

TWO NEW SPECIES OF ONOSMA

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ABSTRACT. Two new species of *Onosma* L. (Boraginaceae) are described: *O. subulifolium* H. Riedl from northern Turkey; *O. pygmaeum* H. Riedl from the Pindus mountains of Greece.

While revising some recent collections from Turkey and Greece, I found two undescribed species of *Onosma* that show rather remarkable characters. In particular, *O. subulifolium* seems to be unique in the genus in having completely involute leaves forming a very narrow tube, though the margins are free from each other. This character can easily be explained as an adaptation to the dry, rocky habitat but nevertheless has some taxonomic significance in that other species growing under similar conditions do not exhibit the same feature. *O. pygmaeum*, on the other hand, is morphologically very distinct but in its habit it is not remarkable. It is one of the many serpentine endemics that have been described from various parts of Greece and are of great interest from the geographical, ecological and historical point of view.

Onosma subulifolium H. Riedl, sp. nov.

Species ex affinitate *O. taurici* Pall., differt foliis subulatis, corolla breviora, subclavata—nec subtubuloso-campanulata, indumento calycis partim quidem densiore, magis patente, et notis aliis.

Species perennis, subcaespitosa, rosulis basalibus foliorum et caulibus 1–2 simplicibus 6–12 cm altis praedita; basis residuis foliorum emortuorum tecta; radix tenuis, nigrescens. *Caules* erecti vel ascendentes, teretes, usque ad 1.5 mm in diametro prope basin metientes, densissime setis appressis sursum versis, basi tuberculatis, tuberculis pilos breviores radiantes 6–10 ferentibus ornati, inter setas glabri, coerulescenti-nigricantes. *Folia omnia* a marginibus involuta subulata facie inferiore non visibili, infra apicem indistincte tantum dilatata, 1–1.5 (–1.8) mm lata obtusa vel subacuta, supra subtusque densissime setis appressis ut caulis tecta, setis tuberculis stelligeris insidentibus, canescentia. *Folia basalia* 20–32 mm longa, vix vel valde indistincte tantum petiolata; folia caulina sessilia, prope basin interdum paulo dilatata saepe incomplete tantum convoluta ut facies inferior discerni possit, 15–18 (–20) mm longa. *Cincinni* singuli vel geminati, densi, subcapitati, bracteis subplanis, 7–8 mm longis lingulatis obtusis ornati. *Calyces* floriferi brevissime pedicellati pedicellis densissime hispidis 1–1.5 mm ad summum longis, 10–11 mm longi, in laciniis 5 lineares 1 mm fere latas subobtusas densissime subappresse vel subpatule albo-setulosas usque ad basin divisi, setis tuberculis glabris insidentibus rigidissimis antrorsis. *Corolla* calycem tertia parte fere superans, clavato-campanulata, 15–18 mm longa, 6 mm in loco latissimo in statu compresso fere lata, in vivo alba (e collectore), in sicco brunnescens, lobis vix 1 mm longis, 2–2.5 mm fere ad basin latis acutis subrecurvis ornata, extra intusque glaberrima. *Annulus* nectarifer ad basin corollae glaber, tenuissimus. *Filamenta*

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prope medium corollam inserta, linearia, 1 mm fere lata, 3-4 mm longa. *Antherae* 5-5.5 mm longae, subsagittatae, basibus saepe cohaerentes, apice sterili connectivi 1-1.5 mm longo lobos corollae aequante vel indistincte tantum superante bidentato. *Stylus* filiformis corolla 3-4 mm longior. *Stigma* minutissimum, subcapitatum. *Nuculae* non visae.

Turkey. A5 Sinop: after Kargi, open rocky slopes, poor soil, poor vegetation, 250 m, 11 v 1969, *Tobey* 2625 (holo. E).

The new species seems to be closely related to *O. tauricum* Pall. which sometimes has very narrow leaves. In addition to the characteristic leaves, the rather short, club-shaped to campanulate corolla and the dense, often somewhat spreading hairs on the calyx-lobes are very peculiar and distinctive features of *O. subulifolium*.

***Onosma pygmaeum* H. Riedl, sp. nov.**

Species habitu humili, pilis foliorum tuberculis basalibus distinctis saepissime carentibus in sicco saepe flavescentibus et imprimis combinatione characterum ceterum inter omnibus generis adhuc notis valde insignis.

Species perennis rhizomate tenui pluricipite brunneo-nigrescente interdum $\pm$ decorticante verticali, ramo plerumque unico rosulam foliorum et caulem floriferum proferente, ceteris rosulas tantum steriles gerentibus. *Caulis florifer* 7-8 cm tantum altus, basi residuis foliorum emortuorum vestitus, dense pilis retrorsis albis basi haud tuberculatis, infra inflorescentiam pilis densioribus patentibus longioribus brevioribusque intermixtis in sicco flavescentibus ornatus, irramosus. *Folia rosularum* sterilium basin versus longe attenuata vel subpetiolata, 30-55 mm longa, 2.5-6 mm lata, oblanceolata vel lanceolato-spathulata, acutiuscula petiolo haud manifeste distincto usque ad 15 mm longo praedita. *Folia basalia* caulem floriferum cingentia iis rosularum sterilium plerumque manifeste minora, 20-30 mm tantum longa, usque ad 4 mm lata, oblanceolata vel lineari-spathulata. *Folia caulina* 12-18 mm longa, 2-3 mm lata, e basi lata interdum semi-amplexicauli lineari-lanceolata, acuta. *Folia omnia* pilis albis vel saepe in sicco flavescentibus 0.7 mm fere longis subparallelis antrorsis appressis, secus nervum medianum densioribus, basi subtuberculatis vel indistincte tantum incrassatis obsiti, inter eos pili nonnulli breviores subpatentes sparsissime evoluti. *Inflorescentia* $\pm$ densiflora, simplex vel rare geminata, nutans. *Bractee* foliis similes, apicem versus decrescentes; bractea infima ceteris plerumque multo major, imprimis basi rotundata latiore, usque ad 12 mm longa. *Pedicellus* infimus usque ad 2.5-4 (-5) mm longus, ceteri 1-2 mm, omnes dense patule pilosi. *Calyx* 8-11 (-12) mm longus, usque ad basin in lacinias 1-1.5 mm latas lineares vel lineari-lanceolatas acutas divisus, dense pilis longioribus, subpatentibus flavescentibus (in sicco!) pilis brevissimis intermixtis vestitus. *Corolla* $\pm$ 15 mm longa, flava, cylindrico-campanulata, in statu compresso usque ad 6 mm lata, extra glabra, lobis 5 acutis revolutis $\pm$ triangularibus, in basi 2-2.5 mm latis, 1 mm fere longis. *Annulus* nectarifer basalis glaber. *Filamenta* $\pm$ 3 mm supra basin corollae inserta, a basi usque ad apicem gradatim paulo attenuata, plana. *Antherae* 5-5.5 (-6) mm longae, in corolla inclusae sed ejus marginem apice sterili $\pm$ 1 mm longo plerumque attingentes, apice sterili connectivi acuto, basi subsagittatae. *Stylus* filiformis corollam 2 mm fere superans; stigma indistincte bilobum. *Nuculae* non visae.

Greece. Pindus, Katara-Pass, auf Serpentin, c. 1600 m, 3 vi 1972, *Klaus, Kummert & Mück* 162 (holo. W).

O. pygmaeum is recognized by the combination of all its characters, though the leaf-hairs usually without distinct basal tubercles, often becoming yellowish when dry, and the unusual dwarf-habit are very peculiar. It appears to have no close allies.