

NEW TAXA AND RECORDS FROM SW TURKEY

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ABSTRACT. Six new species and one new variety are described from the province of Antalya in SW Turkey: *Ranunculus gueneri* Ayaşlıgil & P. H. Davis (Ranunculaceae); *Cerastium pisidicum* Ayaşlıgil & Kit Tan (Caryophyllaceae); *Amphoricarpos praedictus* Ayaşlıgil & Grierson (Compositae); *Campanula antalyensis* Ayaşlıgil & Kit Tan (Campanulaceae); *Scrophularia libanotica* Boiss. var. *antalyensis* Ayaşlıgil & R. Mill (Scrophulariaceae); *Stachys chamosericea* Ayaşlıgil & P. H. Davis & *Stachys antalyensis* Ayaşlıgil & P. H. Davis (Labiatae). New records are listed for the grid square C3. *Gaudiniopsis micropyroides* H. Scholz is reduced to a subspecies of *G. macra* (M. Bieb.) Eig.

INTRODUCTION

The vegetation of the KöprülÜ Kanyon National Park in SW Turkey was studied during the course of a doctoral thesis at the Institute of Landscape Ecology of the Technical University of Munich, Germany under the supervision of Prof. Dr Wolfgang Haber.

Although the north-west sector of the study area was explored by P. H. Davis in 1949 (Davis, 1951), the rest remained largely unexplored. In order to work out the main vegetation types and the impact of land use currently in practice, it was necessary to record all the existing taxa in the area. During 1980-1983, c.1680 specimens were collected from this region. They were identified mainly with the help of the Flora of Turkey team and staff at the Royal Botanic Garden, Edinburgh; some specialists from continental herbaria also helped. Specimens are temporarily deposited in Hb. Ayaşlıgil, Freising-Weihenstephan; but those supporting new taxa and new records are in the Edinburgh herbarium (E). A complete floristic list will be published separately.

***Ranunculus gueneri* Ayaşlıgil & P. H. Davis, sp. nov.** (subgen. *Ranunculus*)

Affinis *R. gregarii* Brot. (sensu *Flora Europaea* 1:231, 1964) sed foliis inferioribus semper trisectis petiolo centrale elongato, segmentis lineari-oblongis obtusis, floribus minoribus, capite subgloboso, acheniis paucioribus rostro haud vel vix uncinato differt.

Herba perennis, gracilis, haud rhizomatosa. *Radices* dimorphicae; radices carnosae 10-20 x 2-3 mm et radices fibrosae ramosae. *Folia* basalia 3-5; petioli graciles, 4-10 cm, adpresse pilosi, infra gradatim vaginati, conspicue venosi; lamina ambitu late ovata, 0.8-3 cm longa; breviter pinnatisecta, divisionibus 3-8-sectis, lobis anguste ellipticis vel oblongis, obtusis, adpresse pilosis, rhachide inter segmentis lateralibus et terminalibus 4-8(-12) mm longa; folia infima minora palmatisecta. *Caulis* 1-2, gracilis, 15-30 cm altus, simplex vel supra medium pedunculis paucis gracilioribus ascendenti-erectis; panicula laxa foliis 1-3-sectis, segmentis linearibus subobtusis. *Sepala* adpressa vel patentia, flavescentia, adpresse pilosa, 5-6 mm. *Petala* 5, lata obovata, aurea, 8-10 mm longa. *Torus* inter

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staminibus dense pubescens, superne elongatus subglaber. *Achenia* c.60 in capite fere sphaerico lateraliter valde compressa, superficie minute verruculosa et sparsim pilosula, margine superiore veno ad marginem parallelo; margine inferiore ala 0.5 mm lata. *Fl.* Mai–Jun.

Type: Turkey C3 Antalya: dist. Serik, Ovacik Da., at Ulupinar (spring) in damp place, 1350 m, 28 vi 1982, *Y. Ayaşligil* 1572 (holo. Hb. Ayaşligil, iso. E).

TURKEY. C3 Isparta: dist. Eğridir, Yaka Köyü, Kapız De., mixed forest in deep limestone valley, 1400–1500 m, 28 v 1979, *Peşmen & Güner* 1279 (HUB).

A survey of the Mediterranean perennial species of *Ranunculus* shows that *R. gueneri* (from SW Anatolia) is apparently more closely related to *R. gregarius* Brot. (sensu *Flora Europaea* 1:231, 1964) than to any other species. Although Mediterranean disjunctions of this magnitude (c.3000 km) are exceptional, they are not unique. It is a pleasure to name this plant after Dr Adil Güner who, with the late Doç. Dr H. Peşmen, was the first to discover it.

***Cerastium pisidicum* Ayaşligil & Kit Tan, sp. nov.**

Affinis *C. biebersteinii* DC., species in Tauria endemica, sed rhizomate crassiori, caulibus solitariis tenuibus, indumento canescente villosotomentoso, bracteis late triangularibus marginibus hyalinis angustioribus et sepalis acutioribus differt.

Herba perennis rhizomatibus 5–7 mm crassis. *Caulis* unicus, simplex, ascendenti-erectus, 10–20 cm altus, canescens, villosotomentosus. *Folia* basalia et pare caulino singulo, anguste elliptica ad oblanceolata, 35–40 × 5–7 mm, canescenti-villosa, acuta vel acuminata. *Bracteae* late triangulares, usque ad 7 × 3 mm. *Flores terminales*, solitarii vel in cymis dichasiis dispositi, ad 2.5 cm diam., longe pedicellati. *Sepala* lanceolata-ovata, 11–12 × 3.5 mm, viridia margine lato hyalino, canescenti-tomentosa, acuta. *Petala* 5(–6), oblongo-ovata, 18 × 9 mm, alba, glabra, leviter emarginata. *Stamina* 10(–12), filamenta filiformi-subulata, glabra; antherae oblongae, 2.5 mm, cremeo-flavescens. *Ovarium* ovoideoglobosum, 5 mm; *styli* 5, liberi, filiformes, 3.5 mm. *Capsula* recta, dentes 10; *semina* numerosa, reniforma. *Fl.* Jun.

Type: Turkey C3 Antalya: subd. Beşkonak, Bozburun Da., Alacayaylim, conglomerate slopes, 1700 m, 13 vi 1982, *Y. Ayaşligil* 1395 (holo. Hb. Ayaşligil, iso. E).

Resembles *C. biebersteinii* DC., which is endemic to Crimea and differs in having slender, less than 2 mm thick underground parts, a more-branched mat-forming habit, white-lanose indumentum, lanceolate-ovate bracts with broad hyaline margins, and more obtuse sepals.

***Amphoricarpos praedictus* Ayaşligil & Grierson, sp. nov.**

A. eleganti Albow similis sed caulibus simplicibus ad apicem foliatis, foliis obovatis, capitulis semper solitariis differt.

Rhizomata gracilia ad apices ramosa, caules plures simplices 7–30 cm altos albo-lanatos gerentia. *Folia* obovata, 2.5–5 × 1–2 cm, acuta vel obtusa, marginibus crispatis integris. *Capitulum* singulum, terminale, c.

1.3 cm longum et latum. *Involucrum* 4-5-seriatum; phyllaria exteriora ovata, c. 3×2 mm, acuta, mucronata, viridia, parce araneosa; phyllaria media oblonga, c. 7×3 mm, obtusa, marginibus scariosis, roseo-tinctis; phyllaria intima linearia, 13×1.5 mm, albida. *Receptaculi* paleae exteriores lineares, c. 12×0.4 mm, interiores aristatae, c. 3×0.08 mm, integrae vel apice laceratae. *Flores* dilute rosei, 8-9 mm longi, ei marginales c. 10 foeminei, ei centrales c. 20 hermaphroditi. *Achenia* immatura 3.5-4 mm longa, ea marginalia compressa, ea centralia teretia. *Pappus* flores aequilongus, setae florum foemineorum base distincte applanatae. *Fl.* Aug.

Type: Turkey C3 Antalya: subd. Gebiz, Bozburun Da., Tozluçukur Yayla, on conglomerate rocks, 1850 m, 25 viii 1983, Y. Ayaşlıgil 1665 (holo. Hb. Ayaşlıgil, iso. E).

TURKEY C2 Denizli: Taş Ocağı nr Denizli, vertical rocks, very local in gorge, 13 vii 1947, Davis 13253 (E, K); C3 Antalya: d. Gebiz, Bozburun Da., between Boğaz Ağzi and Tozluçukur Yayla, on conglomerate cliffs, 24 vii 1949, Davis 15513 (E).

The specific epithet, meaning 'predicted' refers to the fact that on the basis of the two incomplete specimens collected by Prof. P. H. Davis the probability that this new species might be present in SW Turkey was alluded to in *Fl. Turkey* 5:596 (1975). It is indeed very satisfactory that the above type material has now been gathered and at the time of year forecast. The genus now contains four species.

***Campanula antalyensis* Ayaşlıgil & Kit Tan, sp. nov.**

Herba biennis vel perennis (?), monocarpa, rhizomate incrassato, tota setosa-hispida. *Surculi* steriles absentes. *Caulis* ascendenti-erectus, usque ad 50 cm altus, exalatus, striatus, foliatus. *Folia* basalia et caulina inferiora elliptico-spathulata, $5-10 \times 2.5-3.5$ cm, irregulariter dentata, petiolo exalato vel anguste alato. *Flores* subsessiles vel brevissime pedicellati, 2-4 in fasciculis axillaribus in panícula laxa foliosa et bracteata dispositi. *Bractea* magna, 6 mm, apice 3-dentata. *Bracteolae* 2, in partem tertiam superiorem irregulariter dentatae. *Calyx* exappendiculatus, quinquefidus, viridis, 10-12 mm, villosus; lobi lanceolati, 10 mm. *Corolla* 5-lobatus, ad $\frac{1}{3}-\frac{1}{4}$ divisa, anguste cylindrico-infundibularis, c. $20 \times 4-6$ mm, pallide azurea, extus setoso-hispida, intus villosa-pilosa; lobi triangulari-ovati, 4-6 mm, late acuti. *Filamenta* 2-2 mm, ad basem complanata dilatata et longis villosis pilis provisa; *antherae* liberae, lineari-oblongae, 5.5-6 mm, pallide cremeo-flavescens. *Ovarium* 3-loculare. *Stylus* inclusus, teretis, c. 14 mm, ad medium 1.3 mm diam., villosa-pilosus; stigmata 3, c. 2.5 mm. *Capsula* ignota. *Fl.* Jul.

Type: Turkey C3 Antalya: subd. Beşkonak, NW of Zerk (Altinkaya), Otovasi, on conglomerate rock, 1200 m, 11 vii 1982, Y. Ayaşlıgil 1423 (holo. Hb. Ayaşlıgil).

This species is only known at present from the type gathering; later attempts to find it again were unsuccessful. As the mode of capsule dehiscence is unknown, its taxonomic position remains unclear.

***Scrophularia libanotica* Boiss., Diagn. ser. 1(12):36 (1853) var. *antalyensis* Ayaşlıgil & R. Mill, var. nov.**

Affinis var. *oligantha* Heywood sed cymis 3-floris differt. A var. *australi*

R. Mill staminodio anguste obovato-spathulato vel lineari recidit, a vars. *nevshhirensi* R. Mill, *urartuënsis* R. Mill et *cappadocica* R. Mill caulibus parce, non dense, glandulosis differt. A var. *mesogitana* (Boiss.) R. Mill, *sivasica* R. Mill, *pontica* R. Mill et a var. *libanotica* corolla marronino distinguenda.

Type: Turkey C3 Antalya: subd. Beşkonak, E of Zerk village (Altinkaya), Aşağıköy hamlet, on vertical conglomerate rock, shady place, 750 m, 23 vi 1980, Y. Ayaşlıgil 461 (holo. Hb. Ayaşlıgil, iso. E).

Endemic. Mediterranean element.

The new variety represents the first record of *S. libanotica* Boiss. for the province of Antalya, and also the first record of the species for grid-square C3. In distribution it thus connects var. *mesogitana* (W Anatolia) with other varieties which occur mainly in Inner & S Anatolia. In the combination of small narrow staminode and eglandular stems and calyces, var. *antalyensis* is unique among those varieties occurring in the southern part of Anatolia.

Stachys chamosericea Ayaşlıgil & P. H. Davis, **sp. nov.** (sect. *Fragilicaulis* Bhattacharjee subsect. *Fragiles* Rech. fil.) (Fig. 1A–C).

A *S. pinardii* Boiss. foliis minoribus sericeis longe petiolatis, bracteis cuneatis petiolatis, floribus minoribus inter alia valde differt.

Herba perennis, saxatilis, basi tenue suffrutescens. *Caules* procumbentes 9–12 cm, sinuosi et dense sericeo-villosi. *Petiotoli* parium foliorum 3–5 cm longi, lamina multo longiores. *Lamina* late cordata, 15–32 × 15–30 mm, sericea, crenato-dentata, dentibus ad uterque marginem 8–12 acutis, subtus venis glandulosis. *Folia* superiora similia, verticillastos laxos subtentia. *Bracteae* inferiores cuneato-obovatae, conspicue petiolatae, supremae obovatae, subintegrae, petiolulatae. *Verticillastri* distantes, 5–8 flori, laxi, bracteis superioribus obovatis subintegris petiolulatis; pedicelli 1–2 mm. *Bracteolae* setaceae c. 1 mm. *Calyx* campanulatus, 5–6 mm longus (dentibus inclusis); tubus pubescens glandulis sessilibus; dentes late triangulares, c. 2 mm, mucrone 0.75 mm. *Corolla* rosea, pallida e calyce breviter exserta; tubus 6 mm longus, exannulatus; galea 1.5 mm obtusa; labium inferius 5 mm longum, lobis lateralibus oblongis 1.5 mm longis emarginati, lobo mediano obreniforme 4 mm lato. *Stamina* inclusa, antheris ad medium tubi positae. *Nuculae* obovata-oblongae, 2 mm nigrae. *Fl.* Jun.

Type: Turkey C3 Antalya: subd. Beşkonak, E of Yarış hamlet, Karapinar, on limestone breccias, 750 m, 17 vi 1982, Y. Ayaşlıgil 1347, (holo. Hb. Ayaşlıgil, iso. E).

E Mediterranean element.

The specimens seen (two plants) both appear to be male sterile, the minute anthers being positioned near the middle of the corolla tube.

Stachys antalyensis Ayaşlıgil & P. H. Davis, **sp. nov.** (sect. *Swainsoniana* Bhattacharjee) (Fig. 1D–F).

Affinis *S. decumbenti* Pers. sed caulibus ascendenti-erectis, calyce non accrescenti dentibus brevioribus et labio inferiore quam tubo duplo brevior.



FIG. 1 A-C, *Stachys chamosericea*: A, habit; B, calyx; C, dissected corolla, style separate. D-F, *S. antalyensis*: D, calyx; E, corolla; F, dissected corolla, style separate. All $\times 3.5$ except A, $\times 0.65$.

Herba perennis, saxatilis. *Caules* e basi lignosi ascendenti-erecti, 15–40 cm vel ultra (inflorescentia exclusa), hirsuti et glandulosi. *Folia* inflorescentiae saltem 5-binata, verescentia, lamina quam petiolo 1–3-plo longiore, ovata, cordata, regulariter crenato-dentata, ad uterque marginem dentibus obtusis 18–22 provisa, indumento piloso et glandulis subsesilibus. *Inflorescentia* terminalis ramis 1–5 (interdum spicis multo reductis vel absentibus in axillis foliorum inferiorum), spicis inter se confertis, 2–8(–10) × 1.5–2 cm. *Verticillastri* 6–10-flori. *Pedicelli* 1–1.5 mm. *Bractee* plerumque ovato-ellipticae, dentatae vel integrae, quam calyces gradatim diminutae. *Bracteolae* obsolescentes. *Calyx* tubuloso-campanulatus, 9–10 mm, hispidus et glanduloso-punctatus, aromaticus, dentibus 5 triangularibus paulo recurvis breviter muticis, mucro 0.5 mm flavescens. *Corolla* 18–19 mm, albescens; tubus 11–12 × 1.5–2 mm, annulatus; galea 3 mm longa, obtusa; labium inferius 6 mm longum, obtuse trilobatum, lobo terminali 4 mm lato, valde obtuso, lobis lateralibus 2 mm longis obtusis. *Nuculae* 2.5 mm, obovato-oblongae, nigrae, apice triangulari-truncato. *Fl.* Jun.

Type: Turkey C3 Antalya: subd. Beşkonak, N of Yarış hamlet, above Büyüçüm Köprü, on vertical calcareous conglomerate rocks, 410 m, 31 v 1982, *Y. Ayaşlıgil* 1289, (holo. Hb. Ayaşlıgil, iso. E).

TURKEY C3 Antalya: subd. Beşkonak, NE of Zerk village (Altinkaya), Böğürtlencik, on vertical conglomerate rocks, 800 m, 24 vi 1980, *Y. Ayaşlıgil* 208.

E Mediterranean element.

Distinguished from *S. decumbens* Pers. from NW Greece and S Albania by its ascending-erect stems, shorter calyx teeth which are not accrescent in fruit and lower lip of corolla which is only half as long as tube.

NEW COMBINATION

Gaudiniopsis macra (M. Bieb.) Eig subsp. ***micropyroides*** (H. Scholz) Ayaşlıgil & Kit Tan, **comb. et stat. nov.**

Syn.: *Gaudiniopsis micropyroides* H. Scholz, in Willd. 13:111–113 (1983).

NEW RECORD FOR TURKEY

Veronica panormitana Tineo ex Guss. subsp. ***baradostensis*** (M.A.F.) M. A. Fischer.

C3 Antalya: subd. Beşkonak, E of Yarış hamlet, İkitaşarasi, on limestone rocks, 500 m, 20 iv 1982, *Y. Ayaşlıgil* 1615.

NEW RECORDS FOR C3

In the new records cited below, *Y. Ayaşlıgil* has been abbreviated to *A.* The numbers in the square brackets refer to volume and page number in the 'Flora of Turkey'.

Iberis attica Jord. [1:310]

C3 Antalya: subd. Beşkonak, below Zerk village (Altinkaya), conglomerate slopes, 600 m, 7 v 1982, *A.* 1240.

Dianthus roseoluteus Vel. [II:126]

C3 Antalya: subd. Beşkonak, nr. the Dedek hamlet, hedgerows, Miocene shales and marl, 700 m, 19 viii 1983, *A.* 1646.

Sophora alopecuroides L. var. **alopecurioides** [III:11]

C3 Antalya: subd. Beşkonak, E of Zerk village (Altinkaya), nr. the Pirlemi, conglomerate slopes, 850 m, 25 vi 1980, *A.* 282.

Cephalaria lycica Matthews [IV:596]

C3 Antalya: subd. Gebiz, Bozburun Da., Tozluçukur Yayla, conglomerate slopes, 1950 m, 25 viii 1983, *A.* 1656.

Centaurea athoa DC. [V:547]

C3 Antalya: subd. Beşkonak, SE of Burmahan village, Dariyeri, *Pinus brutia* stand burnt in 1979, 1200 m, 17 vi 1982, *A.* 959.

Myosotis ramossissima Rochel ex Schultes subsp. **ramossissima** [VI:270]

C3 Antalya: subd. Beşkonak, Yarış hamlet, cornfields, waste places, 130 m, 23 vi 1982, *A.* 1154.

M. silvatica Ehrh. ex Hoffm. subsp. **cyanea** Vestergren [VI:274]

C3 Antalya: subd. Beşkonak, W of Zerk village (Altinkaya), at Derepinar, conglomerate and calcarenite, 1140 m, 12 vi 1982, *A.* 1159.

Chaenorhinum minus (L.) Lange subsp. **anatolicum** Davis [VI:651]

C3 Antalya: subd. Beşkonak, E of Kirkkavak hamlet, nr. Sarpyurt, limestone screes, 1450 m, 16 vii 1982, *A.* 1495.

Orobanchae aegyptiaca Pers. [VII:8]

C3 Antalya: subd. Beşkonak, Bozburun Da., below Ekiz Yayla, *Pinus nigra*/*Cedrus libani* forest on conglomerate slopes, 1250 m, 30 vi 1982, *A.* 1609.

O. minor Sm. [VII:17]

C3 Antalya: subd. Beşkonak, SE of Yardibi hamlet, *Cistus* heathland on Miocene shales and marl, c. 200 m, 20 v 1982, *A.* 871.

O. lutea Baumg. [VII:19]

C3 Antalya: subd. Beşkonak, Bozburun Da., above Ekiz Yayla, *Cedrus libani*/*Pinus nigra* forest on conglomerate slopes, 1550 m, 30 vi 1982, *A.* 1242.

Stachys byzantina C. Koch [VII:220]

C3 Antalya: subd. Beşkonak, N of Bozburun Da., nr. Karadünek, limestone slopes, 1800 m, 3 vii 1982, *A.* 857.

Calamintha betulifolia Boiss. & Bal. [VII:324]

C3 Antalya: subd. Beşkonak, below Zerk village (Altinkaya), on conglomerate rocks, 700 m, 7 v 1982, *A.* 1279.

C. tauricola P. H. Davis [VII:325]

C3 Antalya: subd. Beşkonak, E of Zerk (Altinkaya) village, nr. Aşağıköy, on conglomerate rocks, 720 m, 23 vi 1980, *A.* 267.

Thesium cilicicum Bornm. [VII:537]

C3 Antalya: subd. Beşkonak, Kocatop Da., Çandır Tepe, rock crevices, limestone mountains, 1960 m, 7 vi 1980, *A.* 350.

Aristolochia guichardii Davis & Khan [VII:563]

C3 Antalya: subd. Beşkonak, nr. Yarış, Temir Dere, sandy places in stream bed, 200 m, 23 vi 1982, *A.* 1478.

Carpinus orientalis Miller subsp. **orientalis** [VII:684]

C3 Antalya: subd. Beşkonak, E of Yarış, Karadağ, on limestone slopes, 1080 m, 22 v 1980, *A.* 29.

Crucianella angustifolia L. [VII:730]

C3 Antalya: dist. Serik, nr. Akdağ, Soğucaksu, *Pinus brutia* forest on calcareous sandstone, 1200 m, 25 vi 1983, *A.* 1324.

C. imbricata Boiss. [VII:741]

C3 Antalya: subd. Beşkonak, SE of Burmahan village, Dariyeri, *Pinus brutia* stand burnt in 1979, 1200 m, 17 vi 1982, *A.* 849.

Galium asparagifolium Boiss. & Heldr. [VII:797]

C3 Antalya: subd. Beşkonak, Bozburun Da., above Ekiz Yayla, conglomerate slopes, 1700 m, 10 vii 1982, *A.* 1617.

G. setaceum Lam. [VII:830]

C3 Antalya: subd. Beşkonak, nr. Bozlar, *Pinus brutia* stand on calcareous marl, 260 m, 2 vi 1980, *A.* 151.

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