

# NOTES ON TAXONOMIC SITUATION OF CERASTIUM PUMILUM (CARYOPHYLLACEAE), A NEW INTERESTING RECORD FOR IRAN

A. Naqinezhad & B. Hamzeh'ee

Received 16.08.2009. Accepted for publication 02.12.2009.

Naqinezhad, A. & Hamzeh'ee B. 31 12 2009: Notes on taxonomic situation of *Cerastium pumilum* (Caryophyllaceae), a new interesting record for Iran. -Iran. J. Bot. 15 (2): 178-180. Tehran.

*Cerastium pumilum* Curtis (Caryophyllaceae) is reported as new interesting addition to the flora of Iran. This plant is considered as a psammophyte on the sand dunes of south Caspian coastal area in Guilan and Mazandaran provinces. Taxonomic remarks and distribution notes for this species are provided.

Alireza Naqinezhad (correspondence), Department of Biology, Faculty of Sciences, University of Mazandaran, Babolsar, e-mail: a.naqinezhad@umz.ac.ir. -Behnam Hamzeh'ee, Department of Botany, Research Institute of Forests and Rangelands, P. O. 13-116, Tehran, Iran.

Key words. *Cerastium*, Caryophyllaceae, north of Iran, new record.

یادداشتی از وضعیت تاکسونومی گونه *Cerastium pumilum* ، رکوردی جالب از فلور ایران

*Cerastium pumilum* Curtis از تیره میخک برای اولین بار از ایران به صورت گونه جالب گزارش می شود. این گیاه از جمله گیاهان ماسه رست در سواحل جنوبی دریای خزر در دواستان گیلان و مازندران می باشد. یادداشتهای تاکسونومیک و پراکنشی برای این گونه ارائه شده است.

## Introduction

*Cerastium* L. (Caryophyllaceae) includes 20 plant taxa in Iran, of which 12 are annuals. During the investigation on the coastal sand dunes of Caspian shores from Astara to Gorgan between 2002-2009, an interesting tiny plant belonged to the genus *Cerastium* was discovered. At first, due to close similarity to *Cerastium glutinosum*, this species was considered as the latter name. Nevertheless, after detailed studies on the materials of some herbaria, we concluded that this species is actually *C. pumilum* which is new interesting record for Iran. Including this new record, annual species of the genus *Cerastium* reached to 13 species in Iran now.

## Material and methods

The material recorded here was deposited in Mazandaran University Herbarium, Tehran University Herbarium (TUH) and Natural History Museum of Iran (MMTT) and confirmed by a comparison with the materials of the herbarium of Research Institute of Forests and Rangelands (TARI), Tehran University

Herbarium (TUH), Natural History Museum of Iran (MMTT), Natural History Museum, Vienna (W) and Kew Herbarium (K). The characteristics of bracts, seeds and flowers of the specimens were checked by stereomicroscope (Nikon: SMZ-1). Our specimens were evaluated using all local and neighboring Floras presented in the results and discussion section.

## Results and discussion

*Cerastium pumilum* Curtis (Fig. 1).

*Material examined.* Province Gilan, Astaneh, road of Kiashahr to Zibakenar, on the coastal line of Amirkiasar village (Hasht-Anten area), 37° 24' 71.4" N, 50° 01' 069" E, 22.3.2005, -22 m, Naqinezhad 12982-MMTT! (duplicate in Mazandaran University Herbarium); province Mazandaran, Babolsar, on the coastal line of Mazandaran University, 14.4.2004, -25 m, Naqinezhad 11284-MMTT! (duplicate in Mazandaran University Herbarium); province Gilan, Langerud, Chamkhaleh, on the coastal area, 26.3.2005, -25 m, Naqinezhad 11285-MMTT! (duplicate in

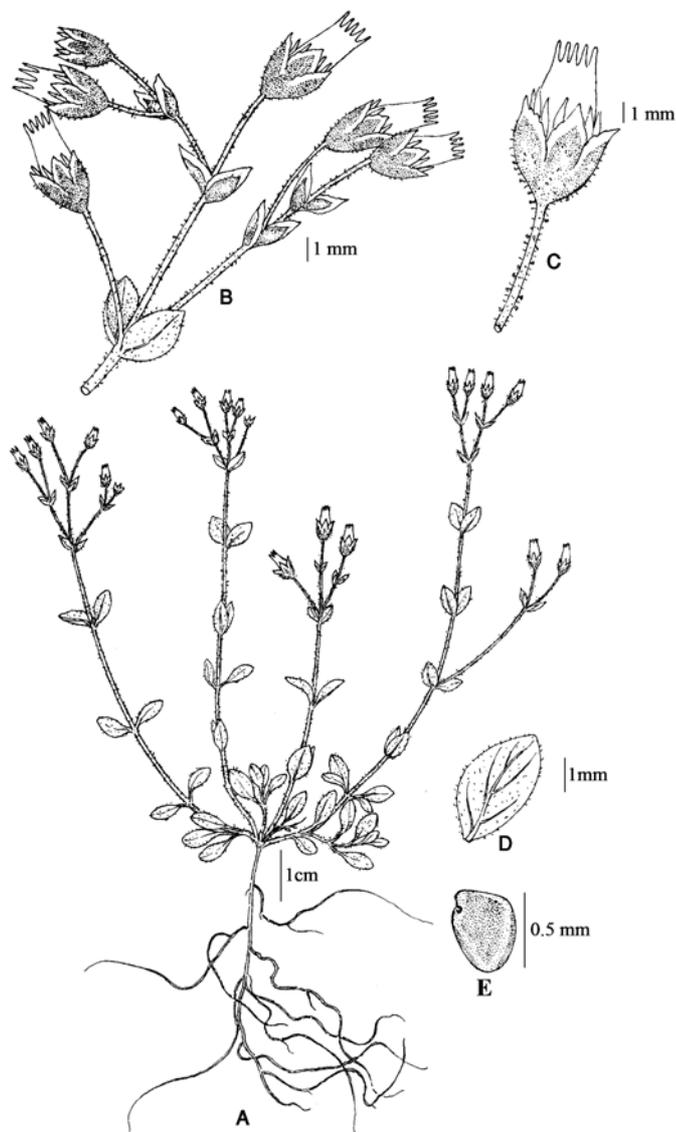


Fig. 1. *Cerastium pumilum*. -A: Habit, -B: Inflorescence, -C: Flower, -D: Lower bract, -E: Seed.

Mazandaran University Herbarium); as the latter, 22.3.2001, Naqinezhad 27207-TUH!.

Annual up to 12 cm high. Stem with numerous glandular and some eglandular hairs. Leaves 4-10 x 3-5 mm, the lower oblanceolate, the upper ovate or ovate-oblong, obtuse, hairy. Pedicels longer than sepals. Lower and sometimes upper bracts leaf-shape, hairy on both sides, only upper bracts with a scarious margin. Sepals 4-5 mm long, lanceolate to oblong-lanceolate, acute, scarious for up to  $\frac{1}{4}$  their length, with glandular hairs and eglandular hairs. Petals 5, equaling or slightly

longer than the sepals, bifid for up to  $\frac{1}{4}$  of their length. Styles 5. Capsule 4.5-7 mm long, the teeth of the capsule 10 and margin of teeth revolute. Seeds 0.5-0.6 mm, brown, finely tuberculate.

*Taxonomy, habitat, distribution.* *Cerastium pumilum* is morphologically close to *C. glutinosum* Fries. *Cerastium pumilum* is divided to three subspecies in Flora Europaea (Wyse Jackson, Sell & Whitehead, 1993), i.e. subsp. *pumilum* (= *C. glutinosum* auct. non Fries), subsp. *glutinosum* (Fries) Jalas (= subsp. *pallens* (F.W. Schulz) Schinz & Thell. = *C. pallens* F.W.Schultz = *C. glutinosum* Fries.) and subsp.

*litigiosum* (De Lens) P.D. Sell & Whitehead. *Cerastium glutinosum* Fries. has also been considered as one of the subspecies of *C. pumilum* in some other Floras (Murav'eva, 1936; Friedrich, 1981). However others e.g. Möschl (1988), differentiated these taxa as two separate species. In *C. glutinosum*, all inflorescence bracts have scarious margins with a glabrous upper surface like sepals, but in *C. pumilum*, only upper bracts have a scarious margin and lower bract is leaf like and hairy on both surfaces (Möschl, 1988; Wyse Jackson, Sell & Whitehead, 1993).

*Cerastium pumilum* grows on the coastal sands of Caspian shore at the beginning of spring. This species is associated with other sand dune species, i.e. *Arenaria leptoclados* (Rchb.) Guss., *Arguzia sibirica* (L.) Dandy, *Catapodium rigidum* (L.) C. E. Hubb., *Cerastium semidecandrum* L., *Convolvulus persicus* L., *Daucus littoralis* Smith subsp. *hyrcanicus* Rech. f., *Maresia nana* (DC.) Batt., *Medicago minima* (L.) Bartal., *Parapholis incurva* (L.) C. E. Hubb., *Sagina apetala* Arduino and *Silene conica* L.

This species is present in Europe, North Africa, SW Asia, Turkmenistan, Iran and was introduced to North America and Japan. The species had been only recorded from Turkmenistan in Flora Iranica area. Therefore, Turkmenistan is the closest report to Iranian new locality. Cullen (1967) mentioned *C. pumilum* in Flora of Turkey but his description of this species fits with *C. glutinosum*. However, he considered *C. glutinosum* as a synonymous of *C. pumilum*. *Cerastium glutinosum*, the closest species to *C. pumilum* has been previously reported by local Floras from Iran (Parsa 1952; Möschl, 1988). Although, this species was reported in Arasbaran Protected Area, NW Iran in the work of Thompson et al. (2001) on the seed bank of this area, this report is basically from seed germination of this plant without any herbarium number.

## Acknowledgements

The authors are indebted to Dr. E. Vitek, curator of Phanerogam collection of Natural History Museum, Vienna and Dr. D. Goyder, Royal Botanical Gardens, Kew, for their help during the herbarium visits. We would like to thank the University of Mazandaran Research Council for its financial support.

## References

- Cullen, J. 1967: *Cerastium* L. in Davis P. H. (ed.). Flora of Turkey and the East Aegean Islands, vol. 2: 83-84. -Edinburgh: Edinburgh University Press.
- Friedrich, H. Ch. 1981: Caryophyllaceae in Hegi G. (ed.) *Illustrierte Flora von Mitteleuropa*, Band III, Teil 2. -Carl Henser Verlag München.
- Möschl, W. 1988: *Cerastium* L. in Rechinger K. H. (ed.) *Flora Iranica* no. 163: 85-109. -Graz: Akademische Druck und Verlagsanstalt.
- Murav'eva, O. A. 1936: *Cerastium* L. in: Komarov V. L. (ed.) *Flora of the USSR*. vol. 6: 330-358. Izdatel'stovo Akademii Nauk SSSR Moskva-Leningrad. (Translated from Russian to English by Dr. N. Landau, Israel program for Scientific Translations Jeusalem. 1971).
- Parsa, A. 1952: *Flore de Iran*, vol.1. part 2. -Imprimerie Danesh. Teheran. P. 1216.
- Thompson, K., Jalili A., Hodgson, J. G., Hamzeh'ee B., Asri, Y., Shaw, S., Shirvany A., Yazdani, S., Khoshnevis, M., Zarrinkamar, F., Ghahramani, M-A. & Safavi, R. S. 2001: Seed size, shape and persistence in the soil in an Iranian flora. -*Seed Science Research*, 11 (4): 345-356.
- Wyse Jackson, M. B., Sell P. D. & Whitehead, F. H. 1993: *Cerastium* L. in Tutin et al. (eds.) *Flora Europaea* vol. 1: 136-145. -Cambridge: Cambridge University Press.