

NEW SPECIES OF MINUARTIA (CARYOPHYLLACEAE)

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Since the publication of the author's revision of *Minuartia* (McNeill 1962, 1963) there have been extensive new collections from Turkey, one of the centres of diversity of the genus. Although some of this additional material was utilised in the preparation of the account of the genus for the Flora of Turkey (cf. Huber-Morath, McNeill & Reeve 1967; McNeill 1967), some could not be considered.

Section Minuartia Subsection Minuartia

***Minuartia isaurica* McNeill, sp. nov.:** affinis *M. multinervi* (Boiss.) Bornm. (Sect. *Minuartia* Ser. *Montanae*) sed inflorescentia graciliore effusa pedicellis sepalis longioribus floribus minoribus ut in Sect. *Sabulina*, a qua foliis manifeste linearibus non subulato-setaceis nervis sepalorum aliquantum induratis ovulis paucis certe segregata.

Annua, 6–30 cm alta, erecta vel saepe ramosa et effusa, ex toto subtiliter pubescens, sed infra glabrescens et supra glandulosa. *Folia* 6–25 mm longa et 0.8–1.8 mm lata, linearia, 3–5 nervia. *Inflorescentia* ramosa, effusa, non nisi ante anthesin contracta multiflora; bractee foliaceae, lineari-lanceolatae vel lanceolatae, pedicellis multo breviores; pedicelli 5–15 mm longi. *Sepala* exteriora 4.5–(6) mm longa, lineari-lanceolata vel subtriangulata, 5–7-plo longiora quam lata, longe acuminata, prominenter trinervia, nervis induratis crystallis minutis oxalatis calcii obsitis, cetera herbacea vix membranaceo-marginata; sepalia interiora 3.5–4.5–(5.5) mm longa, latiora, prominenter membranaceo-marginata. *Petala* 2.7–3.5 mm longa, sepalis extimis quarta parte vel dimidio breviora, ovato-elliptica, unguiculata. *Stamina* 10; filamenta c. 2 mm longa; antherae 0.30–0.35 mm longae, subglobosae. *Ovarium* subglobosum, c. 5-ovulatum. *Capsula* cylindrica, inclusa, 3–5-seminalis. *Semina* immatura, c. 8 mm diametro.

TURKEY. C4 İçel: Mut; Mağras Dağ, 1300 m, limestone slope under *Pinus brutia*; flowers white; 11 v 1965, Coode & Jones 816 (holo. E!)

M. isaurica is also known from two collections by Dr. A. Huber-Morath from the Ermenek district of Konya vilayet, also in the Isaurian Taurus and within 30 kilometres of the type locality (Ermenek—Karaman, *Pinus pallasiensis* Wald, 53 km nach Ermenek, 1480–1580 m, 12 vi 1948, Huber-Morath 8552; Gülnar—Ermenek, Kalkmergel 11 km vor Ermenek, 1100 m, 11 vii 1950, Huber-Morath 9686). The species is a very distinct one superficially appearing intermediate between *Minuartia mesogitana* in Section *Sabulina* and *M. multinervis* in Section *Minuartia*. The linear leaves, the hardened sepal nerves, the few ovules and the large seeds all point to membership of the latter section and a close affinity with *M. multinervis*. Plants of *M. isaurica* usually grow to a greater height, have a much more spreading, lax

inflorescence with longer pedicels, shorter sepals and relatively longer and broader petals.

Section Minuartia Subsection Xeralsine

Minuartia nifensis McNeill, **sp. nov.**: inter species seriei *Setacearum* ab habitu dense caespitosa, sepalis lanceolatis subtrinnervibus 5–5.5 mm longis acutis non acuminatis petalis aequalibus vel excedentibus aliquantum distincta; *M. leucocephala* (Boiss.) Mattf. (Ser. *Leucocephalae*) revocans sed foliis superioribus subulato-setaceis non linearibus, pilis glandulosis multo brevioribus, nervis lateralibus sepalorum indistinctioribus vittis herbaceis sepalis dimidio (non paulo) angustioribus.

Herba perennis, dense caespitosa, ad 8 cm alta, ex toto glanduloso-puberula. *Caules* floriferi et steriles a caudice et caudiculis lignosis exorti. *Folia* 3–8 mm longa, setacea vel subulato-setacea, prominenter trinervia, basi ciliata. *Inflorescentia* contracta 3–8-flora; bracteae 3–4 mm longae, late ovatae, late membranaceo-marginatae, pedicellis aequales vel sub-breviores. *Sepala* 5–5.5 mm longa, ovato-lanceolata vel lanceolata, acuta, parce glandulosa-puberula; vittae herbaceae prominentes, sepalis dimidio angustioribus, ad apices vix percurrentes. *Petala* oblongo-elliptica, cuneata, ad apicem rotundata, sepala subaequantia. *Stamina* 10, fertilia vel sterilia; filamenta staminum fertilium longitudine $\frac{2}{3}$ petalorum aequantia; antherae fertiles oblongae, c. 1 mm longae; antherae steriles c. 0.4 mm longae. *Capsula* immatura, multiovulata.

TURKEY. B1 Izmir: Kemalpaşa; open rocky and gravelly places on top of Nif Dağ, 30 v 1966, *Reino Alava* (4908), *G. Bocquet*, *C. von Regel* (holo. E!, iso. TUR).

For a member of Section *Minuartia* Series *Setaceae*, *Minuartia nifensis* is an extremely distinctive new species, which shows some approach to *M. leucocephala* in Series *Leucocephalae* (cf. diagnosis above). The length and shape of the sepals and the shortness of the petals distinguish it from the densely caespitose *M. erythrosepala* while the habit and the much broader acute sepals readily separate it from *M. anatolica* var. *anatolica*, the only other member of the series which is known to occur in this part of western Anatolia.

Two of the three plants in the type gathering are male-sterile, a relatively frequent phenomenon in members of this series (cf. McNeill 1963, pp. 374–375). All three plants are in a flowering stage and although the ovules appear to have reached the normal stage of development, it is not possible to predict whether seeds would have been produced. This partial sterility coupled with the morphological features might suggest an origin from hybridisation between *M. leucocephala* and either *M. erythrosepala* var. *erythrosepala* or *M. anatolica* var. *anatolica* or both. The fact that the nearest known occurrence of *M. leucocephala* is on Honaz Dağ (Mt. Cadmus—Prov. Denizli) over 200 km away suggests that this is more likely to be the evolutionary origin of the plants collected on Nif Dağ rather than their immediate parentage. No other gatherings of related taxa are known from Nif Dağ and this, in conjunction with the morphological distinctiveness, has prompted taxonomic recognition at specific level.

Minuartia valedictionis McNeill, sp. nov.: valde affinis *M. tchihatchewii* (Boiss.) Hand.-Mazz. (Sect. *Minuartia* Ser. *Setaceae*) sed planta ex toto dense puberula, foliis ex parte manifeste trinerviis, cymis multifloris, sepalis longioribus cum marginibus rectoribus, petalis multo brevioribus differt; *M. glomerata* (M. Bieb.) Degen subsp. *macedonicam* (Degen & Dörfler) McNeill (Sect. *Minuartia* Ser. *Xeralsine*) revocans sed planta graciliore, pilis brevioribus eglandulosis, foliis fasciculatis aliquantum confertioribus, sepalis et petalis multo brevioribus facile distinguenda.

Herba perennis erecta, 15–20 cm alta, multicaulis, ex toto dense et minute puberula, pilis eglandulosis 60–100 μ longis. *Caules* omnes floriferi, infra rubentes supra virides et ramosi; rami cymis terminati. *Folia* 5–15 mm longa anguste subulato-setacea, erecta, ad $\frac{1}{3}$ vel $\frac{1}{2}$ longitudinem trinervia, supra uninervia, inferiora foliis fasciculatis subtendentia; fasciculi ad anthesim subaperti. *Inflorescentiae* cymis lateralibus fasciculatis duabus vel quatuor 3–10-floris et cyma terminali subconferta 8–16-flora composita; bracteae subulato-lanceolatae, trinerviae, ad basim membranaceo-marginatae 2–4 mm longae plerumque pedicellos superantes. *Sepala* 4–4.5 mm longa, anguste triangulari-lanceolata, longe attenuata, plus 5-plo longiora quam lata. *Petala* late elliptica subunguiculata, sepalis 2–3-plo breviora. *Stamina* 10, fertilia; filamenta petalis paulo breviora; antherae subglobosae, 0.25 mm longae. *Capsula* cylindrica, c. 6-semina, 2.5–3 mm longa, in calyce inclusa. *Semina* oblongo- et subcompressio-pyriformia, 0.4–0.6 mm diametro, obscure tuberculata; tubercula dorsalia papillosa.

TURKEY. B7 Prov. Tunceli, distr. Pülümür, Tunceli—Pülümür; Kalkschucht 46 km nördlich Tunceli, 1100 m, 7 vii 1959, *Huber-Morath* 15198 (holo. Herb. Huber-Morath, Basel).

Minuartia valedictionis, although superficially similar to *M. glomerata* subsp. *macedonica* (Sect. *Minuartia* Ser. *Xeralsine*), is certainly referable to the *M. anatolica* complex in the Series *Setaceae* of Section *Minuartia*. It is readily distinguished from most variants of *M. anatolica* itself by its dense puberulence, its long attenuate sepals and its rather open leaf fascicles. It is probably closest to the Amanus and Anti-Taurus endemic *M. tchihatchewii* from which, however, it can readily be distinguished by the characters enumerated in the diagnosis. *M. valedictionis* is only known from the type specimen. The epithet commemorates a farewell to a colleague (Dr. C. D. K. Cook: now Professor of Systematic Botany in the University of Zurich).

REFERENCES

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