

**NOTES ON THE FLORA OF IRAN 6: EIGHT NEW  
PLANT RECORDS FROM IRAN COLLECTED  
FROM KHORASAN AND GOLESTAN PROVINCES  
(N.E. IRAN)\***

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**Abstract**

Based on recent collections from different parts of Golestan Province and former Khorasan Province (now splits into three smaller provinces), following species are reported for the first time from Iran: *Acanthophyllum kandaharicum* Gilli, *A. stenostegium* Freyn, *Anemone tschernjaewii* Regel, *Cephalorrhynchus picridiformis* (Boiss.) Tuisl., *Elatine hydropiper* L., *Gaillonia dubia* Aitch. & Hemsl., *Pseudosedum longidentatum* Boriss., and *Scrophularia nikitinii* Gorschk. Furthermore the occurrence of *Leptaleum hamatum* Hemsl. & Lace in Iran is confirmed. Notes are given on the taxonomy and distribution of most species and a line drawing illustration is provided for *Cephalorrhynchus picridiformis* and *Scrophularia nikitinii*.

**Key words:** Flora of Iran, Golestan, Khorasan, *Acanthophyllum*, *Anemone*, *Cephalorrhynchus*, *Elatine*, *Gaillonia*, *Leptaleum*, *Pseudosedum*, *Scrophularia*

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\* Continued from GHOBADNEJHAD *et al.* 2004, AKHANI 2003

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## Introduction

The Khorasan and Golestan Provinces with a surface area of 267,893 square kilometre covers 16.2% of the Iranian territory. Large parts of the area are consisted of Irano-Turanian floristic region which replaced by the Hyrcanian Province of the Euro-Siberian Region in North-western parts. Floristically, the area is very rich as was documented by the occurrence of 1362 species in Golestan National Park which is only 0.34% of the surface area of the two provinces (AKHANI 1998, 2005). Based on recent botanical collections by the staff of Herbarium of Ferdowsi University of Mashhad and during preparation of the second volume of “The Illustrated Flora of Golestan National Park” by the second author eight new records for Iran are recognized. The identity of most reported species in this paper have been checked during the second author’s visit to the Royal Botanical Gardens Kew. All specimens were deposited in Herbarium of Ferdowsi University of Mashhad (FMUH) and Herbarium H. Akhani, located in Ferdowsi University of Mashhad and University of Tehran, respectively.

## Enumeration of species

### Asteraceae

*Cephalorrhyncus picridiformis* (Boiss.) Tuisl, **Ann. Nat. Mus. Wien 72: 619 (1968)** (Fig. 1)

Type: Pakistan: Quetta, Sir-i-ab, Stockes 1075 K!

Material examined:

Khorasan: S.E. Torbat-e Heydarieh, Pir Yahoo, 25.6.2003. 1600 m, Joharchi 34858 (FMUH).

This species was known as endemic in Afghanistan and neighbouring areas in Pakistan (Chitral and Quetta) (RECHINGER 1977). The new locality extends the range of species further westwards to eastern Iran. The identity of the above cited specimen was checked with the type specimen (Stockes 1075) and other identical specimens in Kew.



Fig. 1. The line drawing illustration of *Cephalorrhyncus picridiformis* (Boiss.) Tuisl.

### **Brassicaceae**

***Leptaleum hamatum* Hemsl. & Lace, Journ. Linn. Bot. 28: 321, tab. 38 (1891)**

Type: Pakistan: Quetta, Sheila Bagh, 1800 m, Lace 3325 (K!).

Material examined:

Khorasan: S. Gonabad, Kakhk, mountains between Kalat-e-no and Pagodar, 2000 m, 24.4.1990. Faghihnia & Zangooei 18374 (FMUH, Hb. H. Akhani).

This species was not known from Iran in Flora Iranica (RECHINGER 1968) and additions to the Iranian Cruciferae after Flora Iranica (AKHANI 2003). When this paper was in final preparation, we understood that *L. hamatum* is reported by MEHRNIA (2006) from a locality “between Esfahan to Shahreza, 32°26’08”N, 51°46’31”E, 1734 m, Mehrnia (5475 (n.v.).” The identity of above cited specimen was confirmed by comparing with the type specimen. *L. hamatum* differs from its relative *L. linifolium* by presence of glandulose hairs and hooked siliquae. The hairs in *L. linifolium* are branched and the fruits are not hooked at apex. In accordance with MEHRNIA (l.c.), the distinction of both species is well justified by constant characters.

### **Caryophyllaceae**

***Acanthophyllum kandaharicum* Gilli, Feddes Rept. 59: 168 (1956)**

Material examined:

Khorasan: Nehbandan, Shosf, between Afzal-abad and Marghzar, 31°55’9”N, 60°15’18”E, 1711 m, 18.5.2005, Joharchi & Zangooei 36242 (FMUH, Hb. H. Akhani).

This species with its characteristic broadly membranous bracts and bracteoles belongs to sect. *Macrostegia* Boiss. (SCHIMAN-CZEIKA 1988). It is characteristic by a number of characters such as having the same deep-green colour of leaves and stems, sparse and very short hairs in the stem but longer and denser hairs in the inflorescence and on calyx. The leaves are triquetrous in section, strongly rigid and arranged horizontally-patent and slightly curved upwards.

*A. kandaharicum* is an endemic species in S. Afghanistan with one reported locality in N. Pakistan (SCHIMAN-CZEIKA 1988). The species is newly recorded from Iran (Fig. 2).

***Acanthophyllum stenostegium* Freyn, Bull. Herb. Boissier Sér. 2, 3: 866 (1903)**

Material examined:

Khorasan: Kelat-e Naderi, at the beginning of Geroo road, 16.5.2005. Izadi 36220 (FUMH, Hb. H. Akhani).

A characteristic species with 4-5 cm long herbaceous leaves which are horizontally patent. The species differs from other species of *Acanthophyllum* by loosely and herbaceous habit and umbel-like inflorescences.

Ecologically, it is restricted to sand dunes over its range from Turkmenistan (Kara-Kum desert), Afghanistan to Iran (Fig. 2). The previously known localities in Turkmenistan are located close to the Iranian border (SCHIMAN-CZEIKA 1988).

**Crassulaceae**

***Pseudosedum longidentatum* Boriss. Acta Inst. Bot. Acad. Sci. URSS. 1: 109 (1933)**

Materials examined:

Khorasan: S.E. Ghaen, between Dozg and Ahangaran, 1500 m, 15.5.1989. Joharchi & Zangooui 17363 (FMUH); Between Ghaen and Gonabad, near Khezri, Pir-mardan Shah, 19.5.1986, Ayatollahi & Zangooui 14385 (FMUH); S Birjand, Omar Shah dam (Band-e Omar Shah), 18.5.1986, Ayatollahi & Zangooui 14301 (FMUH).

A first record from Iran; *Pseudosedum longidentatum* is distinguished from the widespread *P. multicaule* by petals which are connate at 1/3 to the middle of corolla length. Geographically two species seem to be vicariant. The main distribution range of *P. longidentatum* is Central Asia (Tien Shan, Pamir-Alaj) and Afghanistan (JANSSON & RECHINGER 1970).

**Elatinaceae**

***Elatine hydropiper* L. Sp. Pl. 367 (1753)**

Material examined:

Golestan: Northwestern parts of Golestan National Park, Sulukli Lake, 37°29'41"N, 55°46'20"E, 1349 m, 12.7.2003. H. Akhani 17053.

An interesting discovery, being a new genus record for Iran and the Flora Iranica area (RECHINGER 1966). This is seventh aquatic new records which were

already known from recently discovered and isolated Sulukli lake. The previous records are *Alopecurus aequalis* Sobol., *Carex pseudocyperus* L., *Ceratophyllum submersum* L., *Potamogeton filiformis* Pers., *P. natans* L. and *Salix cf. caprea* L. (AKHANI & SCHOLZ 1998, AKHANI 1999, 2005).

### **Ranunculaceae**

#### ***Anemone tschernjaewii* Regel, Acta Horti Petrop. 8: 690 (1884)**

Khorasan: Sarakhs, between Gonbadli and Shurijeh, 500 m, 8.4.1987. Ayatollahi & Zangooei 15076 (FMUH); S.W. Mashhad, Najafi mountains, 1200 m, 21.4.1985. Joharchi & Safavi 12117 (FMUH).

The finding of *A. tschernjaewii* in Iran is not surprising, as the species was commonly recorded in Afghanistan and from Kopet-dagh mountains in Turkmenistan near the Iranian border (Rechinger 1992, see also distribution map of species in ZIMAN *et al.* 1996, Fig. 1, p. 61). The species was also known from Tian Shan, Pamir, Altai and territories of Tadjikistan, Uzbekistan and Pakistan (RECHINGER l.c., ZIMAN *et al.* l.c.).

The most important distinguishing features of this species from closely related *A. biflora* DC. are the ternate basal leaves which their segments are not deeply lobed but are shallowly crenate-dentate, radical leaves solitary, with sessile primary segments, and sessile involucral leaves (ZIMAN *et al.* 1996).

### **Rubiaceae**

#### ***Gaillonia dubia* Aitch. & Hemsl., Trans. Linn. Soc. Ser. 2, 3: 73, tab. 30 (1888)**

Material examined:

Khorasan: Ghaen, Zirkuh, West of Darej-e Olia, near water storage tank, 1233 m, 33°24'18"N, 60°10'10"E, 19.5.2005, Joharchi & Zangooei 36260 (FMUH, Hb. H. Akhani).

This species was recorded as endemic from various localities in N.W. and West Afghanistan by EHRENDORFER & SCHÖNBECK-TEMESY (2005). The new locality from Iran is also not very far from localities in Afghanistan (Fig. 4). The species is characteristic with 3-4.5 cm internodes, mostly 3-na leaves, which are 17-23 mm long and 1-2 mm broad and pedicellate basal flowers.

### Scrophulariaceae

*Scrophularia nikitinii* Gorschk., Not. Syst. Leningrad 16: 333 (1954) (Fig. 3)

Material examined:

Khorasan: Torbat-e Jam, N. Saleh-abad, Kuh-e Zaloo, 2.6.2003, 1250-1300 m, Joharchi & Zangoeei 34609 (FMUH, Hb. H. Akhani).

*Scrophularia nikitinii* Gorschk. is easily distinguishable by broad ovate and petiolate leaves which are slightly denticulate at the margin (Fig. 3). The species shows a habit like *Digitalis* with a spike-like inflorescence. The flowers are green with equal lobes and capsules are glabrous.

The species was originally known from Turkmenistan, Badhys, Jugum Gjas-Gjadyk, in Rachmatar mount. (GRAU 1981). It is known from several localities in the lower mountain zone in N.W. of Afghanistan (Fig. 4).

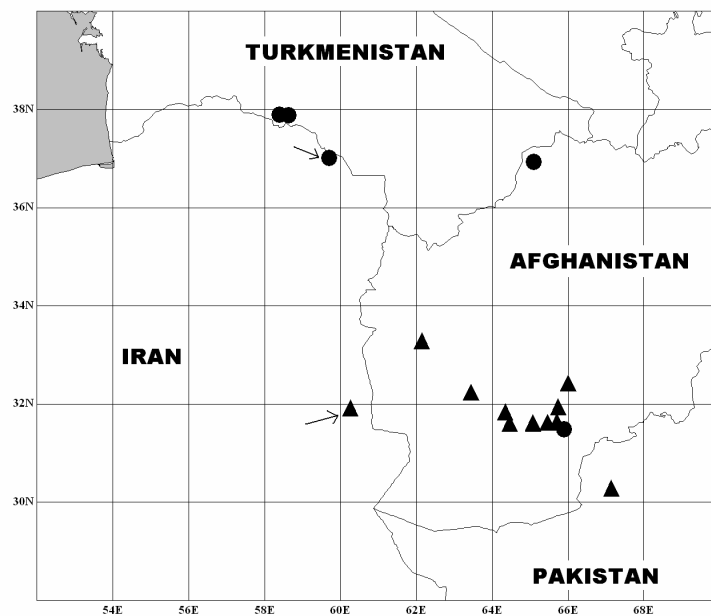


Fig. 2. Distribution map of *Acanthophyllum kandaharicum* (triangle) and *A. stenostegium* (dot) and. The new records in Iran are indicated by arrows.



Fig. 3. Line drawing illustration of *Scrophularia nikitinii* Gorschk.



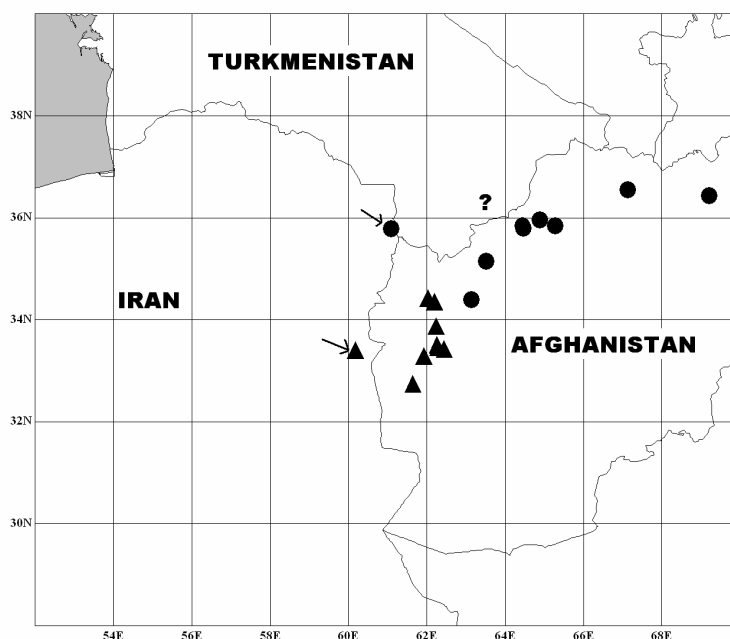


Fig. 4. Distribution map of *Gaillonia dubia* (triangle) and *Scrophularia nikitinii* (dot). The new records in Iran are indicated with arrows. The type location of *S. nikitinii* is indicated by a question mark.

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