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## TWO NEW RECORDS FROM GILAN AND MAZANDARAN PROVINCES, N IRAN

Alireza Naqinezhad & Maryam Sharafi

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*Ludwigia epilobioides* Maxim. (*Onagraceae*) and *Oxalis corymbosa* DC. (*Oxalidaceae*) from N Iran are reported as new records for flora of Iran. A comparison between the new records and the closest relatives are discussed.

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**Key words.** *Ludwigia epilobioides*, *Oxalis corymbosa*, new records, northern Iran.

گزارش دو گونه جدید از فلور استانهای گیلان و مازندران

علی رضا نقی نژاد و مری م شرفی

فلور ایران گزارش می گردند. ویژگیهای این گونه ها با نزدیکترین گونه ها مورد بحث و مقایسه قرار می گیرند.

### Introduction

During some field works in N. Iran, it was found two new plant specimens belonging to *Onagraceae* (*Ludwigia epilobioides* Maxim.) and *Oxalidaceae* (*Oxalis corymbosa* DC.) in Gilan and Mazandaran provinces respectively. There are no reports of these plants from the flora of Iran (Raven 1964; Rechinger 1967).

### **Ludwigia epilobioides** Maxim. -Fig. 1.

**Material examined.** Gilan Province, Langerud to Rudsar, Salekuyeh village, -15 m, 10.10.2002, Naqinezhad 1002 [Herbarium of Mazandaran University].

*Ludwigia* L. is a rather cosmopolite genus with 75 species of which 15 are aquatic (Cook 1996). Already this genus was represented with only one species, *L. palustris* (L.) Elliott, in Iran (Parsa, 1964; Raven 1964; Azizian, 2004). *L. palustris* occurs on wet soils of rice fields over the N Iran (Ghahreman et al. 2003; Ghahreman & Attar, 2003).

Studied specimens had features of *L. epilobioides* subsp. *epilobioides*. *L. epilobioides* distributes in N. Iran, E Russia, Korea and Japan to Vietnam. This species has been classified in *Ludwigia* sect. *Nipponia* P. H. Raven, and is probably most closely related to *L.*

*prostrata* and *L. abyssinica*. Although, two species *L. epilobioides* and *L. prostrata* are superficially quite similar in gross morphology (Shteinberg 1949), but differ emphatically in several characters. Specifically the seeds of *L. epilobioides* are 0.8 – 1.4 mm long and embedded in the endocarp of the capsule, and the pollen is shed singly; *L. prostrata*, on the other hand, has seeds 0.3-0.6 mm long that are free, not embedded in the endocarp, and the pollen is shed in tetrads (Raven 1963).

Based on the discovery of the third species of *Ludwigia* in Flora Iranica area, the genus treatment can be summarized in the following key:

1. Leaves opposite, petals absent  
*L. palustris* (Iran, Talish)
2. Leaves alternate, petals present  
2. Seeds embedded in endocarp *L. epilobioides* (Iran)  
Seeds not as above *L. perennis* (Afghanistan)

### **Oxalis corymbosa** DC.- Fig. 2.

**Material examined.** Mazandaran Province, Babol, .IV.2005, Mohammadjani 1020 [Herbarium of Mazandaran University].

Plant bulbiferous; bulbils clustered, sheathed in three-nerved scales. Roots fibrous. Petioles up to 15 cm long, flexuous; leaflets ca. 20 mm long, 20-40 mm

broad, obcordate or orbicular, with a narrow indentation at the apex, punctuate beneath, sparsely pubescent. Inflorescence a corymbose cyme; flowers infundibuliform; sepals 4-5 mm long, lanceolate pubescent, tip with two brownish red callus; petals 12-15 mm long, pink; filaments shorter than stamens, glabrous, not exceeding the styles; longer ones strigose. *Oxalis corymbosa* is reported as new record and third species of *Oxalis* in Iran. *O. corniculata* L., a widespread species in Iran, and *O. articulata* Savigny in Lam. both already are reported for Iran (Rechinger 1967; Ghahremaninejad 2006). This species is close to *O. violacea* L. and *O. latifolia* Kunth, but differs from the former due to the occurrence of two separate calli (oxalate deposits) on the sepal apex and differs from the latter due to leaflet morphology (Young, 1965; Eve Emshwiller, pers. comm.). *Oxalis corymbosa* may be misidentified as *O. articulata* due to swollen rhizome in *O. articulata*. The best feature for separating these two species is occurrence of small bulbils in *O. corymbosa*.

Identification key for Iranian *Oxalis* species:

1-Annual	<i>O. corniculata</i>
Perennials	2
2-Plant with bulb	<i>O. corymbosa</i>
Plant with swollen rhizome	<i>O. articulata</i>

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Fig. 1. *Ludwigia epilobioides*: based on Naqinezhad 1002.

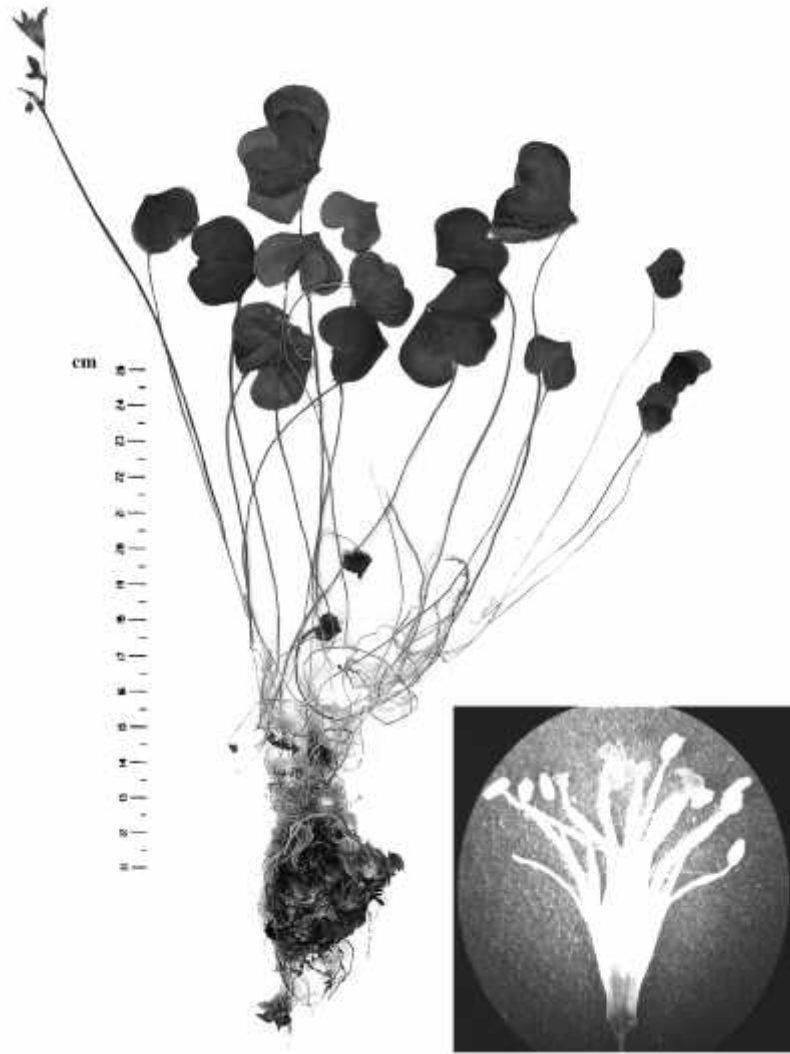


Fig. 2. *Oxalis corymbosa*: habit and stamens, based on Mohammadjani 1020.