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**FRITILLARIA HAJASTANICA
(LILIACEAE), A NEW SPECIES FROM
ARMENIA**

Fritillaria hajastanica was described as subspecies of *F. pinardii* Boiss. Taxonomic studies of old and new collections, field work and comparison of distinctive characters of *F. pinardii* and subsp. *hajastanica* revealed so clear differences, that it let us to give to last one a specific rank: *Fritillaria hajastanica* (Gabrielian) Gabrielian comb. et stat. nov. Description, holotype specimen image and table of distinctive characters provided.

Fritillaria, taxonomy, Armenia, distinctive characters table

Габриэлян Э. Ц. *Fritillaria hajastanica* (Liliaceae) – новый вид из Армении. *Fritillaria hajastanica* была описана как подвид *F. pinardii* Boiss. Таксономические исследования старых и новых коллекций, наблюдения в природе и сравнение диагностических признаков *F. pinardii* и subsp. *hajastanica*, выявили столь резкое различие между ними, что позволило принять подвид в ранге вида, как *Fritillaria hajastanica* (Gabrielian) Gabrielian comb. et stat. nov. Даются описание, изображение голотипа и таблица с диагностическими признаками этих таксонов.

Fritillaria, систематика, Армения, отличительные признаки

Փարիելյան Է. Ց. *Fritillaria hajastanica* (Liliaceae)՝ նոր տեսակ Հայաստանից: *Fritillaria hajastanica*-ն նախկինում նկարագրված է եղել որպես *F. pinardii* Boiss. Ենթատեսակ: Սակայն *F. pinardii*-ի և subsp. *hajastanica*-ի հին և նոր հավաքածուների կարգաբանական ուսումնասիրումը, բնության մեջ դիտարկումների և բոլոր տարբերակիչ հատկանիշների համեմատումը բացահայտեցին այնքան հստակ տարբերություններ նրանց միջև, որը թույլ է տալիս *hajastanica* ենթատեսակը ընդունել նոր տեսակի՝ *Fritillaria hajastanica* (Gabrielian) Gabrielian comb. et stat. nov. կարգավիճակում: Տրվում է նոր տեսակի նկարագրությունը, հոլոտիպի պատկերը, երկու տեսակների տարբերակիչ հատկանիշների աղյուսակը:

Fritillaria, կարգաբանություն, Հայաստան, փարբերակիչ հատկանիշներ

INTRODUCTION

Fritillaria hajastanica was previously described as a subspecies *hajastanica* (Gabrielian, 2001) of species *F. pinardii* (Boissier, 1846). The latter was collected by S. Pinard in 1843 from the edge of south-west Anatolia (Lycia, Caria). In the original description, Boissier quotes “Hab. in Lycia. Pinard 1843”. However, in 1988, working in Geneva in the G-BOIS, it revealed that from Lycia there is only one herbarium sheet (with three plants) and the label “Lycia vel Pamphilia, Pinard”, but without date, and most importantly, without a determination by Boissier that it’s *F. pinardii*. While on the other herbarium sheet “Ex Pinard with 5 full-bloomed beautiful specimens of plants with label of Caria, 1843, S. Pinard” and the determination of a collector” as *Fritillaria Fleischeri* Steud.”, has 2 determinations written by the hand of Boissier: “*Fr. Pinardii*” and “*Fritillaria pinardii*!

Boiss.”. Later, in the Flora Orientalis (Boissier, 1882), apparently this is the first instance of the quote: “Hab. in Caria, (Pinard exs. sub. *F. Fleischeri* !)”. It is interesting that among the other sites of habitat mentioned by him, “Lycia” does not exist. Proceeding from the above, it would be more correct to consider the type specimen “In Caria, 1843, S. Pinard”. It is this sample that was chosen as “Lectotypus” (Gabrielian, 15.09.1988, in G-BOIS) and published in “Flora of Armenia” (Gabrielian, 2001:81). The isolectotype exists also in the herbarium G (Collection Générale). Some beautiful specimens of isolectotypes are also found from the indeterminate material in the herbarium G. Later, working in UK, another isolectotype of *F. pinardii* was discovered in the Kew herbarium (K).

It should be noted that in the same years Martin Rix also studied the genus *Fritillaria*. In the picture book-album “The Bulb Book” he treated *F. pinardii* (Rix & Phillip, 1981) much broader than Boissier. In this book, on pages 78-81, he cites three color photographs of *F. pinardii*. On the page 78a he points: “Native in Armenia”, where is shown not high plant with a large bulb and thick stem, with 6 leaves, which are fairly broad, crowded at the top and much longer than flower, purple-red outside and yellow or green inside. This type of plant, as well as the other two ones are not found in Armenia. Later, in the “Flora of Turkey” (Rix, 1984) he also mentions the spreading of this species to “Soviet Armenia”.

In 1985, Rix worked in the herbarium ERE, where there are only 2 of his determinations. One on the herbarium sheet ERE 131 277 with plants collected by E. Gabrielian in the Ararat region, near Dashtakar village on Mount Kotutz with the following note: “*Fritillaria pinardii* Boiss. var. ... ad *F. caucasica* Adams stylo gracile, floribus intus viridibus et purpureis acceded E. M. Rix”. Judging by the critical remark, Rix is not sure that these plants are clear *F. pinardii*. The second determination as *F. caucasica* at Adam ERE 39758, collected by A. Dolukhanov on 28.V. 1947 in the southwestern part of Zangezur in the basin of the Meghri-chai river on the eastern spur of the Soyuh mountain; 2500-2600 m; northern slope. A. Dolukhanov identified this plant as: “*Fritillaria caucasica* Ad. var. *armena* (Boiss.) Grossh. (= *Fr. armena* Boiss.)”.

F. caucasica Adam occurs in Armenia quite widely, but only in the northern and central parts of the country, i.e in Verin Akhuryan, Shirak, Aragats, Ijevan, Aparan, Sevan and Gegam floristic regions, where as *F. hajastanica* is always found in the south.

Thus taxonomic studies, consecutive years of field observations, the revision of the old and new vast material accumulated over the years, comparison of distinctive characters of *Fritillaria pinardii* and subsp. *hajastanica*

have led with certainty to the conclusion that the last one distinguished with number of constant features and deserves a recognition of species level.

Detailed description of *Fritillaria hajastanica* below is given.

***Fritillaria hajastanica* (Gabrielian)**

Gabrielian, comb. et stat. nov.

≡ *F. pinardii* subsp. *hajastanica* Gabrielian 2001,

Fl. Armenii 10:82.

Bulb 6—8 (10) mm diam., without bulblets. Stem 15—40 cm lg., thin. Leaves always 3, alternate, lower one lanceolate, 5—7 cm lg., 6—13 mm br., 2 others very narrow, acuminate. Flowers solitary. Perianth conical-campanulate, segments 16—30 mm lg., external 3—6 mm, oblong obovate, glaucous, pinkish-purple, internal 4—9 mm br., obovate, pinkish or pale greyish-lilac, base of segments not gibbose, tips of segments revolute, whitish,

finely papillose; apex indistinctly incised. Nectary 3—4 mm lg., 0,3 mm br. Filaments 10—15 mm lg., flat, densely glandulose. Style 11—17 mm lg., slender, glandulose, indistinctly incised. Capsule obovate, 16—25 mm lg.

Holotypus: "Armenia, Ararat distr., prope pagum Daschtakar, m. Kotutz (Kjothus), in decliviis boreali-orientalis. 14.04.1977. E. Gabrielian, ERE (barcode 00006590, arm 131277), iso ERE (barcode 0000660, arm 117255). (See color illustration pages)

Flowering: April-May. Fruting: June-July.

Habitat: stony, loamy, rocky slopes, limestones, mountain steppe, tragacanth, juniper sparse forest, glades, edge of forests, wet places, subalpine meadows, near melting snow patches.

Distribution in Armenia: Yerevan (Urtz mts., Dagnak mts., Hadis m., Gutanasar m.), Darelegis, Zangezour, Meghri floristic regions. 900—2500 m.

Endemic of Southern Transcaucasus (Armenia, Nakhichevan).

Table of distinctive characters

Characters	<i>Fritillaria hajastana</i>	<i>Fritillaria pinardii</i>
bulb	6—8 (10) mm diam	3 cm diam.
bulblet	absent	usually with bulblets
stem	15—40 cm, slender	6—20 cm, ± thick
leaves	always 3, alternate	3—8 (13), crowded above
flowers	solitary	1—2 (4)
perianth	conical-campanulate	narrowly campanulate
segments	16—20 mm lg.	15—25 mm lg.
color of external	glaucous pinkish-purplish	purplish to greyish
segments		
color of internal	pinkish or pale greyish lilac	yellow or greenish
segments		
base of segments	not gibbose	dimly gibbose
tips of segments	revolute, whitish, finely papillose	straight, glabrous
nectary	3—4 mm lg., 0,3 mm br.	3—5 mm lg., 1—1,5 mm br.
filaments	10—15 mm lg., flat, densely glandulose	6—11 mm lg., swollen, densely glandulose
style	11—17 mm lg., always slender	7—10 mm, slender to stout
tip of style	indistinctly incised	truncated, not incised

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