

THREE NEW RECORDS OF THE GENERA *ACHILLEA*, *CARDARIA* AND *SCORZONERA* FOR THE FLORA OF IRAN

R. Naderi, S. Afsharzadeh, M. R. Rahiminejad & B. Eslami

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Three new records, *Achillea millefolium* subsp. *sudetica* (*Asteraceae*), *Cardaria draba* subsp. *draba* (*Brassicaceae*) and *Scorzonera kirpicznikovii* (*Asteraceae*) are reported for the first time from Iran. The taxa have been collected from Golestanak Protected Area in central part of Elburz (Alborz) mountains. Each taxon is compared to related taxon and its illustration presented too.

Reza Naderi, Saeed Afsharzadeh & Mohammad Reza Rahiminejad (correspondence), Department of Biology, University of Isfahan, Isfahan, Iran; e-mail: mrr@sci.ui.ac.ir. -Bahman Eslami, Department of Agriculture, Islamic Azad University, Qaemshahr, Iran.

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Achillea, *Cardaria*, *Scorzonera*

Achillea millefolium subsp. *sudetica* (*Asteraceae*), *Cardaria draba* subsp. *draba* (*Brassicaceae*) تعداد سه آرایه به نامهای *Scorzonera kirpicznikovii* (*Asteraceae*) , برای اولین بار از ایران از ایران گزارش می شوند. این گونه ها از منطقه حفاظت شده گلستانک واقع در کوههای البرز جمع آوری شده و ضمن آرایه تصویری از آنها با آرایه های نزدیک خود مقایسه می شوند.

Introduction

Elburz (Alborz) mountains lie along the northern border of Iran at the southern shore of the Caspian Sea and extend about 650 km from west to east. Altitude amplitude is about 0 m near the shores of the Caspian Sea to 5670-1 m at the summit of Damavand (Noroozi & al. 2008, Zohary 1973). The Golestanak Protected Area is a transitional zone between timberline and alpine-subalpine region of northward slopes of Elburz.

***Achillea millefolium* L. subsp. *sudetica* (Opiz) Weiss in Koch (*Asteraceae*)**

Stem 10-70 cm long, erect or ascending, simple. Leaves velutinous-pubescent; ultimate segments of upper leaves linear. Middle cauline leaves 3-5×0.5-1.2 cm, lanceolate in outline, 2(-3)-pinnatisect, more or less

pubescent. Involucres 5×3 mm long; Bracts with a dark brown to blackish margin. Ligules pink (Fig. 1).

Comparison with its closely related taxa in Iran as below key:

1. Middle cauline leaves oblong-ovate in outline

A. millefolium subsp. *elbursensis*

- Middle cauline leaves lanceolate in outline 2

2. Ultimate segments of upper leaves linear, margin of bracts dark brown to blackish, ligules usually pink

A. millefolium subsp. *sudetica*

- Ultimate segments of upper leaves ovate to lanceolate, margin of bracts pale to dark brown, ligules usually white *A. millefolium* subsp. *millefolium*

Distribution. The subsp. *sudetica* reported from the most parts of Europe, but rarely occurs in the Mediterranean areas (Richardson 1976) and it is a new

record for Iran. The subsp. *millefolium* reported from Europe, Turkey, Caucasus, Iran, Afghanistan, Pakistan, Siberia and Himalaya (Huber-Morath 1975, 1986; Mozaffarian 2008).

Specimens seen. Iran, Mazandaran province, Pol-e Zangule towards Nesen, Golestanak, 2700 m, 20.7.2007, Naderi 16398 (Herbarium of the University of Isfahan HUI).

Cardaria draba (L.) Desv. subsp. **draba** (*Brassicaceae*)

Perennial stoloniferous herbs. Indumentum, adpressed and white hairs. Basal leaves obovate-spathulate. Cauline leaves oblong to oblong-lanceolate. Calyx erect; sepals not saccate. Petals with a small claw; stigma capitate. Fruit cordate, indehiscent, not strongly compressed (Fig. 2).

Comparison with its closely related taxon in Iran as below key:

1- Fruit cordate at base, leaves always auriculate at base
C. draba subsp. *draba*

- Fruit truncate or rounded at base, leaves auriculate or exauriculate
C. draba subsp. *chalepensis*

Distribution. The subsp. *draba* reported throughout Europe and S.W. Asia, introduced into most temperate regions of the world (Hedge 1965). The subsp. *chalepensis* reported from Iraq, Talish, Iran, Turkmenistan and Afghanistan, widely distributed and often very abundant weed throughout flora of Iran (Hedge 1968, Hedge & Lamond 1980). However, Hedge (1965) declared that the geographic distribution of the two subsp. is not easily recognizable. The new record grows in alpine region of Golestanak on places where growth period is very short and snow cover remains to midsummer.

Specimens seen. Iran, Mazandaran province, Pol-e Zangule towards Nesen, Gardane-e Lavashm, Golestanak, 3165 m, 22.7.2007, Naderi & Gholizadeh 16399 (Herbarium of the University of Isfahan HUI).

Scorzonera kirpicznikovii Lipsch. (*Asteraceae*).

Perennial. Stem 6-10(-15) cm long, almost leafless. Leaves at base numerous, 10-15 cm long, pinnatisect; segments narrow, linear, 1-1.5 wide. Flower-bearing involucre 5-10(-15) mm long. Fruit-bearing involucre 18-20 mm long. Involucral bracts with blackish tip; exterior triangular or triangular-lanceolate, sometimes with hornlike apical appendage; interior oblong-lanceolate, 2-3 times longer than exterior. Ligules yellow. Achenes 7-8(-10) mm long, narrow, finely

cylindrical, glabrous, dirty-white or auburn, truncate at base (Fig. 3).

Comparison with its closely related taxon in Iran as below key:

1- Achene 7-8(-10) mm long, narrow, glabrous, dirty-white or auburn, truncate at base *S. kirpicznikovii*

- Achene (11-)12-15(-16) mm long, thickened, subpubescent, almost white, curved at base *S. grossheimii*

Distribution. The species is native to Talish, (Rechinger 1977) and Iran.

Specimens seen. Iran, Mazandaran province, Pol-e Zangule towards Nesen, Golestanak 2850 m, 25.7.2007, Naderi & Gholizadeh 16400 (Herbarium of the University of Isfahan HUI).

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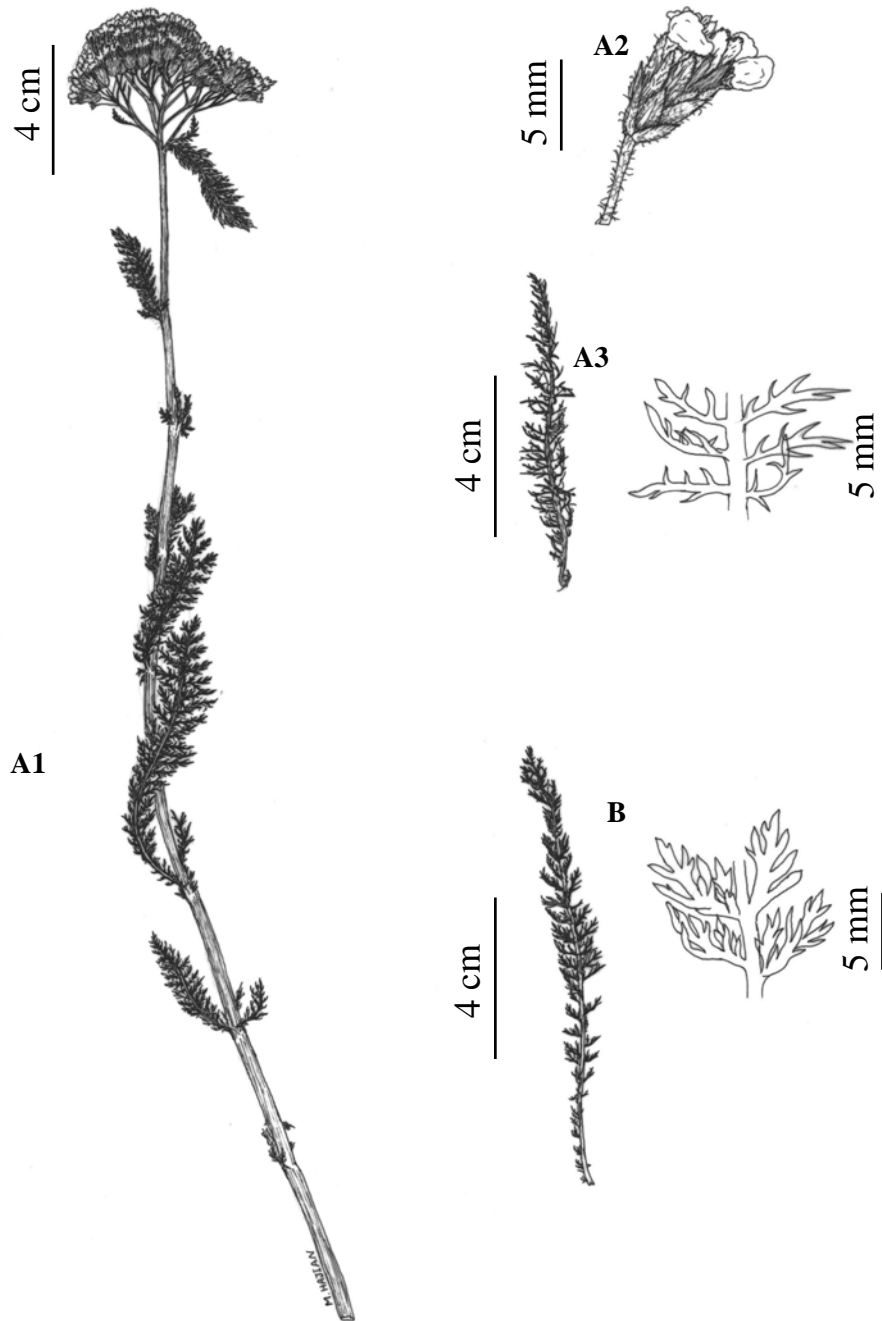


Fig. 1. *Achillea millefolium* – A: subsp. *sudetica*, (1) habit, (2) inflorescence, (3) leaf; B: subsp. *millefolium*, leaf.

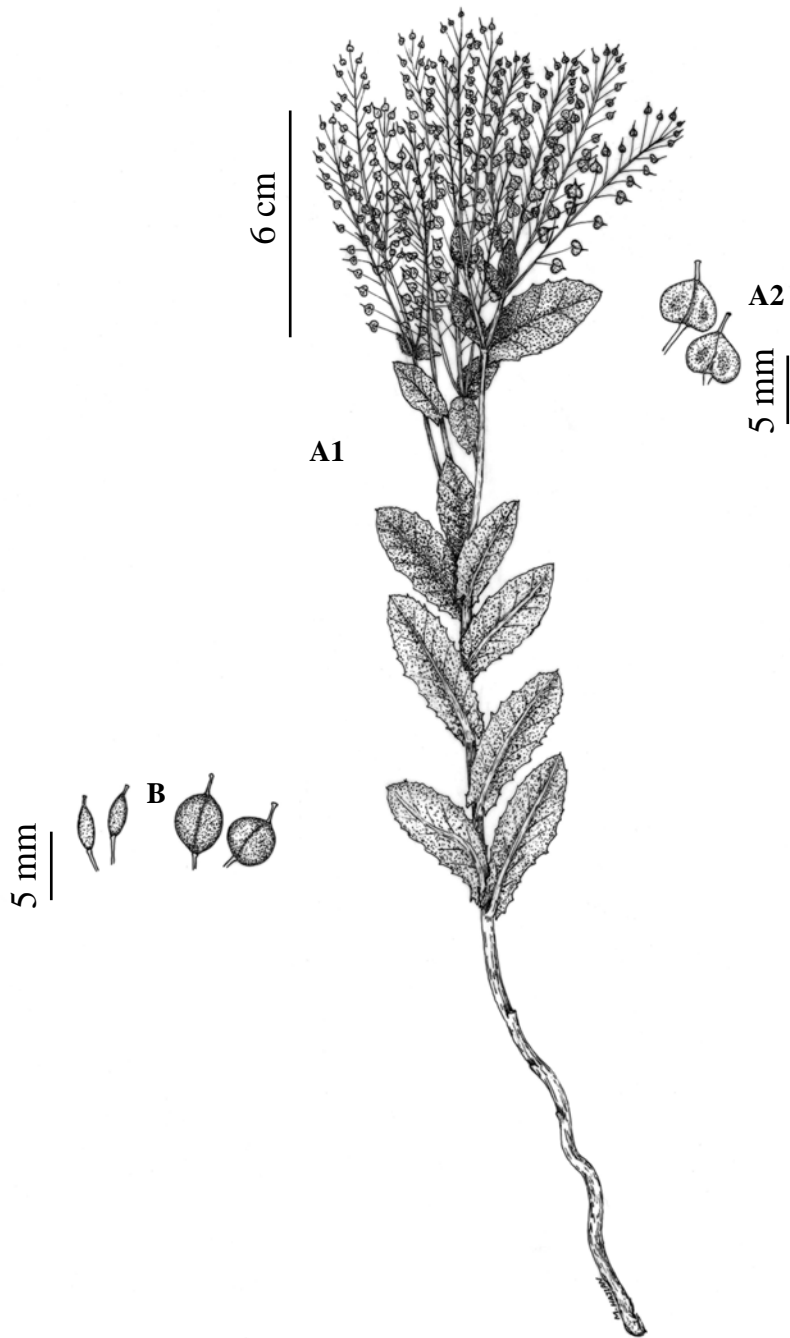


Fig. 2. *Cardaria draba* – A: subsp. *draba*, (1) habit, (2) fruit; B: subsp. *chalepensis*, fruit.

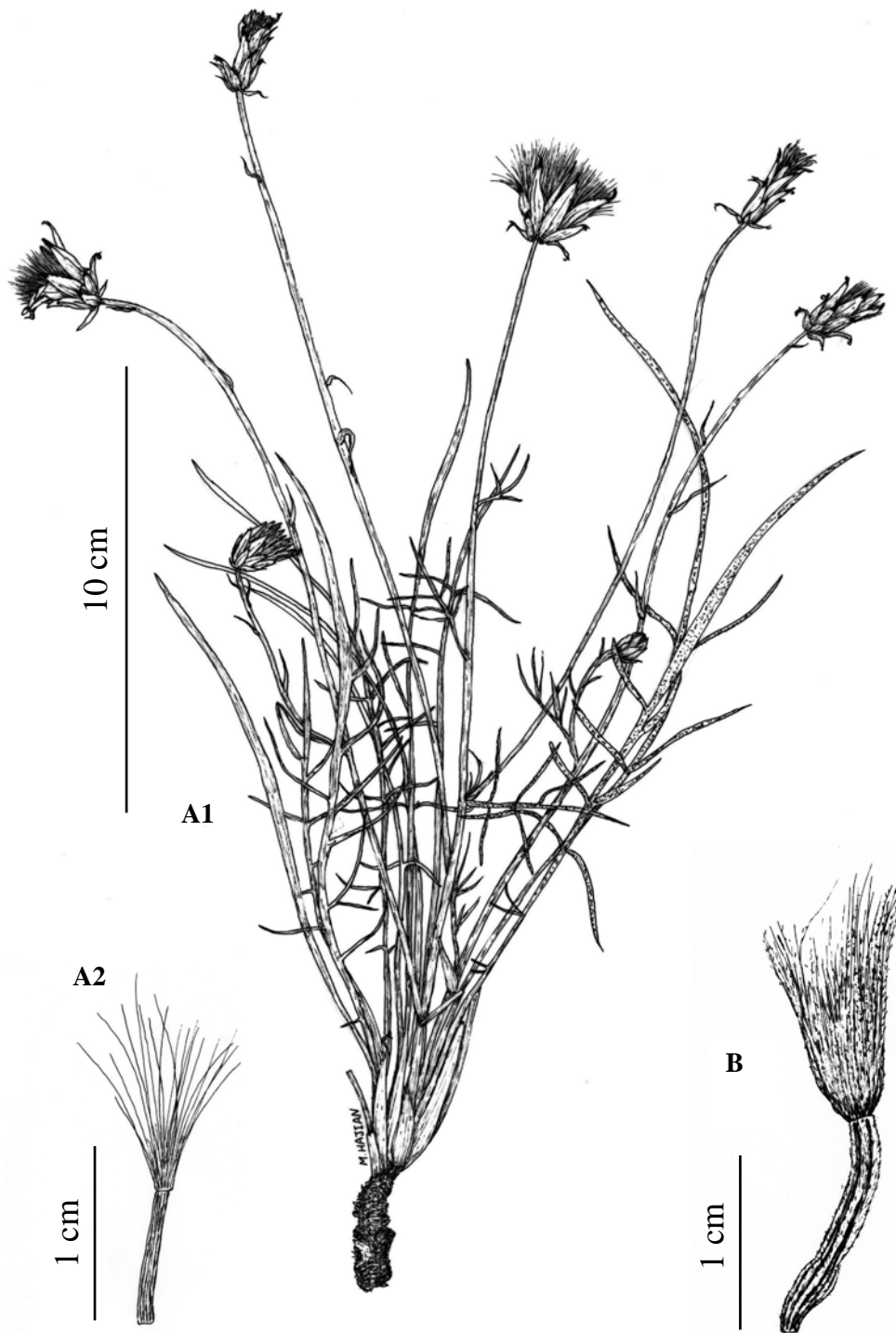


Fig. 3. *Scorzonera* – A: *S. kirpicznikovii*, (1) habit, (2) achene; B: *S. grossneimu*, acnene

