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THREE NEW TAXA FROM TURKEY

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ABSTRACT. Three new taxa are described from southern Turkey: *Arnebia purpurea* S. Erik & H. Sümbül (Boraginaceae); *Veronica antalyensis* M. A. Fischer, S. Erik & H. Sümbül (Scrophulariaceae); and *Onopordum bracteatum* Boiss. et Heldr. var. *arachnoideum* S. Erik & H. Sümbül (Compositae).

Arnebia purpurea S. Erik & H. Sümbül, **sp. nov.** Fig. 1.

Species nova ab omnibus speciebus aliis turcicis *Arnebiae* distincta propter corollam purpuream (non flavam) brevissimam 10–12 mm longam, indumentum etiam monomorphicum flavum setorum rigidorum apprime in foliis compositum et caules breves (usque ad 15 cm altum) differt.

Type: [Turkey]. C4 Antalya: Gazipaşa, Sugözü köyü, Akçal Tepesi, 1900–2000 m, 17 v 1983, *H. Sümbül* 3028 (holo. HUB), iso. E).

Perennial. Stem branched from the base, up to 15 cm tall. Almost the whole plant stiffly yellow setose, sometimes whitish on stem. Leaves mostly basal. Basal leaves 5–15 cm × 0·6–1·5 cm, linear-lanceolate to oblong-lanceolate, acute at apex, attenuate into 1–2 cm long petiole, indumentum erect or patent, whitish only on the midrib. Cauline leaves smaller and loosely arranged, sessile. Inflorescence a compact terminal head, 1·5–4 cm × 1·5–3 cm, cylindrical, ovoid or triangular, sometimes circinnate. Bracts linear-lanceolate, slightly longer or equal to the calyx, 10–22 mm × 1–6 mm, acute, loose below the inflorescence. Calyx 9–15 mm × 0·7–1·5 mm, lobes narrower than bracts, linear, acute. Corolla 10–12 mm, hypocrateriform, lobes 1–1·2 mm, obtuse, pubescent outside, glabrous inside; tube almost glabrous outside, slightly pilose at the middle, inside densely pubescent near the anthers, slightly constricted below the anthers. Annulus absent. Stamens inserted irregularly at different levels (3 + 2). Anthers 1·2 mm long. Fruit triagonal, keeled on the ventral side, beaked at the apex, shiny, annulate at the base. Other four dorsal keels obvious only on the ring. Ring chestnut brown, other parts whitish with brown striae. Beak acute, 1 mm long, curved to the ventral side. Fruit slightly rugulose. Style 9–10 mm long, slightly pilose, sulcate, nearly up to the corolla lobes, sometimes exserted from the calyx lobes. Stigma shallowly bilobed, 0·5 mm wide.

This distinctive new species is characterized by its short, purple corolla, short stem, and monomorphic, stiffly setose indumentum especially on the leaves.

A. purpurea is the only purple-flowered *Arnebia* species in Turkey (Davis, 1978) and has no close relatives. The other perennial species, *A. pulchra* and *A. densiflora*, have large yellow corollas: 20–24 mm in the former, 35–45 mm in the latter. They also differ from our new species in having a different indumentum (whitish and dimorphic) and tuberculate fruits.

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FIG. 1. *Arnebia purpurea*. Isotype: *H. Sümbül* 3028 (E).

A. purpurea has some affinities to the purple-flowered Iranian and Afghan species *A. euchroma* (Royle) I. M. Johnst. (Riedl, 1967) from which it differs by its shorter calyx and corolla, monomorphic indumentum, fruit keeled on ventral side (not on dorsal side) and slightly rugulose (not tuberculate) surface.

Veronica antalyensis M. A. Fischer, S. Erik & H. Sümbül, **sp. nov.** Fig. 2, 3. (Sect. *Veronica*).

Ex affinitate *V. cuneifoliae* D. Don, *V. macrostachyae* Vahl, *V. thymoidis* P. H. Davis et *V. tauricolae* Bornm. (vide Fischer, 1978), a quibus differt imprimis characteribus indumenti et foliorum formae.

Herba ascendens, c. 5–10 cm alta, basi ramosa, vix lignosa. Caules pilis tenuibus, (0·05–)0·1–0·2(–0·3) mm longis deorsum patentibus vel retrocurvatis dense puberuli. Surculi floriferi semierecti, racemis 2–4 lateralibus, in apicem foliatum vegetativum terminantes. Folia sessila, oblanceolata, c.8–11 mm longa, 2·5–3·5 mm lata, marginibus revolutis, utrimque 1–4 crenis remote crenato-serrata, in superficiebus ambabus pilis tenuibus 0·05–0·2 mm longis retrocurvatis subintertextis densissime cinerescente exiliter subtomentosa. Racemi pedunculo 1–2 cm longo, floriferi 2–5 cm

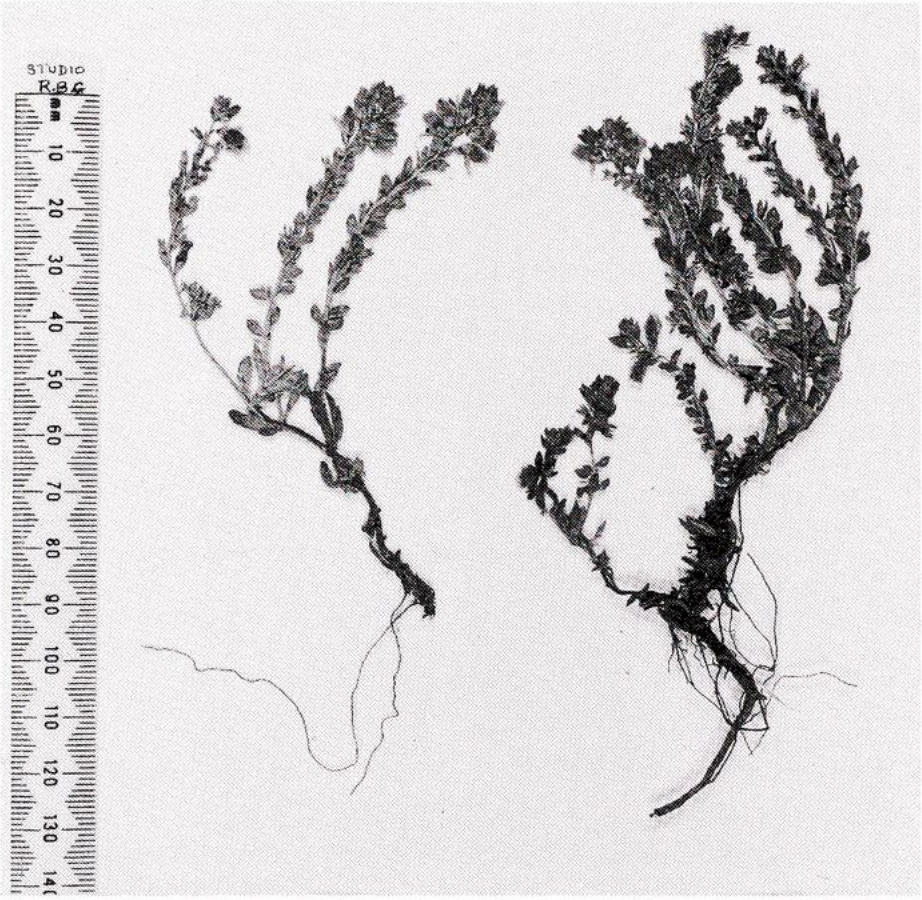

FIG. 2. *Veronica antalyensis*. Holotype: *H. Sümbül* 1819 (E).

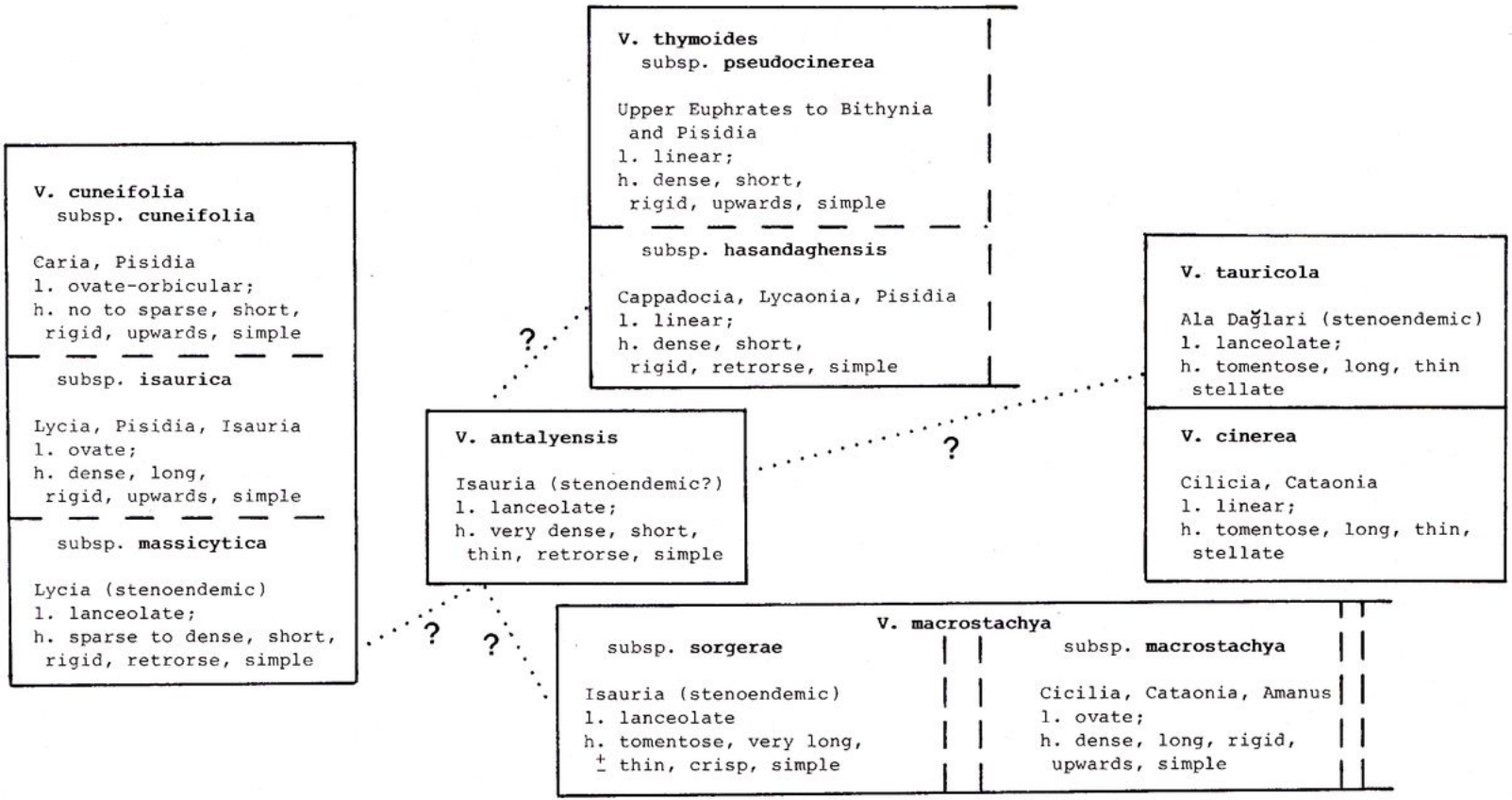

FIG. 3. *Veronica antalyensis* and its closest allies: representation of geographical ranges and main diagnostic leaf (l.) and indumentum (h.) characters.

longi, subdensi, (15–)20–30 flori, pilis tenuibus eglandulosis 0·05–0·15 mm longis retrocurvatis dense pubescentes. Bracteae elliptico-lanceolatae, inferiores 4–5 mm longae, 2–2·5 mm latae, integerrimae. Pedicelli floriferi 0·5–1·5 mm longi, 0·3–0·6-plo bractearum longitudinis, fructiferi erecti, c.2–4 mm longi, 0·5–0·8-plo bractearum longitudinis. Calyx florifer 3–3·5 mm, fructifer 3·5–4·5 mm longus, laciniis lineari-lanceolatis. Corolla coerulea, centro albo, c.11 mm diametro, laciniis extus ± puberulis. Stylus 3–4·5 mm longus. Capsula matura ignota; immatura obcordata, basi ± cuneata, apice distincte emarginata, facie pilis tenuibus c.0.1 mm longis densiuscule puberula. Semina ignota.—Vide et Fig. 3!

Type: [Turkey]. C4 Antalya: Gazipaşa, Cimbiti Yaylasi, 1650 m, 18 v 1983, *H. Sümbül* 1819 (holo. E; iso. HUB, WU).

TURKEY. C4 prov. Içel: Anamur, 14 vi 1976, *Y. Akman & P. Quezel*, ANK 6195.

This new species seems to hold a position between *Veronica macrostachya* Vahl subsp. *sorgerae* M. A. Fischer, *V. cuneifolia* D. Don subsp. *massicytica* M. A. Fischer, *V. thymoides* P. H. Davis subsp. *hasandaghensis* M. A. Fischer and *V. tauricola* Bornm. (and *V. cinerea* Boiss. & Bal.); see also Fig. 3 (Fischer, 1978). The leaf shape of *V. antalyensis* resembles *V. macrostachya* subsp. *sorgerae*, *V. cuneifolia* subsp. *massicytica* and *V. tauricola*. In respect to the conspicuously retrorsely recurved hairs, it resembles *V. thymoides* subsp. *hasandaghensis* and subsp. *thymoides*, *V. cuneifolia* subsp. *massicytica*, and *V. orientalis* subsp. *carduchorum*. Furthermore, the indumentum seems to be formalistically intermediate between *V. thymoides* subsp. *hasandaghensis* and *V. tauricola*, although this is hard to explain by hybridization because of differences in the quality of the hairs. On chorological grounds too, it is unlikely that *V. antalyensis* represents a hybrid between any of the morphologically 'possible' allies. This new species seems to be distributed in the central Taurus range, i.e. at the south-eastern margin of the distribution area of *V. cuneifolia*, at the south-western margin of that of *V. macrostachya* and at the southern margin of that of *V. thymoides*; it is probably geographically distinctly separated from *V. cuneifolia* subsp. *massicytica* (in the Lycian Taurus) in the West, and from *V. tauricola* and *V. cinerea* (in the Cataonian Taurus) in the East.

V. antalyensis differs from *V. macrostachya* by its delicate, thin and short, retrorsely curved hairs; from *V. cuneifolia* and *V. thymoides* by its thin and ± interwoven hairs and the dense, greyish indumentum; from *V. thymoides* and *V. cinerea* by its broader and distinctly crenate-serrate leaves; from *V. cinerea* and *V. tauricola* by its much less densely tomentose indumentum, the absence of stellate hairs and by shorter pedicels.

Further studies are necessary in order to decide upon the exact systematic position of our new species. Primarily, it should be investigated whether, or in which way (habitat differences?–intermediates?), it grows sympatrically with *V. cuneifolia* (subsp. *cuneifolia* and/or subsp. *isaurica*) and/or *V. macrostachya* subsp. *sorgerae* and/or *V. thymoides* (subsp. *pseudocinerea* and/or subsp. *hasandaghensis*). Capsule, seed and root characters and the range of variation likewise need closer investigation.

Onopordum bracteatum Boiss. & Heldr. var. **arachnoideum** S. Erik & H. Sümbül, **var. nov.**

A var. *bracteata* phyllariis omnino arachnoideis differt.

Type: [Turkey]. C4 Konya: Ermenek, Kazanci Çevresi, 650–850 m, 21 vi 1984, *H. Sümbül* 3024 (holo. HUB).

This plant has the same characters as *O. bracteatum* Boiss. & Heldr. but differs in the phyllaries being densely rachnoid on the inside and on the outside, not glabrous. All the European specimens also have glabrous capitula (Franco, 1976). Our specimen was collected at late flowering time, so the arachnoid indumentum is obviously a persistent character.

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