TWO NEW RECORDS FROM GILAN AND MAZANDARAN PROVINCES, N IRAN

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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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Submitted: 2007. 05. 20          Accepted for publication on: 2007. 12. 22

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

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.

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. Ravan, 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)

Leaves alternate, petals present 2

2. Seeds embedded in endocarp L. epilobioides (Iran)
   Seeds not as above L. perennis (Afghanistan)

Oxalis corymbosa DC.- Fig. 2.

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, lancelolate 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
   Perennials
   2-Plant with bulb
      Plant with swollen rhizome

Acknowledgment

We are grateful to Prof. P. H. Raven, Dr. P. Hoch and Dr E. M. Zardini, all from Missouri Botanical Garden, USA for their valuable comments and confirmation of the determination of *Ludwigia* specimens. We are also appreciated Dr. E. Emshwiller, University of Wisconsin, USA for her valuable comments and information on *Oxalis* species. We also thank Dr. David Goyder, Royal Botanical Garden, Kew for his helps during a herbarium visit at Kew.

References


Fig. 1. *Ludwigia epilobiooides*: based on Naqinezhad 1002.
Fig. 2. Oxalis corymbosa: habit and stamens, based on Mohammadjani 1020.