

ECHINOPS SHAKROKII (ASTERACEAE), A NEW SPECIES FROM KURDISTAN, IRAQ

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Abstract. *Echinops shakrokii* is described and illustrated, and its relationship to the southwestern Asian species of *Echinops* is discussed. From the southwestern Asian species, *E. shakrokii* is easily distinguished by its smaller heads, 1.5–2.5 cm in diam., and capitula with 27–33 phyllaries.

Keywords: Asteraceae, *Echinops*, Kurdistan, Qara Dagh Mountains, Southwest Asia

During the past four years, I have been involved in the preparation of a checklist and field guide of the vascular plants of the Qara Dagh Mountains in Kurdistan, Iraq. This mountain range has been poorly explored botanically because of the lack of roads and because it was closed for military reasons. Presently, however, it has become possible to reach even some of the remote sites, resulting in many rare, poorly known, and new species being found there during this project. Among them is a new species of *Echinops* L., described below.

Echinops is a taxonomically difficult genus of ca. 120 species distributed in Europe, Africa, and Asia but centered in SW Asia (Mabberley, 2008: 296). Boissier (1875) and Rechinger (1979) recognized 42 and 76 species, respectively, and Hedge (1975) indicated that 16 species grow in Turkey, of which only *E. heterophyllus* Davis also grows in Iraq. Four years later Rechinger (1979) treated 15 species from Iraq, of which five were listed as endemic. The status of some of those species, however, remains problematic, even after Townsend (1988) evaluated some of them and described one as new. An additional new species is described here.

Echinops shakrokii S.A. Ahmad *sp. nov.* TYPE: IRAQ. Kurdistan Region: Sulaimani Province, Qara Dagh Mts., Qallay Darband Spi, mountainside dominated by *Quercus aegilops*, *Acer monspessulanum*, and a creeping species of *Prunus*, sandy soil on a steep slope, 1737 m, 35°17'36"N, 45°17'55"E, 18 September 2016, S. A. Ahmad 16-4088, with A. Hama, K. Faraidun & S. R. Fayaq. (Holotype: KBFH; Isotypes: KBFH, MO, SUFH). Fig. 1–2.

Echinops shakrokii is readily separated from the other Southwest Asian species of the genus by having smaller compound heads 1.5–2.5 cm in diam. with some 100 small capitulae collectively subtended by 27–33 phyllaries that are not plumose.

Herbs, perennial, 20–35 cm tall; caudex woody, several branched, to 1 cm in diam. *Stems* slender, obscurely sulcate, densely woolly and sparsely glandular-puberulent, with several short branches in inflorescence. *Basal leaves* and lowermost cauline leaves pinnatisect, 8–17 cm long; petiole

2–5 mm long, lanate; blade 2–7 mm wide, abaxially densely white lanate, adaxially greenish, sparsely pubescent and moderately to sparsely glandular-puberulent; lateral lobes 8–11, lanceolate, reduced in size apically, margin with few divisions terminated in a spine, 5–10 mm long; middle and upper cauline leaves sessile, pinnatisect, lanceolate, base auriculate, semiamplexicaul, auricles with dense spines, indumentum of both surfaces as in basal and lowermost cauline leaves. *Heads* compound, with ca. 100, 1-flowered capitulae, noncornigerous, 1.5–2.5 cm in diam.; peduncle 0.5–1 cm long; receptacle oblong-ovoid, 2.5–3.0 mm wide; bracts of common involucre reflexed, dentate, spiny. *Capitulum* compound, 13–15 mm long in flower; with few connate bristles at base; phyllaries 27–33; outer ones ca. 6–9, spatulate, 2.5–5.5 mm long, base attenuate, margin bristly, apex lacerate; middle phyllaries ca. 21, increasing in length inward, 5.5–12.0 mm long, lanceolate, margin bristly-ciliate, apex acuminate into a slender spine; innermost phyllaries 3, free, narrowly oblong, ca. 11 mm long, margin entire, apex lacerate. *Corolla* 11–12 mm long, pale blue, tube ca. 5 mm long, sparsely puberulent below apex. *Cypsellae* (including pappus) ca. 7 mm long; pappus barbellate bristly, ca. 2 mm long, about twice as long as apical hairs of achene.

Distribution: Iraq, Kurdistan, Qara Dagh Mts.; thus far known only from type locality.

Etymology: the specific epithet, *shakrokii*, is from *shakroka*, the Kurdish word for sugar. The plant has a history of use as a delicacy; the sweet-tasting fresh receptacle is eaten raw. The plant is attractive to Lepidoptera, which gather in the leaf axils to suck the sap; they also make a round, white shell from the plant exudate in which they pupate. The shell, which has a mild, sweet taste, is collected and eaten.

Echinops shakrokii is easily distinguished from other southwest Asian species of *Echinops* by its smaller compound heads, 1.5–2.5 cm in diam., with ca. 100 flowering capitulae subtended by 27–33 phyllaries. It belongs to section *Echinops*, which is distinguished from other sections by having distinct inner phyllaries and nonplumose outer and middle ones. None of the southwest Asian species of section

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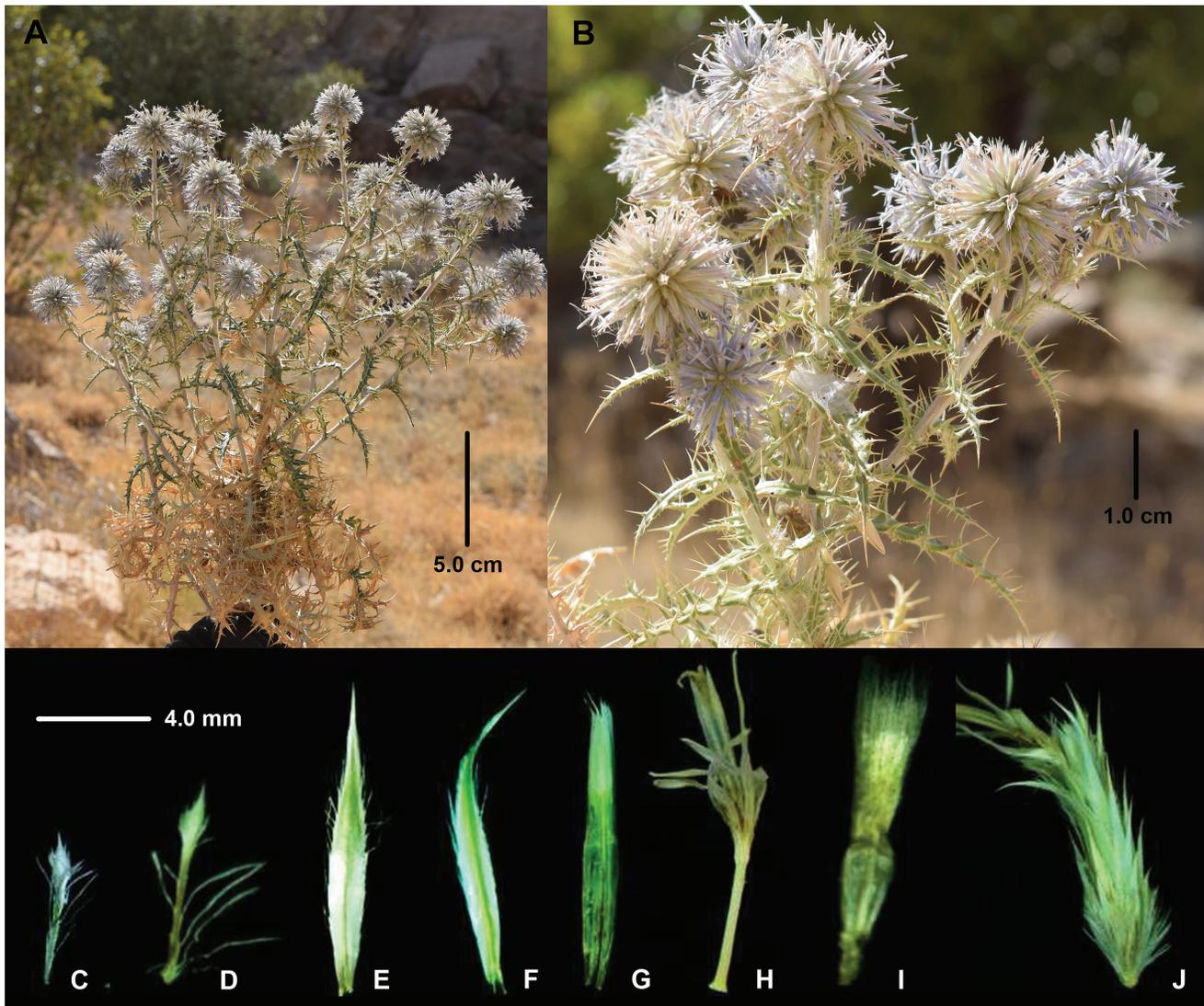


FIGURE 1. *Echinops shakrokii* S.A. Ahmad. A, plant habit; B, capitulum; C and D, outer phyllaries; E, F, and G, middle phyllaries; H, corolla; I, achenes; J, flower.

Echinops have small heads as in *E. shakrokii*, although both *E. ritro* L. of Turkmenistan and *E. freitagii* Rech.f. of northeastern Iran and Afghanistan have heads 2–4 and to 3 cm in diam., respectively. In addition to the remarkable geographical disjunction between the QaraDagh plants and those two species, *E. shakrokii* differs from *E. ritro* by being glandular (vs. non-glandular) and by having 27–33 (vs. 20–22) phyllaries. Although *E. freitagii* is glandular, it differs from *E. shakrokii* by having pinnatipartite (vs. pinnatisect) basal and lowermost cauline leaves as well as by having 18–23 (vs. 27–33) phyllaries.

A third species with small heads is *Echinops parviflorus* Boiss. & Buhse. It was reported by Rechinger (1979) from Karaj, Tehran, and Kermanshah (Iran) and doubtfully from Pirmagrun (Iraq). The Iranian plants are non-glandular, whereas the Iraqi material is glandular. The plants of both countries have small corollas, 7–8 mm long, and 12–15 phyllaries per capitulum. By contrast, *E. shakrokii* has corollas 11–12 mm long and 27–33 phyllaries per capitulum. Therefore, *E. shakrokii* is remarkably different morphologically from all members of section *Echinops* with small heads to 3 cm long.

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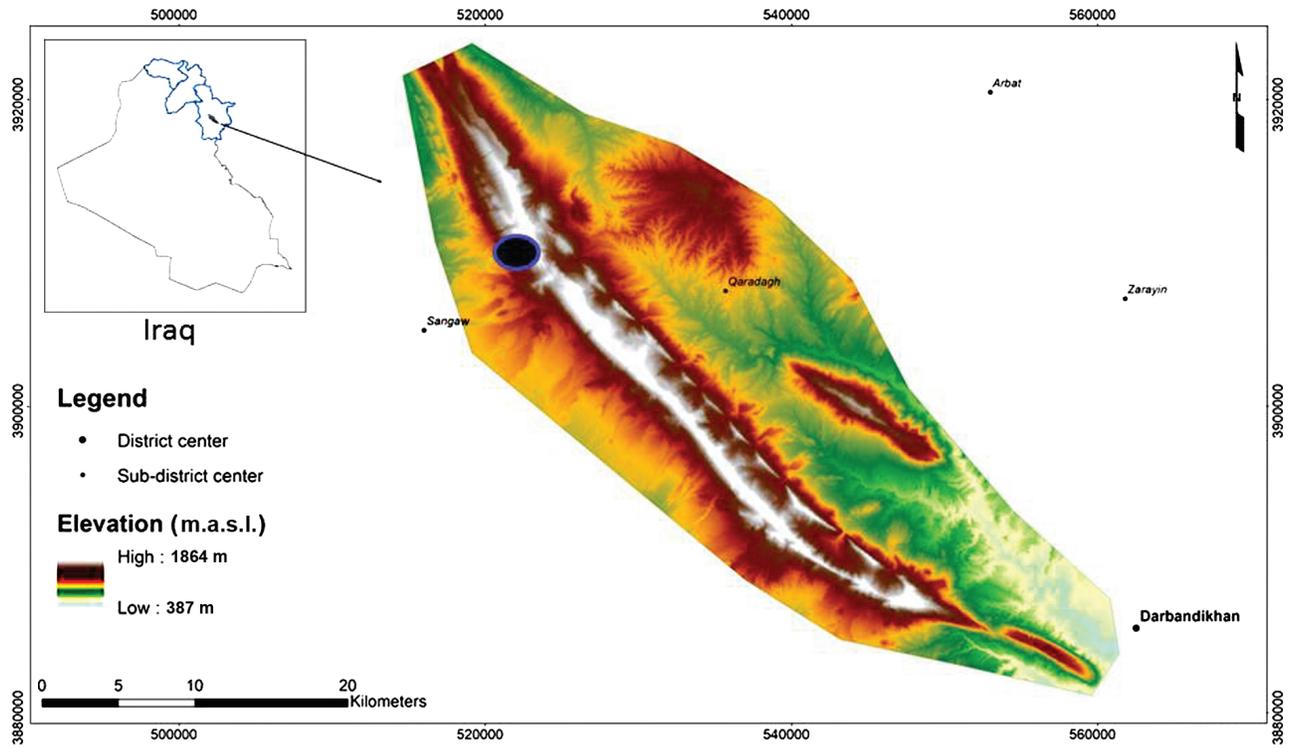


FIGURE 2. Map of Qara Dagh Mountains showing distribution of *Echinops shakrokii* S.A. Ahmad.