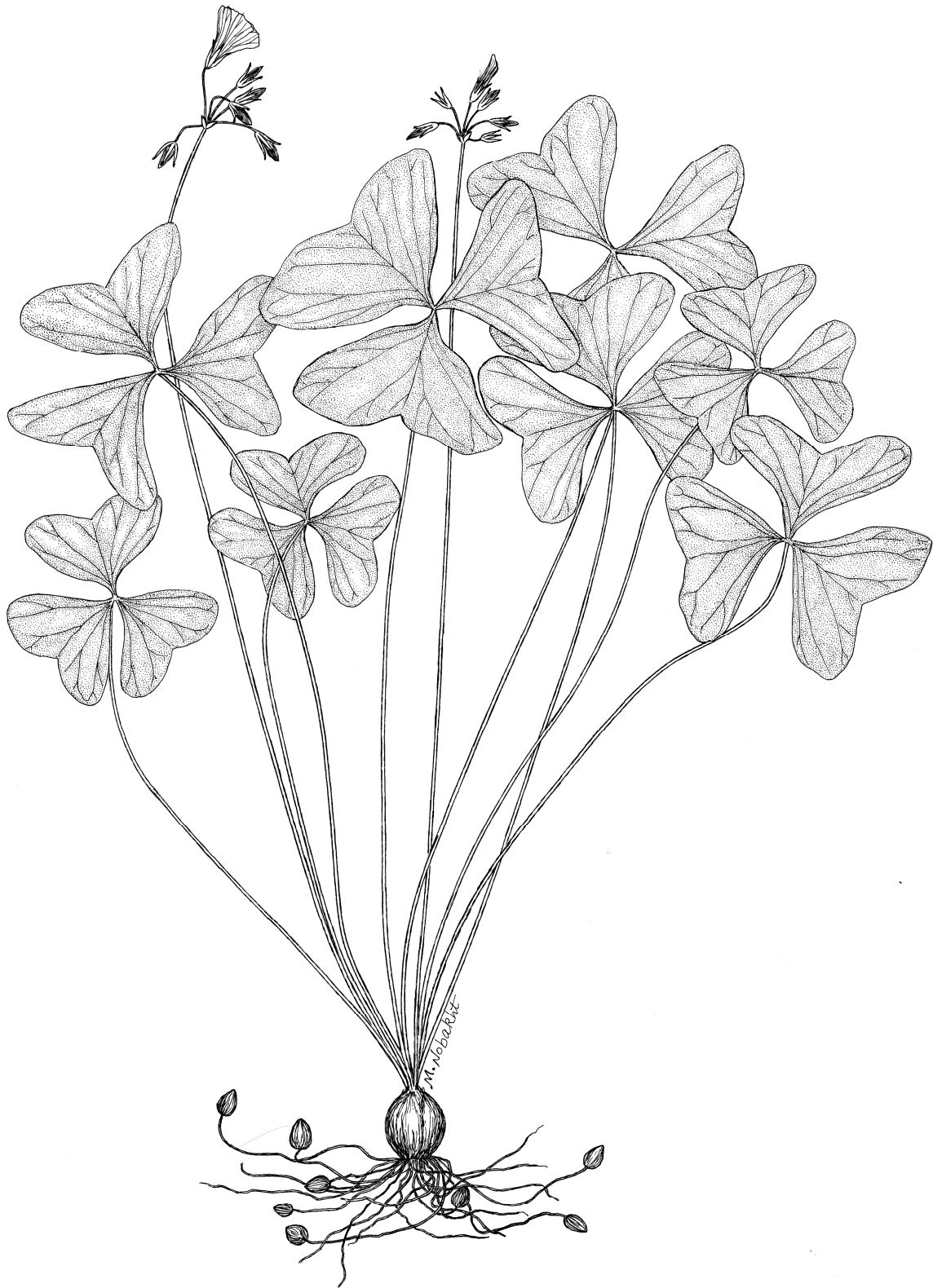


Fig. 1. *Oxalis latifolia* ( $\times 0.55$ ).

garden, sea level, Amini 10700; Chalus, Namak Abrood, Amini & Zare 10705; Babolsar to Mahmood Abad, Darya Kenar, Amini & Zare 10406.

Plant perennial, stemless, glabrous, bulbiferous. Bulbils scaly, solitary and emitted from the up to 8 cm long rhizomes. Petioles glabrous or very sparsely pubescent, 10 to 26 cm long; leaflets obverse-deltoid, glabrous, 2.5-4 cm long, 4 to 6 cm wide, apex emarginated. Peduncle to 28 cm tall, usually exceeding the petiole length. Inflorescence umbellate. Flowers pinkish-purple or purple-violet. Sepals oblong-lanceolate, 3.5 to 6 mm long, with two small orange glands at apex. Petals 10 to 15 mm long. Stamens 10, in two series of 5 with different length; filaments strigose; shorter filament exceeding the styles. Ovary 5 locular; styles 5, free stigmas small and capitate. Fruit not seen.

*Oxalis latifolia* is reported here as a new record and forth species from North Iran. It is close to *O. corymbosa*, but differs from it by having scaly, single and numerous bulbils (not clustered sheathed bulbils), obverse-deltoid leaves (not obovate), short, strigose filaments and exceeding stigmas.

*Oxalis latifolia* is a South American bulbous weed. It has been distributed throughout the tropical, Mediterranean and temperate climates. The nearest countries to Iran where this species is found are Pakistan, India and Europe. Its reproduction is mainly vegetatively but sometimes seeds are produced too. In Iran, the species seems to be naturalized in low lands along the southern shores of Caspian Sea. *Oxalis latifolia* has a vegetative reproductive system including bulbils. The bulbils well dispersed and can remain alive in the soil for years (Esler 1962).

### Key to the species in Iran

1- Aerial stem present. Bulbs absent. Petals yellow

1. *O. corniculata*

- Aerial stem absent. Petals violet or pink

2

2- Stem rhizomatous. Rhizomes woody and swollen. Bulbils absent

2. *O. articulata*

-Stem not rhizomatous. Bulbs present

3

3- Leaflets obovate, punctuate beneath near the margin. Pedicel hairy. Long filaments strigose

3. *O. corymbosa*

Leaflets triangular, not punctuate. Both long and short filaments strigose

4. *O. latifolia*

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