

NOTES ON DORONICUM L. IN SW ASIA

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ABSTRACT. Two new species and one new subspecies of *Doronicum* are described from Turkey (*D. hakkiaricum* J. R. Edmondson, *D. tobeyi* J. R. Edmondson, *D. bithynicum* J. R. Edmondson (a new name) subsp. *sparsipilosum* J. R. Edmondson) and a previously confused taxon (*D. thirkei* Boiss.) is discussed. Another new species (*D. bracteatum* J. R. Edmondson) is described from N Iraq.

INTRODUCTION

In South-West Asia, the genus *Doronicum* has largely a scattered distribution, with the greatest number of species centred in eastern Turkey; of the 14 species present in Anatolia, 8 are apparently endemic. Following the classification of Cavillier, whose monograph (in *Annu. Cons. Jard. Bot. Genève* 14: 195-368, 1911) is the most recent complete survey of the genus, the subsection *Macrophylla* is the richest in species. The Turkish members of the group are restricted to a fairly narrow range of habitats, mostly inhabiting mesic situations in the mountains of E Anatolia. Two of the Turkish species are predominantly Caucasian, and the subsection includes related species which are endemic to the neighbouring highland areas of N Iran and N Iraq. The species of subsection *Macrophylla* are not very strongly differentiated from one another morphologically, and characters of the indumentum are of some importance for their identification. Several of the species do not extend beyond a single mountain range.

The largely Caucasian species *D. macrophyllum* Fisch., on the other hand, is quite widely distributed throughout Caucasia. The reduction to synonymy of *D. dolichotrichum* Cavill. with this species by Gorshkova (in Komarov, *Fl. URSS* 26: 678, 1961) is not maintained because *D. dolichotrichum*, at least as it occurs in Turkey, is quite distinct from *D. macrophyllum*, and from limited material examined from Transcaucasia it would appear to be well represented there. Nevertheless, a few intermediate specimens have been seen, and further examination of the two taxa over the whole area is needed; meanwhile, they are provisionally retained as separate species.

While preparing the account of *Doronicum* for the *Flora of Turkey*, the limits of species already described from Anatolia were found to be satisfactory when the new material assembled over the past twenty years was examined. Two new species and a new subspecies, however, came to light, and are described below, together with a new species from N Iraq.

NEW SPECIES IN SUBSECT. MACROPHYLLA CAVILL.

***Doronicum hakkiaricum* J. R. Edmondson, sp. nov.** Species omnino propria, a *D. dolichotricho* Cavill. capitulis numerosis, lateralibus longe pedunculatis, foliis caulinis et basalibus plerumque glanduloso-pilosis distinguitur.

Planta perennis, 100-150 cm alta. *Caulis* modice pilosus, pauca folia ferens. *Folia* modice vel dense glanduloso-pilosa; basalia ovato-cordata,

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14–18 cm longa, 15–18 cm lata; apex subacutus; margines glandulis stipite brevi praeditis sparsim vestiti; petioli 20–25 cm longi, pilis longis multiseriatis et glandulis stipite brevi praeditis. *Folia caulina* pauca, relative magna, ovata vel obovata, inferiora valde panduriformia, sessilia, amplexicaulia, glandulis plurimus brevi stipite, nonnullis longo stipite praeditis, interdum pilos multiseriatos apice obtusos sparsim ferentia. *Capitula* numerosa, usque ad 18, circa 4(–5) cm diametro; pedunculi densissime glandulosi glandulis stipitem brevem vel longum ferentes. *Capitulum terminale* cuiusque rami caulis breviter pedunculoso, diametro majore, pedunculo 1–2(–4) cm longo, capitulis lateralibus (1–)2(–3) diametro minore, pedunculis 5–7 cm longis. *Regio hypocephala* distincte incrassata. *Involucri bracteae* lanceolatae, acutae vel acuminatae, glandulis stipitibus longis et brevibus dense vestitae. *Fl.* Jul.–Aug.

Turkey. C9 Hakkâri: Kara Da., 2900 m, flush, 1–1.5 m perennial, 15 viii 1954, Davis & O. Polunin, D. 24383 (holo. E, iso. K).

The form of the inflorescence of this species is characteristic, with the long-peduncled lateral heads arising from near the tops of the branches of the stem, just below the relatively large, short-peduncled, terminal head. The species extends into Nakhichevan where it is known from a single gathering: Ketschal Dag, in humidis, 2600–2700 m, 4 viii 1934, J. Prilipko & J. Isaev (K!). In addition, a rather late-gathered specimen from Iraq—Helgurd range (=Algurd Dag), on mountain slope, 3000–3300 m, 3 ix 1957, A. Rawi & Serhang (K!)—approaches this species, but better material is needed.

***Doronicum tobeyi* J. R. Edmondson, sp. nov.** Species insignis vix cum aliis ex eodem subsectione comparanda.

Planta perennis, 70–110 cm alta (teste collectoris). *Caulis* glaber; *folia* caulina adhuc non lecta. *Folia basalia* reniformia, 8–10 cm longa, 9–13 cm lata, apice rotundato obtuso; margo plus minusve regulariter sinuato-dentatus, ferens pilos breves dense implexos apice acuto uniseriatos; pagina ferens glandulas dispersas sessiles vel subsessiles et paucos pilos uniseriatos in venis. *Petioli* graciles, 8–30 cm longi, glabri. *Capitula* ut videtur numerosa, magna, 4–5 cm diametro, quidque portatum singulatim in pedunculo gracili (3–)8–13 cm longo, infra sparsim piloso, supra dense piloso cum multis pilis longis uniseriatis et glandulis stipite brevi praeditis. *Regio hypocephala* modice incrassata. *Involucri bracteae* ovatae vel ovato-acuminatae, extensae ad 1/3 longitudinis radiorum; margines breviter glandulosi-fimbriati; pagina externa sparsim glandulis subsessilibus punctata. *Fl.* Jul.–Aug.

Turkey. A7 Giresun: Karagöl, in icy stream flowing into lake, 2600 m, 5 viii 1965, Tobey 1484 (holo. E.).

Endemic to the Euxine province, currently known only from the type. An attractive species with a general appearance quite distinct from other members of subsect. *Macrophylla*; its indumentum is similar to that of *D. maximum* Boiss. & Huet and *D. haussknechtii* Cavill., particularly with regard to the character of the shortly fimbriate-glandular margins of the involucre bracts, which Cavillier described in the latter species as “glandes stipitées

placés au sommet de franges". The species is named after Mr Carl Tobey, who has provided the Edinburgh herbarium with extensive collections from N Anatolia.

Doronicum bracteatum J. R. Edmondson, *sp. nov.* *D. maximo* Boiss. & Huet similis ramificatione inflorescentiae, sed pedunculis dense glandulosi, capitulis majoribus, capitulis terminalibus subsessilibus, et bracteis involucribus longe glanduloso-ciliatis differt.

Planta 65-70+ cm alta. *Caulis* glaber. *Folia basalia* in speciminibus nostris absunt. *Folia caulina* 15-20 cm longa, 5-10 cm lata, ovata, sessilia, amplexicaulia. *Capitula* (5-)6-9, 3-4.5 cm diametro. *Pedunculi* satis dense glandulosi glandulis stipitem longum ferentes; pedunculi inferiores 10-20 cm longi, alterni, foliis bracteiformibus magnis, ellipticis sessilibus ad 5×6 cm subtenti. *Pedunculi superiores* aggregati, exorientes ex axillis parvis foliorum bracteiformium, capitula lateralibus 3-5, pedunculi 1-3.5 cm longi; capitulum terminale subsessile. *Involucri bractearum* lanceolato-acutae; margines longe glanduloso-ciliati; pagina externa glandulis brevioribus praedita. *Fl.* Jul.-Aug.

Iraq: Arl Gird Dag, near Rust (=Algurd Dag, near Rost, 25 km ENE of Rawandiz), by a stream, 2300 m, 24 vii 1932, *Guest & Ludlow-Hewitt* 2928 (holo. K).

Endemic; known only from the type. Of the species of subsect. *Macrophylla*, *D. maximum* Boiss. & Huet most closely approaches this species, which however differs strikingly in the long-glandular peduncles and margins of the involucre bracts, and the rather large, elliptic bract-leaves.

A NEW NAME AND A NEW SUBSPECIES IN SUBSECT. PARDALIANCHIA CAVILL.

Doronicum bithynicum J. R. Edmondson, *nom. nov.* Syn.: *D. thirkei* Schultz Bip. ex Boiss., *Fl. Or.* 3: 379 (1875), pro parte, emend. Cavill., *Annu. Cons. Jard. Bot. Genève* 13: 349 (1911), *nomen illegit.*

When Boissier described *D. thirkei* Schultz Bip. ex Boiss. (1875), he cited material from Bithynian Olympus (Ulu Da.) collected by Aucher and by Thirke, and his own collection from Tmolus (Boz Da.) in Lydia. The gatherings from these two mountains in fact belong to different species. In the description, Boissier cited '*D. reticulatum* Boiss., *Diagn. ser.* 1(4): 12 (1844) non Wight' in synonymy, evidently being under the impression that the name *D. reticulatum* Wight (*Icones Plantarum Indiae orientalis* 3: t. 1151, 1846, and in *Calcutta Journ. Nat. Hist.* 7: 156, 1847) had priority over his own species (*D. reticulatum* Boiss.) from Tmolus. As *D. reticulatum* Wight is in fact a later homonym, the name *D. thirkei* Boiss. was superfluous when published (and therefore illegitimate), due to the citation of the earlier synonym *D. reticulatum* Boiss.; the latter name must therefore be retained for the Tmolus plant.

Boissier's original description of *D. thirkei*, *sensu lato*, applies mainly to *D. reticulatum* Boiss., and is wholly inadequate and misleading as a description of the Bithynian plants. In publishing a new name for *D. thirkei*

sensu stricto, it has therefore been necessary to cite Cavillier's Latin description of the species in its narrow circumscription.

The following characters and distribution readily distinguish the two allopatric species:

D. reticulatum

Basal leaves copiously white-reticulate-veined beneath.

Capitula 4-6.

Distribution: B2 Izmir: Boz Da., Boissier (type)! B3 Konya: Sultan Da., 2000 m, Bornmüller 1899: 9620!

D. bithynicum

Basal leaves lacking prominent white veins beneath.

Capitula 2-3(-6).

Distribution of subsp. *bithynicum*: A2(A) Bursa: reg. subalp. Olympi Bithyni, Aucher 3269 (type)! A3 Bolu: Ala Da., Kartal Kaya Tepe, 2100-2200 m, Davis 37372!

***Doronicum bithynicum* J. R. Edmondson subsp. *sparsipilosum* J. R. Edmondson, subsp. nov.**

A typo caulibus pilos dispersos multiseriatos ferentibus, in parte inferiore eglandulosis, foliis radicalibus triangularibus vel ovatis, latitudine vix longioribus, involucri bracteis anguste lanceolato-acutis differt.

Turkey. A4 Kastamonu: Ilgaz Dağları, 35 km S of Kastamonu, roadside on N side of pass top, mainly under *Abies*, 1730 m, 27 vii 1971, J. R. Edmondson 463 (holo. E, iso. G, ISTF, K, W).

The two subspecies differ in the following main characteristics:

ssp. *sparsipilosum*

Lower half of stem bearing sparse multiseriate hairs, eglandular.

Basal leaves triangular- to ovate-cordate, scarcely longer than broad.

Involucral bracts narrowly lanceolate to linear.

ssp. *bithynicum*

Lower half of stem sparsely to densely glandular-hairy.

Basal leaves elliptic- to ovate-cordate, up to $1\frac{1}{2}$ × as long as broad.

Involucral bracts ovate-lanceolate.