

CAREX HUMILIS (CYPERACEAE), A NEW RECORD FROM HIGH MOUNTAIN AREAS OF GILAN, N. IRAN

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Carex humilis (Cyperaceae) is reported as a new record for the Flora Iranica area. This species was collected during an ecological study in the Hyrcanian area. Taxonomic remarks and distribution notes for the species are provided.

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Key Words. *Carex*, new record, Hyrcanian area, Iran.

Carex humilis گزارشی جدید از مناطق کوهستانی مرتفع گیلان، شمال ایران

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Carex humilis Leys. از تیره اویارسلام برای اولین بار از ایران و منطقه فلورا ایرانیکا گزارش می‌شود. این گیاه از جمله گیاهان مناطق مرتفع کوهستانی در گیلان است که در ارتباط با مطالعه اکولوژیکی این مناطق جمع آوری شده است. یادداشت‌های تاکسونومیک و پراکنش این گونه ارائه شده است.

Introduction

Carex L. (Cyperaceae) is one of the largest genera of Iran with a total of 63 taxa already known (Assadi 1988; Akhaneh 1998; Amini Rad 2003, 2005a,b, 2006; Hamzeh'ee & Naqinezhad 2009; Kamrani et al. 2008; Kukkonen 1998; Naqinezhad & Ghahreman 2002, Naqinezhad et al. 2005; Naqinezhad et al. 2008;). During an investigation on the Hyrcanian forest flora especially in upper altitudes, one species belonging to the genus *Carex* was collected in our phytosociological releves. After detail assessments on the species, it was determined as *C. humilis*. This species is recorded for the first time from Flora Iranica area. The specimens are preserved in the herbaria of TARI, IRAN and Mazandaran University.

Material and Methods

The recorded material confirmed by a comparison with the specimens of the herbarium of Research Institute of Forests and Rangelands (TARI) and Herbarium of IRAN. The characteristics of glumes, achene and flowers of the specimens were checked by stereomicroscope (Nikon: SMZ645). Our specimens were evaluated using all local and neighboring Flora books which presented in the results and discussion.

Results and Discussion

Carex humilis Leys., Fl. Halen. 175 (1761). Fig. 1
Syn.: *Carex clandestina* Good. In Trans. Linn. Soc. II 167 (1794).

Material examined. Province Gilan: Rudsar to Ramsar road, Javaherdasht, Samamus Mts., 36° 52' 38.2" N, 50° 21' 28.2" E, 16.8.2008, 2200-2300m a.s.l., Naqinezhad

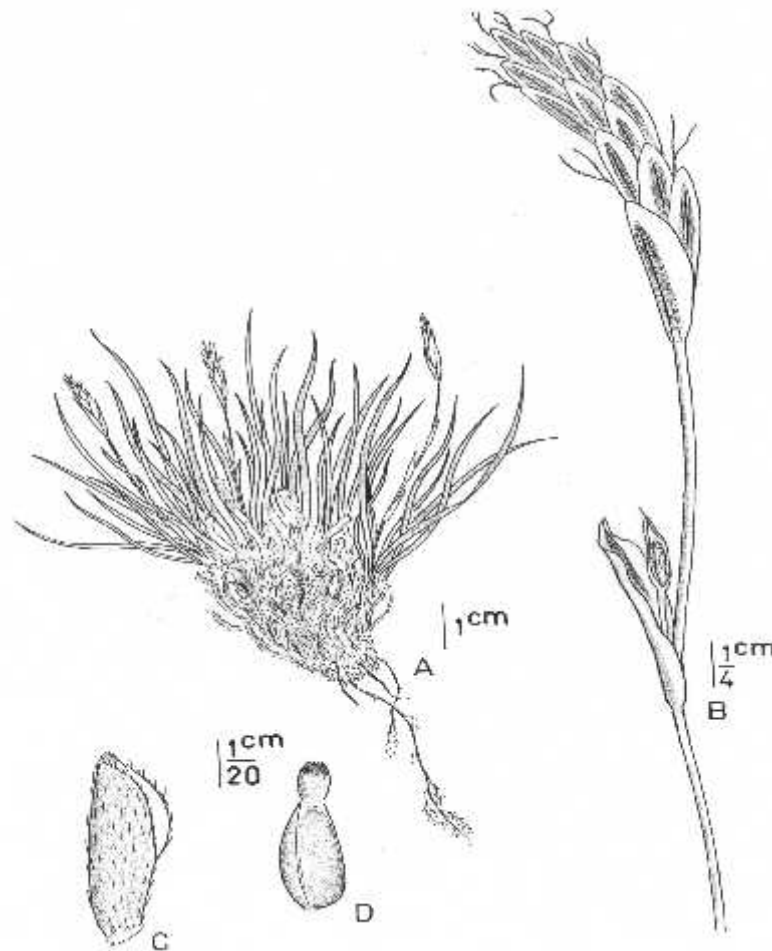


Fig. 1. *Carex humilis*. A: habit, B: inflorescence, C: utricle, D: nut.

& Gholizadeh 1700; as the latter, 36° 52' 18.3" N, 50° 20' 57.4" E, 28.5.2009, 2600m a.s.l., Gholizadeh & Naderi, 1701.

Perennial, green, tightly caespitose, with ligneous and short-branching rhizomes. Culms to 7 cm tall, yellowish green, terete to obtusely triangular, smooth. Leaves longer than the culm; lower sheaths reddish-brown, fracturing-fibrillose; ligule to 0.1 mm, straight; blades 1.5-2 mm broad, stiffish, flat or canaliculate, glaucescens. Inflorescence with one male spike and 2-3 female spikes, distant: male spike, lanceolate, 15-20 mm long, oblong, reddish brown; glumes to 7 mm long, blunt, margins broadly and often entirely hyaline. Female spikes 10-15 mm long, loosely few (2-4) flowered, the short geniculate peduncle enclosed in bracteole sheath; bract with sheath to 3-5 mm long, ferruginous and broadly hyaline above; female glumes to 3 mm long, ovate to broadly ovate, mucronate, reddish brown, with a broad green medium band, with a fairly broad hyaline margin, equaling to slightly

exceeding the utricle. Utricles 2-2.5 mm long, obovoid, convexly trigonous, finely pilose, yellowish-green, nerveless, with short and truncate beak to 0.2 mm. Stigmas 3. Nuts 1.7 mm long, trigonous, obovate, brown, style base swollen and persistent.

Habitat and distribution

Carex humilis is a member of the sect. *Digitatae* (Fries) Christ. from subgen. *Carex*. This section represented in Europe by five species (Walters, 1980) and in Flora Iranica by three species (Kukkonen, 1998). Another species of this section in Iran is *C. digitata* which is closely related to *C. humilis*. *Carex humilis* is differentiated from the former based on some characters: male spike completely terminal (uppermost female spike overtopping male spike in *C. digitata*); utricles smaller; nuts smaller with persistent and swollen style base and short stipe (nuts with long stipe to 1.5 mm in *C. digitata*).

Carex humilis grows on steppes, exposed and woody mountain slopes. This species is associated with other mountain species, i.e. *Anthyllis boissieri* Sagorski, *Bupleurum ghahremanii* Mozaff., *Juniperus communis* L. subsp. *hemisphaerica* (Presl) Nyman, *Onobrychis bungei* Boiss., *Ranunculus caucasicus* M. B., *Sempervivum iranicum* Bornm. & Gauba, *Silene schafta* Gmel. Jun. ex Hohen, *Trisetum flavescens* (L.) P. Beauv., *Viola rupestris* F. W. Schmidt.

The species is distributed over West and Central Europe, Turkey, European parts of USSR, West Siberia, and Caucasus (Kreczetovicz 1935). Mountains of southern Transcaucasus are the closest report to Iranian new locality. According to Nilsson (1985), the occurrence of this species in Flora of Turkey is doubtful.

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