

Two New Species and A New Hybrid from Anatolia

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Abstract: Two new species and a new hybrid of *Labiatae* from south Anatolia are described and illustrated: *Sideritis caesarea* Duman, Aytaç et Başer, *Sideritis vuralii* Duman et Başer, *Origanum x adanense* Başer et Duman.

Key Words: *Sideritis*, *Origanum*, *Labiatae*, New species, Turkey

Anadolu'dan İki Yeni Tür ve Bir Yeni Hibrid

Özet: Anadolu'dan iki yeni tür ve bir yeni hibrid (*Labiatae*) tanımlandı ve şekilleri verildi. Bunlar; *Sideritis caesarea* Duman, Aytaç et Başer, *Sideritis vuralii* Duman et Başer, *Origanum x adanense* Başer et Duman'dır.

Anahtar Sözcükler: *Sideritis*, *Origanum*, *Labiatae*, Yeni tür, Türkiye

Introduction

Since *Sideritis* L. was revised by A. Huber-Morath for Flora of Turkey (1), four new species have been described from Turkey, *S. huber-morathii* Greuter et Burdet, *S. athoa* Papanikolau et Kokkini (2), *S. akmanii* Z. Aytaç, M. Ekici et A. Dönmez, *S. gulendamii* H. Duman et F. A. Karavelioğulları (3) and one species (*S. scardica* Griseb. subsp. *scardica*) was added new record for Turkey (4). *S. caesarea* and *S. vuralii* are described as new species in this paper and this increases the number of *Sideritis* species known from Turkey to 45. After *Origanum* L. was revised by J. H. Letswaart for Flora of Turkey (1), *O. munzurense* Kit Tan et Sorger (2) and *O. husnucan-baserii* H. Duman, Z. Aytaç et A. Duran (3) have been described new to science from Turkey. 23 species are now known from Turkey. 17 hybrids of *Origanum* are known (5), five of which grow in Turkey (1). *O. x adanense* (*O. bargyli* Mouterde x *O. laevigatum* Boiss.) is described as a new hybrid in this paper.

Sideritis caesarea Duman, Aytaç et Başer spec. nov. (Sect. *Empedoclia* (Rafin.) Benth.) Fig. 1, Map 1.

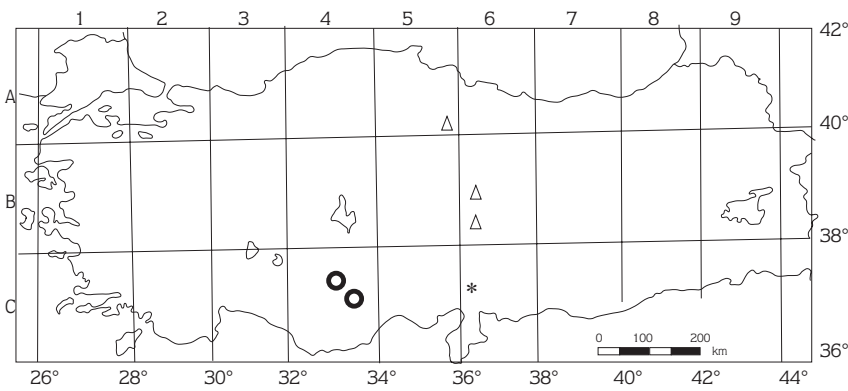
Affinis *S. germanicopolitanae* Bornm. et *S. libanot-*

ica Labill. subsp. *kurdicae* (Bornm.) Hub. Mor. sed ab *S. germanicopolitanae foliis medianis caulinis* 3.5-8 x 0.3-1 cm (non 5-12 x 1-2 cm), bracteis medianis 1-1.5 x 0.7-1.3 cm (non 1-6 cm), calycibus 9-10 mm (non 9-13 mm), calycibus pilis longis simplicibus et brevibus glandulosis, corollis 10-12 mm (non 12-14 mm) distincta. Ab *S. libanotica* subsp. *kurdicae* foliis caulinis 2-4- jugis (non 4-8- jugis), bracteis pilis glanduliferis et eglandulosis pilosis (haud dense pilosis pilis eglandulosis tantum), calyce 9-10 mm, pilis glanduliferis et eglandulosis obtecto (non circa 6 mm et dense albopiloso), calycis dentibus paulo longiore 3-4 mm (non 2.5-3 mm) differt.

Perennial, 30-50 cm, erect, simple or branched from the base. Stems shortly white villous-tomentose to glabrescent below, glabrescent to with short eglandular and glandular hairs above. Lower leaves distinctly petiolate, petioles 1-3 cm, glabrescent to villous-tomentose; lamina oblanceolate, 3-5 x 0.5-1 cm, finely serrate to crenate or entire, glabrescent to villous-tomentose, reticulately nerved. Middle cauline leaves linear to oblanceolate, sessile or shortly petiolate, 3.5-8 x 0.3-1 cm, entire or obscurely crenate-serrate, acute, reticulately nerved. Internodes to 10 cm long.



Figure 1. *Sideritis caesarea*: A-habit, B-bract, C-calyx, D-flower, E-corolla



Map 1. Distribution of Δ *Sideritis caesarea*, \circ *Sideritis vuralii*, * *Origanum adanensis*

Inflorescence simple or 2-3-branched, 10-25 cm, glabrescent to shortly glandular and eglandular hairy; verticillasters 4-6 (-10), 6-flowered, 2-6 cm distant. Middle bracts orbicular to cordate, acuminate, 1-1.5 x 0.7-1.3 cm including 3-7 mm acumen, glandular or eglandular, margine ciliate, prominently reticulate nerved. Calyx 9-10 mm, purplish; tube c. 6 mm, long simple and short glandular hairy; teeth triangular-lanceolate, acute, 3-4 mm, with glandular and eglandular hairs. Corolla yellow, 10-12 mm, hairy outside and inside, without brown markings, limb 2-3 mm. Nutlets triangular-ovoid, rounded at apex, glabrous, minutely tuberculate. *Fl.* and *Fr.* July-September. *High mountain steppe*, 1500-2400 m.

Type: Turkey, B6 Kayseri: Sarız, Yalak (Yeşilkent), Binboğa Dağı, Tekkekayası mevkii, 1800-2200 m, yüksek dağ stebi, 4.viii.1991. Z.Aytaç 4310- H. Duman (holo- GAZI; iso- ESSE, ANK).

Central Anatolia. Endemic. Irano-Turanian element.

A5 Yozgat: Çekerek, Deveci Dağı, c. 1900 m, stony place, 14. vii.1979. *R. İlarşlan* -527 ANKI, B6 Kayseri: Hınzır Dağı, above Ganişeyh, Kuşkuran Deresi, 1900 m, 23.x.1979. N. Çelik- 947 HUBI; ibid. 23.vii.1980, N. Çelik- 1545 ANKI; Hınzır Dağı, above Kaynar, Erikli Dere, 2050 m, 12.x.1979. N. Çelik-822 HUBI; Hınzır Dağı, Akkışla, above Ganişeyh, Taşlı Dere, 1800 m, 19.viii.1979. N. Çelik-740 HUBI; Hınzır Dağı, Akkışla, above Ortaköy, 1950 m, 15.ix.1979. N. Çelik-890 HUBI; Pınarbaşı, east of Hınzır Dağı, Kaynar, Bademli Dere, 2000 m, 19.vii.1979. N. Çelik-650 HUBI; Pınarbaşı, south of Hınzır Dağı, Kaynar, 2000 m, 18.vii.1979. N. Çelik-586 HUBI; ibid viii.1994. Aytaç 6727 Ekici & Dönmez; GAZI, Sarız, Binboğa Dağı. G. Tümen ESSE 95711; ibid. viii.1992. G. Tümen ESSE 98311; ibid.

vii.1995. G. Tümen ESSE 11952I; ibid. Çağsak Köyü, vii.1993. G. Tümen ESSE 10432I; B6 K. Maraş: Göksun, Fındık Köyü, Kandil Dağı, 1600-1800 m, clearing forest, 27.vii.1981. B. Yıldız- 3114 HUBI; Göksun, north of Fındık, Bostandere, 1500m, clearing forest, 24.x.1980. B. Yıldız -2348 HUBI; B6 K. Maraş: Binboğa Dağı, 2300-2400 m, 17.vii.1952. P.H.Davis 20102 ANKI, KI, EI; B6 Kayseri: Bakır Dağı, between Kisge and Bakıroluğu Y., 1700 m, in open *Abietum*, 28.vi.1952, Davis 19477, Dodds&Çetik, KI.

This species is similar to *S. germanicopolitana* and *S. libanotica* subsp. *kurdica*. From *S. germanicopolitana*, it differs middle cauline leaves 3.5-8x0.3-1 cm (not 5-12x1-2 cm); middle bracts 1-1.5 cm (not 1-6 cm); calyx 9-10 mm, long simple and short glandular hairs (not 9-13 mm, eglandular hairs); corolla 10-12 mm (not 12-14 mm). From *S. libanotica* subsp. *kurdica*, it differs cauline leaves 2-4-paired (not 4-8-paired); bracts glandular and eglandular hairy (not only with eglandular densely hairs); calyx 9-10 mm, long simple and short glandular hairy (not ca. 6 mm long and densely white- villous), calyx teeth 3-4 mm (not 2.5-3 mm). This new species was doubtfully identified by N. Çelik, *R. İlarşlan*, *B. Yıldız* and Huber-Morath as *S. libanotica* subsp. *kurdica* before.

Sideritis vuralii Duman et Başer spec. nov. (Sect. *Empedoclia* (Rafin.) Benth.) Fig.2, Map1.

Affinis *S. syriacae* L. subsp. *nusairiensi* (Post) Hub.-Mor. et *S. hololeucae* Boiss. & Heldr. sed ab *S. syriacae* subsp. *nusairiensi* bracteis medianis calycum brevioribus, 0.4-0.6 x 0.4-0.7 cm (non 0.6-1 cm), calycibus 6-7 mm (non 7.5-9 mm) longis et calyci dentibus 1-2 mm (non 2-2.5 mm) longis differt. Ab *S. hololeucae* foliis caulinis medianis inferioribusque oblan-



Figure 2. *Sideritis vuralii*: A-habit, B-bract, C-calyx, D-corolla

ceolatis usque obovatis, lamina 3-5 cm (non orbicularibus usque suborbicularibus, lamina 1-2.5 cm longa), verticillastris 4-12 (non (1-) 2-5) differt.

Perennial, 30-70 cm, erect, branched, densely adpressed white-pannose, eglandular. Basal leaves numerous, forming a rosette, distinctly petiolate, petioles 2-4 cm; lamina oblanceolate-spathulate or obovate, 1.5-5 x 0.5-2 cm, entire to finely crenulate-serrate. Middle cauline leaves oblanceolate to obovate, lamina 3-5x0.8-1.5 cm, entire to minutely crenate, obtuse, abruptly constricted into petiole to 1.5 cm. Internodes to 12 cm. Inflorescence simple or 2-6-branched, 5-20 cm; verticillasters 4-12, (5-) 6-flowered, lowermost (0.5-) 2-5 (-6) cm distant, upper sometimes crowded. Middle bracts ovate-orbicular to cordate, appearing connate because of interlocking indumentum, densely white-pannose, eglandular, always shorter than calyx, 0.4-0.6x0.4-0.7 cm, mucronate, mucro 1-3 mm. Calyx 6-7 mm, densely eglandular arachnoid pilose; teeth triangular-lanceolate, obtuse to slightly acute, 1-2 mm long. Corolla yellow, c. 10 mm, hairy outside and inside, with brown striations inside; limb c. 3 mm. Nuts triangular-ovoid, brown, glabrous, c. 2 mm. *Fl. July-August. Calcareous rocky place, 1200-1900 m.*

Type: Turkey, C4 İçel: Anamur, Kazancı-Abanoz, 1300 m, clearing forest and calcareous rocky place, 19.viii.1994. *M. Vural* 7165- *N. Adıgüzel* & *A. Dönmez* (holo- GAZI; iso- ESSE, ANK).

South Anatolia. Endemic. Mediterranean element. C4 İçel: Anamur, Kaş-Abanoz Yaylası, 1485 m, calcareous rocky place, 18.vii.1995. *H. Duman* 5846- *K.H.C. Başer* and *A. Altıntaş*; ibid. ESSE 11633I; ibid. vii.1991. *G. Tümen* ESSE 9572I; Abanoz-Akpinar Yaylası, 15.viii.1993. *G. Tümen* ESSE 10425I; ibid. 20.vi.1991. *G. Tümen* ESSE 9444I; C4 İçel: Gülnar-Ermenek, 1220 m, *Juniperus* forest, rocky place, 25.viii.1992. *M. Vural* 6110- *M. Koyuncu* & *M. Ekici* GAZI; C4 Konya: south of Ermenek, Sarıvadi, 1300 m, 30.viii.1993. *G. Tümen* ESSE 10140I; C4 Antalya: Gazipaşa, Sugözü village, Akçal Dağı, 1900 m, 5.viii.1984, *H. Sümbül* 3252 HUBI, ANKI [identified by *H. Sümbül* *S. syriaca* L. subsp. *nusairiensis* (Post) Hub.-Mor.].

Allied to *S. syriaca* L. subsp. *nusairiensis* which is distributed in C5 and C6 squares, but *S. vuralii* differs in its middle bracts always long shorter than calyx, 0.4-0.6x cm (not 0.6-1 cm) and calyx 6-7 mm (not 7.5-9 mm), teeth 1-2 mm (not 2-2.5 mm). Also allied to *S. hololeuca*, but middle and lower cauline leaves oblanceolate to obovate, lamina 3-5 cm (not orbicular

to suborbicular, lamina 1-2.5 cm), verticillasters 4-12 (not (1-)2-5) differing.

This species is named in honour of Prof. Dr Mecit Vural a well-known phytosociologist and taxonomist at Gazi University, Ankara.

Origanum x adanense Başer & Duman hybr. nov.

(*O. bargyli* Mouterde x *O. laevigatum* Boiss.) Fig. 3, Map1.

Affinis *O. laevigato* Boiss. sed spiculis 10-20 x 7-12 mm (non 5-20 x 3-6 mm), bracteis 5-8 x 2-5 mm (non 3-6 x 0.5-2 mm), calyce 2-chilo. Ab *O. bargyli* Mouterde bracteis brevioribus 5-8 x 2-5 mm (non 5-17 x 3-13) et calycibus 5-6 mm, (non 5-8 mm) differt.

Subshrub. Young shoots hirtellous. Stems 30-50 cm, ascending erect, light or purplish brown, somewhat hirtellous at the base (hairs to 1 mm long), otherwise glabrous. Branches of first order present in the upper 1/2-1/3 of the stems, up to 5 pairs per stem, (1-)3-5(-15) cm long. Leaves up to 15 pairs per stem, shortly petiolate or sessile, ovate to cordate, obtuse or acute, 8-25 x 5-15 mm, glaucous, green or purplish, glabrous or sparsely hirtellous or scabrous at least at the margins, sessile glands up to 300 per square cm. Spikes ovate to cylindrical in outline, 10-20 x 7-12 mm, erect or sometimes nodding. Bracts 4-8 pairs per spike, ovate to lanceolate or rhomboid, acute, 5-8 x 2-5 mm, glabrous or scabrous at the margins, partly purple. Flowers subsessile, pedicels 0.5-1 mm. Calyx 5-6 mm, outside glabrous, throats pilose; upper lips triangular, teeth c. 1 mm, lower lips approximately as long as upper lips, triangular-lanceolate, teeth c.2 mm. Corolla 2-lipped for c. 1/6, 11-13 mm long, pink, not saccate, outside pilose. Stamens; the upper 2 included, the lower 2 shortly protruding; filaments c. 0.8-1 mm and 2-3 mm long. *Fl. July. Pinus nigra clearings, 1100-1200m.*

Type: Turkey, C6 Osmaniye: Amanos Dağı, Yarpuz-Ağulu, 1190m, *Pinus nigra* forest, 20.vii.1995. *H. Duman* 5881- *K.H.C. Başer* and *A. Altıntaş* (holo- GAZI; iso- ESSE, ANK).

South Anatolia. Endemic. Mediterranean element. This new hybrid has become *O. laevigatum* Boiss. and *O. bargyli*. We found that the same locality with *O. bargyli*. *O. x adanense* similar to *O. laevigatum* as appearance which is distributed Amanos mountain and Cyprus. But, *O. x adanense* differs in its spicules 10-

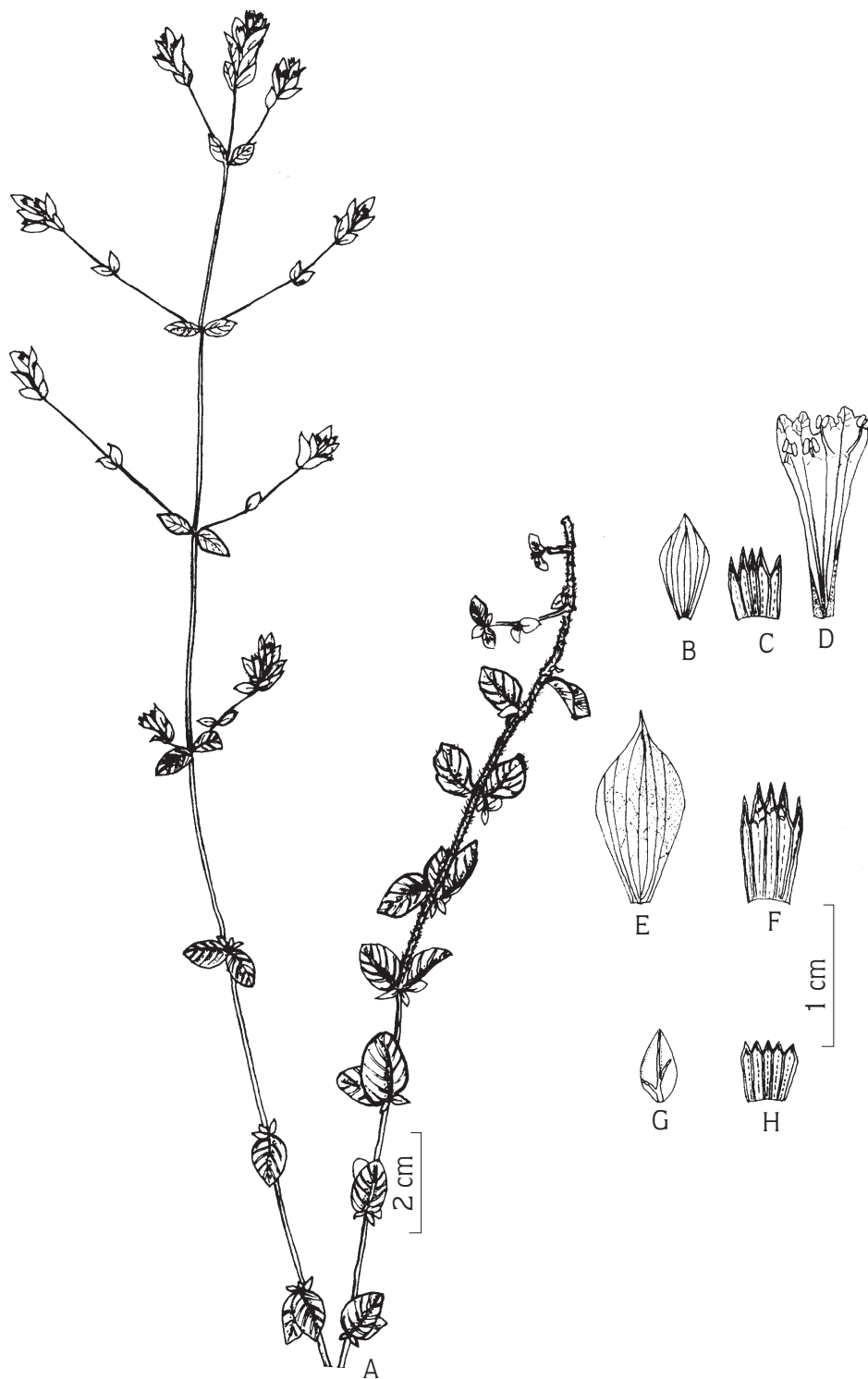


Figure 3. *Origanum x adanense*: A-habit, B-Bract, C-dissected calyx, D-dissected corolla; *O. bargyli*: E-bract, F-dissected calyx; *O. laevigatum*: G-bract, H- dissected calyx

20 x 7-12 mm (not 5-20 x 3-6 mm), bracts 5-8 x 2-5 mm (not 3-6 x 0.5-2 mm) and Calyx 2-lipped (not 1-lipped). From *O. bargyli* Mouterde, it differs bracts smaller (not 5-17 x 3-13 mm) and calyx 5-6 mm (not 5-8 mm).

References

1. Huber-Morath, A., Sideritis L. in Davis, P. H., Flora of Turkey and the East Aegean Islands, 7:178-199, 297-313, Edinburgh Univ. Pres. (1982).
2. Davis, P. H., Mill, R.R., Tan, K.,(eds.), Flora of Turkey and the East Aegean Islands, 10:203, 206-207, Edinburgh Univ. Pres. (1988).

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3. Duman, H., Aytaç, Z., Ekici, M., Karavelioğulları, F.A., Dönmez, A.A.,Duran A., Three New Species (Labiatae) From Turkey, Flora Mediteranea,5:221-228, Palermo (1995).
4. Başer, K.C.H., Vural, M., Tümen, G., Akyalçın, H., Satıl, F., Two New Records for the Flora of Turkey, Tr. J. of Botany, 19, 489-490 (1995).
5. Letswaart, J.H., A Taxonomic Revision of the Genus *Origanum* L. (Labiatae), Leiden Botanical Series. no:4, Leiden Univ. press. (1980).