

***Alcea ilamica*، گونه جدیدی از ایران***Alcea ilamica*, a new species from Iran

منیژه پاکروان

دانشکده علوم، دانشگاه الزهرا (س)

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گونه جدیدی از جنس ختمی (تیره Malvaceae) به نام *Alcea ilamica* از استان ایلام شرح داده می‌شود. گونه جدید متعلق به بخش Pterocarpi است. اختلافات این گونه با سایر گونه‌های ایرانی و پراکندگی جغرافیایی آن مورد بحث واقع می‌شود. مطالعه میکروسکوپ الکترونی (SEM) از کرک‌های فرچه‌ای در این گونه نشان داد که *Alcea ilamica* به *A. aucheri* Alef. خیلی نزدیک است و احتمالاً از آن مشتق شده است. تصاویر و نقشه پراکندگی گونه‌های فوق ارایه شده است (متن کامل مقاله در قسمت انگلیسی آورده شده است).

**واژه‌های کلیدی:** Malvaceae، گونه جدید، ختمی، *Alcea*، میکروسکوپ الکترونی، ایران، کرک فرچه‌ای

**نشانی نگارنده:** دکتر منیژه پاکروان، گروه زیست شناسی، دانشکده علوم، دانشگاه الزهرا (س)، تهران.  
E-mail: Pakravan@azzahra. ac.ir

## **ALCEA ILAMICA, A NEW SPECIES FROM IRAN**

**M. PAKRAVAN**

Department of Biology, Faculty of Science, Alzahra University

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### **Abstract**

A new *Alcea* species *A. ilamica* (Malvaceae), is described from Ilam province of Iran. The new species belongs to the sect. *Pterocarpa*. Differences from other Iranian species and its geographical distribution are discussed. SEM study of penicillate hairs showed that, *A. ilamica* is very similar to *A. aucheri* but has advanced characters. Illustrations and a distribution map are given.

**Key words:** Malvaceae, new species, *Alcea*, SEM, Iran, penicillate hair

### **Introduction**

The genus *Alcea* has about 70 species in the world, 56 of them in Flora Iranica region (I. RIEDL 1976). Iran with 34 species of which 14 species are endemic (PAKRAVAN 2002, 2003), therefore, is one of the most important centers of diversity for the genus.

Regarding Iran, there are only a few studies on the taxonomy of the genus, since the treatment of *Alcea* in Flora Iranica (RIEDL 1976). However, because of the special geographical situation of Iran, further species could be expected to occur.

### **Materials and methods**

For taxonomic studies, several species from several herbaria (IRAN, TARI, W, BM, P, JE, E) were studied. For the purpose of SEM studies, trichomes have directly observed at 20 KV with s Philips XL30 ESEM (Environmental Scanning Electron Microscope).



## Results

### *Alcea ilamica* Pakravan, sp. nova (Fig. 1)

Type: Iran, Ilam: Ilam to Mehran, Ban-Roshan, 900 m, 9 Sept. 1994, Jamzad, Mazhari & Ahmadi 75589 (holotype TARI).

Planta perennis, 40-50 cm alta; indumentum e pilis stellatis densissimis et e pilis penicillatis immixtis compositum. Folia triangulari-ovata. Involucrum 7-9 fidum. Petala alba, calyce 1.5-plo longiora. Carpella 6-7 mm longa: alis 2-2.2 mm latis, radialiter rugosis.

Species nova differt ab *A. sulphurei* (Boiss. & Hausskn.) Alef. Corollis albis et carpellis alatis, ab *A. aucheri* Alef. Carpellis alatis.

Perennial, upto 40-50 cm high, densely covered with penicillate hairs intermixed with more numerous stellate hairs. Petioles subequal or longer than blade. Leaves triangular ovate with unequal teeth on margin. Pedicels 25-30 mm long. Flowers white. Epicalyx 1/3 to 1/2 equal to calyx, parted into 7-9 narrowly triangular to linear segments. Calyx 20-22 mm long. Fruits 15-18 mm in diameter; carpels 6-7 mm long, 6-8 mm broad, lateral surface around the notch glabrous, in central part covered with stellate hairs or glabrous, channeled on the back, hairy along channels, winged; wings 2-2.2 mm broad, radially wrinkled.

## Discussion

Species of *Alcea* are divided into two sections based on the form of carpels (BOISSIER 1876). Species in the sect. *Pterocarpa* have winged carpels and of the sect. *Apterocarpa* have wingless carpels. *A. ilamica* belongs to the sect. *Apterocarpa*, but it resembles *A. aucheri* Alef. which belongs to the sect. *Pterocarpa*. These species have a special form of hairs that do not occur in another species of *Alcea* (and in another genera of Malvaceae) (Fig. 2.) This kind of hair is penicillate that rises from one point but from a very short stalk. They are intermixed with simple stellate hairs. Plant with this kind of indumentum seems pale yellow to white. These two species are similar in habit and leaf shape but due to the wings of carpels, they are classified into two above sections. Geographical distribution of *A. aucheri* is in W and SW of Iran and Afghanistan. *A. ilamica* has been collected only from Ilam province (W Iran) (Fig. 3).



Fig. 1. *Alcea ilamica*, (A) habit, (B) hairs from upper side of leaves, (C) carpel.



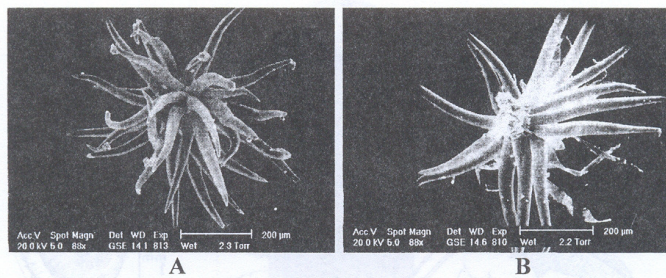


Fig. 2. Scanning Electron Micrographs of multiradiate stellate hair, (A). from above view, (B). from back.



Fig. 3. Map of Iran and adjacent countries, showing distribution patterns of *A. ilamica* ▲ and *A. aucheri* ●.

According to ZOHARY (1963), species with wingless carpels are primitive members of *Alcea*. Then these species are ancestral group of *Alcea* and species with winged carpels are derived of them.

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**Address of the author:** M. PAKRAVAN, Department of Biology, Faculty of Science, Alzahra University, Deh-e-Vanak St., Tehran, Iran.  
E-mail: Pakravan@azzahra.ac.ir