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PAPAVER GOROVANICUM M. V. AGAB. (*PAPAVERACEAE*) A NEW SPECIES FROM ARARAT VALLEY (ARMENIA)

Taxonomic studies, field work and recent molecular analyses result in the recognition of a species new to science: *Papaver gorovanicum*, a rare annual plant growing in extremely arid conditions on sandy soils, belongs to *Papaver* sect. *Rhoeadium*. The new species is described and illustrated. Its affinities are discussed.

Papaver section Rhoeadium, new species, Papaver gorovanicum M. V. Agab., poppies, Armenia

Աղաբաբյան Մ. Վ. *Papaver gorovanicum (Papaveraceae)*՝ նոր տեսակ Արարատյան դաշտից (Հայաստան): Տաքսոնոմիկ հետազոտությունները, դիտումները բնության մեջ եւ մոլեկուլյար անալիզը թույլ են տալիս գիտության համար նոր տեսակ նկարագրել՝ *Papaver gorovanicum*, ծայրահեղ արիդ պայմաններում ավազների վրա աճող հազվագյուտ միամյա բույս, որը պատկանում է *Papaver* ցեղի *Rhoeadium* սեկցիային: Բերվում են նկարագրությունը եւ պատկերներ: Քննարկվում են ազգակցական կապերը:

Papaver սեկցիա Rhoeadium, նոր տեսակ, Papaver gorovanicum M. V. Agab., կակաչ, Հայաստան

Агабабян М. В. *Papaver gorovanicum* (*Papaveraceae*) — новый для науки вид из Араратской долины (Армения). Таксономическое изучение, наблюдения в природе и молекулярный анализ позволяют описать новый для науки вид — *Papaver gorovanicum*, редкое однолетнее растение, произрастающее в экстремально аридных условиях на песках, относящееся к роду *Papaver* секц. *Rhoeadium*. Приводятся описание вида и иллюстрации. Обсуждается родство.

Papaver секция Rhoeadium, новый вид, Papaver gorovanicum M. V. Agab., маки, Армения

Introduction

The present paper is part of critical taxonomic revision of Old World *Papaver,* in which sect. *Rhoeadium* is the most diverse and complex currently recognised group. It deals with a peculiar population of poppies growing in a small area in the Ararat Valley, east of the city Vedi, locally known as "Gorovanskye peski"or "Gorovan Sands": a desert or semi-desert area characterised by extreme temperature differences (−25°C to +45°C), high water deficit, and a subsoil of sandy alluvial sediments tending to form dunes (Takhtajan & Fedorov, 1972). The peculiar psammophytic flora and fauna of that area include a considerable number of rare, narrowly endemic and often endangered taxa, justifying protection of the area within the Khosrov Reserve. The dominant element on the dunes and sandy slopes are bushes of *Calligonum polygonoides,* accompanied in the undergrowth by *Achillea tenuifolia, Euphorbia marschalliana, Koelpinia linearis, Verbascum suworowianum, Ziziphora tenuior, Oligochaeta divaricata,* etc. No less than 8 *Papaveraceae* taxa are present here: *Roemeria hybrida, R. refracta, Papaver macrostomum, P. commutatum, P. arenarium, P. minus, P. armenii,* as well as the peculiar population mentioned above. Four consecutive years of field observation have led to the certainty that the said population constitutes a distinct taxonomic unit with stable characteristics, deserving recognition at species level, to be named *P. gorovanicum*. That conclusion is reinforced by results of a phylogenetic analysis (Aghababyan & al., in prep.), which helps clarify the relationship among the new species and its close relatives.

Papaver gorovanicum M. V. Agab., **sp. nova — Holotype**: Armenia, Ararat distr., Gorovan, sandy soils, N39°53'40"/E44°44'00", alt. 940 m, 21.05.2010, *Gabrielian & Aghababyan* (ERE 187570; isotypes: ERE 187572, 187573, B, PAL-Gr).

Herba annua, ramosa, glauca, ascendens, 8—35 cm alta. Folia subintegra vel pinnatilobata, segmentis lineari-lanceolatis dentiformibus 5—12 mm longis, subobtusis. Pedicelli graciles flexuosi 10—18 cm longi, sparse appresse setulosi. Alabastrum oblongo-ellipsoideum apice subdidymum, sepalis subcucullato-rotundatis. Petala 23—27 mm longa et 25—43 mm lata, flammea, in media parte dimidii proximalis macula parva nigra ornata. Staminum filamenta filiformia, atroviolacea vel rubra; antherae 1 mm longae oblongo-cylidricae fulvae, polline aureo. Capsula 6—11 mm longa et 5—7 mm lata, subellipsoidea, glabra, glauca, basi contracta, longitudinaliter albo striata (striae aequo numero ut radii stigmatici), disco stigmatico sinuoso-marginato, 6—7-radiato, per anthesin aureo maturitate sordide violascens coronata. Semina 0.7 mm diametro, brunnea.

Species e *Papaveris* sectione *Rhoeadii, P. arenario* et *P. commutato* affinis. Prius a nostro differt foliis bipinnatisectis, sepalis cornutis, petalis macula basali subrectangulari oculum cruciformem efformantibus instructis; alterum discrepat indumento dense setoso, capsulis duplo brevioribus.

Flowering and fruiting in May to June.

Habitat: semi-desert, sandy soil, 900—950 m a.s.l.

Distribution: Armenia, Ararat region, apparently endemic to a small area near the village of Gorovan.

Discussion and Conclusions

In the past, *Papaver gorovanicum* was not kept distinct from the similar *P. arenarium* (Fig. 5—7). It differs from the latter by its glaucous, subentire, dentante or shallowly pinnatilobed leaves, obtuse sepals, orange-red petals with a small, round, dark spot in the middle of the proximal half, a stigmatic disc with bright yellow rays at anthesis, violet filaments, white at the tip below anther insertion, and yellow pollen. *P. arenarium* is characterised by bright green, 2—3 times pinnatisect leaves, bright red petals with an elongate, a black, subrectangular, basal blotch in the basal part, forming a cross-shaped eye in the open flower, and the deep black colour of filaments, anthers, pollen and stigmatic disk. *Papaver commutatum* can be easily distinguished by dark green leaves, densely hairy, obovoid to subglobose flower buds, and short, cup-shaped, concolorous capsules.

In May and early June the Ararat Valley is covered with a red carpet formed mostly of *P. arenarium,* predominantly associated with sage semi-desert in its occurrence but also growing on fallow fields and roadsides. In contrast, *P. gorovanicum* (Fig. 1—4) is confined to a sandy substrate and is part of specialised psammophytic formations with *Calligonum polygonoides, Achillea tenuifolia, Crepis sancta, Allium materculae, Anthemis candidissima, Astragalus stevenianus,* and *Ziziphora tenuior*. Populations of both *Papaver gorovanicum* and *P. arenarium* are quite uniform, whereas *P. macrostomum* occurs in rare individuals, and *P. commutatum* has been seen only once.

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Fig. 1—3. *Papaver gorovanicum* M. V. Agab.
Fig. 4. *Papaver gorovanicum* with associated species.
Fig. 5—7. *Papaver arenarium* M. Bieb.