

A new *Haplophyllum* (Rutaceae) from Iran

Nové *Haplophyllum* (Rutaceae) z Íránu

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A new species, *H. viridulum* SOJÁK, is described from Fars Province of Iran. It is an isolated taxon, perhaps distantly related with *H. versicolor* FISCH. et MEY. The new species is characteristic by greenish petals and non-connate filaments bearing long hairs. A new variety, *H. virgatum* BOISS. var. *scopulatum* SOJÁK, is also described (with small petals and long-persisting styles).

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Haplophyllum viridulum SOJÁK, sp. nova

Planta 20–38 cm alta, basi vix lignosa, ramosa, cortice viridi-albescente. Caules nonnulli, apice vel interdum iam a basi ramosi, virides, glabri, raro in aliqua parte pilis dispersis brevissimis tecti, glandulis sordide luteis, planis, haud insignibus, numerosis praediti.

Folia in 1/3 inferiore caulis oblongo-elliptica vel oblongo-lanceolata, (10–)20–35 × (4–)5–10(–13) mm magna, basin versus sensim attenuata, sessilia, apice subobtusata, rarius subacuta (infima subrotundata), utrinque (subtus insignius) glaucescentia, glandulis parvis, sordidis punctata, glabra vel saepe apice (raro item ad paginam) pilis brevissimis, ± sparsis puberula, subcarnosa, uninervia; folia superiora distincte angustiora, nonnumquam minora.

Inflorescentia ± contracta, 2,5–10 cm in diam., ramis rigidis, ± glabris, glandulis planis vel convexis notatis; bracteae haud numerosae, patenter pilosae, 1,5–2 mm longae.

Sepala c. 1 × 1 mm magna, fere libera vel ima basi aliquot connata, subacuta vel subobtusata, viridula, albo-marginata, glandulosa, ± densiuscule pilosa. Petala tempore florendi in vivo intus ± alba, extra dilute viridi-suffusa, in sicco utraque facie viridula, albo- (interdum fere alboluteo-) marginata, eglandulosa vel saepius glandula magna una usque glandulis paucis praedita, extus pilis (0,1–)0,2–0,3(–0,5) mm longis, patentibus densiuscule tecta, ovata, unguiculata, c. 4,5 × 3 mm magna, convexa vel saepe dorso subcarinata et navicularia, nervis 1–3 prominentibus instructa, post anthesin albidula et pallide fuscido-suffusa vel fulvescentia, disperse minute glandulosa.

Filamenta omnino libera, in 2/3 inferiore sensim dilatata, ibidem marginibus et intus longe barbata, extus glandulis 2 (rarius paucis) ornata, apicem versus gradatim attenuata. Stylus in parte inferiore pilosus, c. (2,5–)3 mm

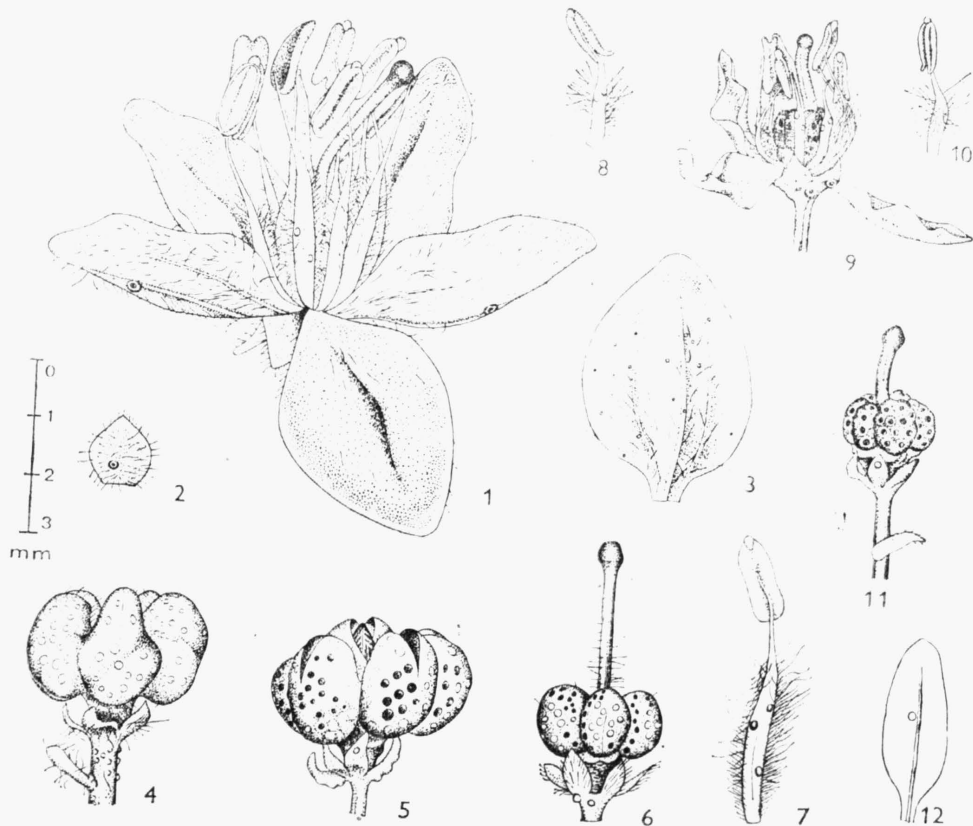


Fig. 1. — 1.—7.: *Haplophyllum viridulum* SOJÁK; 8.—12.: *Haplophyllum virgatum* Boiss. var. *scopulatum* SOJÁK.

longus. Loculi ovariorum juvenilium 5, biovulati, glabri vel saepe and suturam dorsalem superne brevipilosi, glandulis plano-convexis vel convexis (omnibus, i.e. etiam ad apicem loculorum etuberculatis) tecti. Capsula submatura et matura viridis, 4 mm in diam., loculamentis intus (facie ad stylum versus) brevipilosis, ceterum glabris, tota glandulis conformibus, planis vel plano-convexis, numquam tuberculatis, mediocriter dense induta. Semina c. 1,2 mm longa, rugulosa, \pm oblique superposita.

Typus: Persia, prov. Fars: locis stepposis prope pagum Mían Jangal; 29°09'—53°27', 3. 6. 1973 J. SOJÁK 5181, PR (holotypus); isotypi: 5096, 5131, 5193, PR et 5095, K.

H. versicolori FISCH. et MEY. petalorum colore similis, sed filamentis liberis, basi sensim modice dilatatis, longe pilosis, ovariis capsulisque omnino laeviusculis, ad apicem exappendiculatis, etuberculatis distat.

According to TOWNSEND's (1966a) key to the Iranian taxa of the genus *Haplophyllum*, this new two-ovuled species could be identified either as *H. superpositum* KITAM. (*H. dubium* KOROV.) or as *H. canaliculatum* BOISS. But

these two species have glabrous, yellow, yellowish or cream-coloured petals and are clearly quite unrelated with our greenish-flowered plant. The colour and hairiness of the petals place *H. viridulum* near *H. versicolor* FISCH. et MEY. s.l.; in this species, however, the filaments are abruptly expanded and connate at their bases and covered with shorter hairs, its ovary is tuberculate with appendages or short cylindric tubercles at the apex.

H. viridulum commonly occurs in an exceptionally species rich steppe which has developed from a semidesert after a ban on grazing on the land of a research station for the cultivation of almond-trees.

THE PROBLEM OF *H. VIRGATUM* BOISS.

TOWNSEND (1966a) identified *H. virgatum* BOISS. with *H. canaliculatum* BOISS. This is understandable because the differences between the two taxa are not convincing when examining older herbarium specimens. The difference in colour of the petals disappears in the course of years and the differently shaped inflorescence is a feature whose importance can be appreciated only after a field study of whole populations of the two taxa.

My observations made in southern Iran in 1977 have, proved unambiguously, however, the existence of two independent good species strikingly different in the colour of their flowers and in inflorescence shape. In *H. virgatum* BOISS., the petals, both live and dried in herbarium specimens, are bright yellow (\pm lemon-coloured) and the flowering branches are divided in their upper parts (at upper $1/2$ to $4/5$ of the length), and every branch is bearing several partial, scattered inflorescences. *H. canaliculatum* BOISS. has petals in living plants cream-white (on herbarium specimens after several years yellowish) and flowering branches are always unbranched with a sole, terminal, crowded together inflorescence. The colour of the petals is always correlated with the inflorescence shape and both features are quite constant. At the localities visited by me, the two species did not occur together anywhere, their populations were segregated and entirely uniform. The taxon with white flowers was always distinguished by solitary inflorescences whereas that with yellow flowers had branched inflorescences forming several partial ones. I did not succeed in finding any intermediate specimens anywhere.

Highly instructive illustrations of both taxa are presented in JAUBERT and SPACH Illustr. Or. tab. 267 and 268, 1849. BOISSIER (1878) quotes these illustrations and presents rather good descriptions. The differences in length of the calyx lobes and in size of the glands presented by this author have not been verified by me. It seems that the area of distribution of *H. virgatum* is situated eastwards from that of *H. canaliculatum*, and the two areas probably overlap to some extent.

Both species possess the same character of growth. The flowering branches always grow laterally from previous year's branches which are woody at base and dead at the apex, or the apex is broken off. The central branch never bears flowers, being either dry or in young individuals is sterile. The broom-like habit of the plant is thus conditioned hereditarily. A false impression arises of specimens of this species having been damaged by deer or cattle grazing. In reality, no herbivore can eat these plants, not even in cases of utmost food scarcity, possibly because of some substances contained in the plants. Neither is the peculiar habit of the plants due to a disease or insect damage.

H. virgatum is but little variable. Yet, a conspicuous deviation exists, which deserves attention. I am describing it as a new variety.

Haplophyllum virgatum BOISS. var. **scopulatum** SOJÁK var. nova

Planta virgata, filamentis capsulisque exceptis glaberrima, basi lignosa et ramosa. Folia in parte ramorum media \pm oblonga, c. 15–25(–30) \times 1,5 usque 3 mm magna, glauca, sparse punctata, \pm enervia, apice obtusiuscula vel nonnulla rotundata. Inflorescentiae partiales (2–)4–12(–20)-florae, congestae, inflorescentiae generales racemosae vel interdum apice corymbosocymosae ramis remotis. Ramuli sicut pedicelli breves (usque brevissimi), haud conspicue glandulosi. Sepala sublibera vel basi coalita, 0,6–0,7 \times 0,5 usque 0,6 mm magna, viridia, dilute marginata, glandulosa, maturitate capsulae persistentia. Petala lutea, \pm ovato-lanceolata, (2,5–)3 \times 1,2–1,5 mm magna, unguiculata, inconspicue sparse glandulosa vel eglandulosa.

Stamina petalis subaequilonga. Filamenta libera, in 1/2–2/3 inferiore dilatata, ibidem intus et ad margines longe pilosa (barbulata), superne gradatim attenuata, in media parte glandulis sparsis et pilis densissimis praedita. Stylus glaber, crassus, brevis (c. 1 mm), post anthesin \pm persistens. Loculi ovariorum 5, biovulati, glabri, glandulis plano-convexis tecti. Capsula c. 4 mm in diam., loculamenta glandulosa, dorso glabra, superne ad latera pilis brevissimis papillosa, laevia vel granulata, ecorniculata. Semina bina, rugulosa, c. 1,5 mm longa.

Typus: Persia, prov. Fars: pylae Gardaneh-e Besán, 15 km vers. bor.-occid. a vico Fúrk, 1000–1400 m; 28°27'–55°06', 28. 5. 1973 J. SOJÁK 4999, PR; isotypus 4999b, K.

This interesting plant agrees with a typical *H. virgatum* in most its features, except for the conspicuously small petals and somewhat smaller styles, persisting for a longer time after the petals have fallen off. Unfortunately, only one specimen has been collected, which makes it difficult to classify. The somewhat different styles and the fact that flower size is a highly constant feature in *H. virgatum* contradict the obvious idea of this plant being merely an insignificant and accidentally formed small-flowered individual of *H. virgatum*. The possibility cannot be excluded that the plant belongs to a separate species. The final evaluation of the value of this unclear taxon will evidently depend on the collection of a more complete herbarium material or on the results of further field studies.

SOUHRN

Z íránské provincie Fars je popsáno *Haplophyllum viridulum* SOJÁK; tento nový biovulátní druh se vyznačuje zelenavými, dlouze chlupatými petaly, nesrostlými nitkami a hladkými plody. Na základě terénního studia bylo prokázáno, že *H. canaliculatum* Boiss. a *H. virgatum* Boiss. jsou samostatnými, dobrými druhy. Je popsáno *H. virgatum* var. *scopulatum* SOJÁK, odchylné od typické variety malými petaly a dlouho vytrvávajícími čnělkami.

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