

## NEW TURKISH SPECIES OF TUNICA, VELEZIA AND POTENTILLA

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In 1955 advanced students attended a vacation course at Edinburgh University designed to teach the principles of herbarium taxonomy. The new species described in this paper were largely worked out by students attending the course. Of the genera dealt with here, *Tunica* was studied by Mr. J. McNeill, *Velezia* by Miss M. E. Bradshaw, and *Potentilla* by Mr. N. K. B. Robson and Miss J. Buchanan.

### CARYOPHYLLACEAE

*Tunica lycica* P. H. Davis, sp. nov. (Sect. *Gypsophiloides* Boiss.). Plate 9.

Species haec *T. ochroleuca* (Sibth. & Sm.) Fisch. & Mey. et *T. taygetae* (Boiss.) Davis affinis sed ab ambabus habitu manifeste suffruticoso, foliis subobtusis, costis calycis distincte trinerviis differt; insuper a prima caulibus ex toto glanduloso-pubescentibus, foliis brevioribus, petalis albis subtus purpureo-nervosis recedit; ab altera calyce longiore dentibus attenuatis distinguitur.

*Planta* perennis, suffruticosa, basi in caudices lignosos subtortuosos basibus caulium floriferorum emortuorum noduliferos breviter ramosa. *Caules* floriferi erecti, tenues, 10–20 cm. alti, vix 1 mm. lati, ex toto glanduloso-pubescentes, simplices, superne laxè cymosi. *Folia* caulina linearia, 5–11 mm.  $\times$  0.5–0.75 mm., subobtusa, basi breviter connata, trinervia, infima lineari-spathulata valde obtusa ad 1.5 mm. lata saepe emarcida. *Cyma* laxè paniculata, 3–30-flora, 2–5 cm. lata, e ramulis tenuibus ascendentibus composita. *Bractae* lineari-oblongae, subacutae, 1–3 mm. longae. *Pedicelli* graciles, glanduloso-pubescentes, 3–18 mm. longae. *Calyx* basi nudus, tubuloso-conicus, 5–6.5 mm. longus, apice 1.5–2 mm. latus, glaber vel etiam ad costas sparsim glanduloso-pubescent; costae 5, prominente trinerviae; striae commissurales membranaceae, enervosae; dentes triangulares, membranacei, acuminato-mucronati, 1–1.75 mm. longi. *Petala* alba, subtus purpureo-trilineata, 7–9 mm. longa; lamina anguste oblongo-elliptica vel oblongo-lanceolata, 0.5–1.5 mm. lata, integra, obtusa vel acuta, in unguem aequilongum tenuissime bicostatum sensim attenuata. *Stamina* 10, c. 8 mm. longa. *Capsula* elliptico-cylindrica, 4–5 mm. longa, in antherophoro brevi e calyce exserta, valvis 4 integris dehiscens. *Semina* oblongo-elliptica, 1.5  $\times$  0.5 mm., fusca, minutissime papillosa, aptera, margine incrassato subinvoluta; radícula prominens; hilum centrale.

Prov. Muğla, dist. Fethiye (Lycia): Baba Dağ above Akbel yayla, 1650 m., on calcareous rocks, perennial, 30 July 1947, Davis & K. Bilger (D. 13675—holo. E; iso. K, Ankara); Minara, 31 July 1947 (probably seeded down from Baba Dağ), Davis 13709.

*Tunica* Sect. *Gypsophioides* Boiss. is centred in the Balkan Peninsula, and, with the exception of *T. armerioides* (Ser.) Hal. which has an outlying station in the Troad, has hitherto not been recorded from the Asiatic mainland. The discovery of a distinctive new species in Lycia is therefore of some phytogeographical interest.

*T. lycica* P. H. Davis, despite its prominently 3-nerved calyx ribs, is probably most closely related to *T. ochroleuca* (Sibth. & Sm.) Fisch. & Mey. from Attica and *T. taygetea* (Boiss.) P. H. Davis (*T. cretica* auct. non (L.) Fisch. & Mey.) from Crete, the Peloponnese and Euboea. *T. cretica* auct. has usually been described (and keyed out) as having 3-nerved calyx ribs, in contrast to the 1-nerved ribs of *T. ochroleuca*. However, in *T. cretica* auct. the lateral nerves are obscure or obsolete, so that in this character it hardly differs from *T. ochroleuca* in which weak lateral nerves are sometimes developed. *T. lycica* differs from both species not only in its strongly 3-nerved calyx ribs, but also in its more strongly suffruticose habit and subobtusate leaves; from *T. taygetea* it is further distinguished by its longer calyx with attenuated teeth, and from *T. ochroleuca* by its glandular-pubescent stems and different flower colour.

In shape and nervation of calyx *T. lycica* resembles both *T. armerioides* (Ser.) Hal. (*T. Sibthorpii* Boiss.) from Greece and the recently described *T. Argentii* Meikle (Kew Bull. 1954, 106) from the Aegean, but when other characters are considered the affinity does not seem to be close. The new species differs from both in its more woody base, more slender, glandular-pubescent stems, blunt leaves, glabrous or only sparsely glandular-pubescent calyx, and white, purple-veined flowers; it differs further from *T. armerioides* in its lax inflorescence.

In its stem indumentum and leaf shape *T. lycica* resembles *T. phthiotica* Boiss., a rare Greek plant that is certainly specifically distinct from *T. ochroleuca*, of which Hayek made it a variety. The new species differs from *T. phthiotica* in its suffruticose base, erect stems, longer calyx with 3-nerved ribs and longer teeth, and different petals; in *T. phthiotica* (according to recent material at Kew) the calyx ribs are manifestly 1-nerved and the petals oblong, pink and unlined.

While working out *T. lycica*, it became apparent that the name *T. cretica* (L.) Fisch. & Mey. has always been assigned to the wrong species. Though Fischer and Meyer described the perennial Cretan species under this name, they cited *Saponaria cretica* L. as its basonym, so that the Linnean species must be taken as the type of *Tunica cretica*. Unfortunately the specimen of *Saponaria cretica* in the Linnean herbarium is an annual plant that was later described as *Tunica pachygona* Fisch. & Mey. There seems no good reason why this specimen should not be taken as the type of *Saponaria cretica* (and therefore of *Tunica cretica*), since the sheet bears the name in Linnaeus's own handwriting and fits his description very well; the fact that Fischer & Meyer applied the name *T. cretica* to a different species is irrelevant when the type method is strictly applied. Linnaeus's specific epithet was evidently derived from Alpini (Pl. Exot. 292:1708) who described and figured a plant, said to have come from Crete, under the name of "*Saxiphraga altera*"—the only synonym cited by Linnaeus. So far as we know, *Tunica pachygona* does not occur in Crete, but Alpini's figure and account are useless for identification and cannot be given precedence over Linnaeus's own description and specimen.

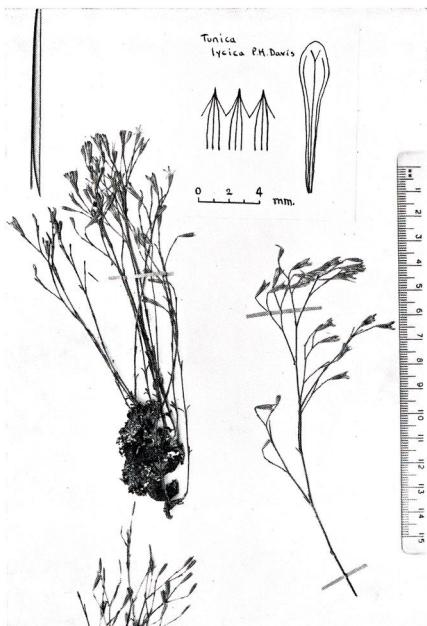


PLATE 9 *Tunica lycica* P. H. Davis. (D. 13675.) Inset : calyx teeth and petal.

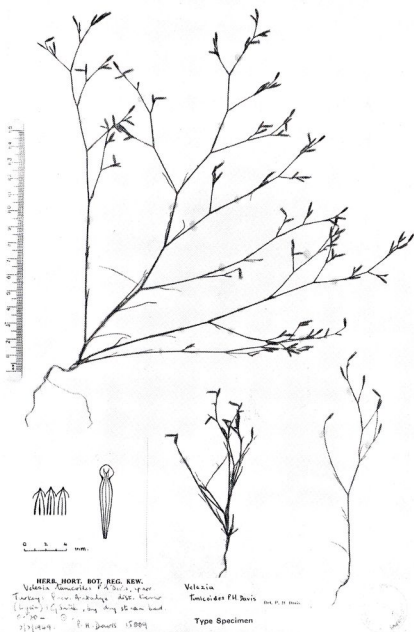


PLATE 10 *Velezia tunicoidea* P. H. Davis. (D. 15009.) Inset : calyx teeth and petal.

The correct name for *T. pachygona* Fisch. & Mey. is therefore *T. cretica* (L.) Fisch. & Mey. A name must consequently be found for the plant wrongly interpreted as *T. cretica*. When Boissier described *T. illyrica* var. *taygetea* he was apparently misled by the nervation of the calyx, assigning his variety to *T. illyrica* because of its 1-nerved ribs. Halácsy (Consp. Fl. Graecae, i, 194: 1901) reduced it to a synonym of *T. cretica* auct., remarking "meo sensu ob calycis angulis subtrinnerviis huc, nece ad *T. illyricum* pertinet". Ever since Linnaeus described *Saponaria cretica* as having 3-nerved ribs, botanists seem to have been hypnotised into seeing them in *T. cretica* auct., until K. H. Rechinger keyed it out as 1-nerved in his *Flora Aegaea* (1943). I agree with Halácsy that Boissier's variety (whose type I have seen) is the same as the Cretan species, and therefore raise it to specific rank and call it *T. taygetea* (Boiss.) P. H. Davis. The synonymy can be summarised as follows:

***Tunica cretica* (L.) Fisch. & Mey., Ind. Sem. Hort. Petrop. iv, 49 (1837), quoad syn. excl. descr.**

Syn.: *Saponaria cretica* L., Sp. Pl. ed. 2, 584 (1762).

*Gypsophila cretica* (L.) Sibth. & Sm., Prodr. Fl. Graec. i, 280 (1806) et Fl. Graeca, iv, 76 (1823), quoad syn., excl. descr. et tab.

*Tunica pachygona* Fisch. & Mey., Ind. Sem. Hort. Petrop. iv, 50 (1837).

? *T. brachypetala* Jaub. & Spach, Illustr. Pl. Or. i, 11, t. 5 (1842).

***Tunica taygetea* (Boiss.) P. H. Davis, comb. et stat. nov.**

Syn.: *T. illyrica* (L.) Fisch. & Mey. var. *taygetea* Boiss., Fl. Or. i, 521 (1867).

"*T. cretica* (L.) Fisch. & Mey.," Ind. Sem. Hort. Petrop. iv, 49, (1837), quoad descr. excl. syn.

*Gypsophila cretica* (L.) Sibth. & Sm., Prodr. Fl. Graec. i, 280 (1806) et Fl. Graeca, iv, 76, t. 384 (1823), quoad descr. et tab. excl. syn.

Descriptions of *T. taygetea* will be found under the name of *T. cretica* in Halácsy (Consp. Fl. Gr. i, 194: 1901) and Hayek (Prodr. Fl. Pen. Balc. i, 222: 1924).

This opportunity is taken to cite some new gatherings of three rare Anatolian *Tunicas* hitherto only known to me from type material:

***T. hispidula* Boiss. & Heldr. in Boiss., Diagn. Ser. I (8), 62 (1849).**

Prov. Antalya (Pamphylia): near Gebiz, 100 m., stony hillsides, 22 July 1949, Davis 15476.

***T. pamphylica* Boiss. & Bal. in Boiss., Diagn. Ser. II (6), 27 (1859).**

Prov. Antalya (Pamphylia): near Gebiz, 100 m., stony hillsides, 22 July 1949, Davis 15478.

***T. Peroninii* Boiss., Fl. Or. Suppl. 81 (1888).**

Prov. Mersin, distr. Anamur (Cilicia Trachea): between Ferhenk and Anamur, 50 m., on rocky metamorphic slopes, flowers white, 19 Aug. 1949, Davis 16329.

***Velezia tunicoides* P. H. Davis, sp. nov.**

Plate 10

Species insignis, affinis *V. fasciculatae* Boiss. sed habitu gracili, caulibus tenuissimis superne glabris, floribus graciliter pedicellatis vel pedunculatis, calyce brevior, dentibus subobtusis, petalis integris differt.

*Planta* annua, gracilis, 10–25 cm. alta, fere ad basin angulo 40°–60° dichotome ramosa. *Caulis* inferne glanduloso-pubescentes, superne glabri laxè paniculati purpurascens. *Folia* lineari-setacea, acuta, 10–30 mm.  $\times$  0.5–1 mm., trinervia, inferne ciliolata, basi breviter connata, infima emarceda. *Bracteae* foliis similes, 2–5 (–10) mm. longae. *Flores* per cymulas contractas 1–3-floras in paniculas cymosas laxas dispositi, terminales plerumque subnutantes (in fructu erecti) longe pedicellati (pedicellis glabris gracilibus 5–15 mm. longis), sublaterales 1–2 breviter pedicellati (pedicellis saepe 2 mm. longis) sed longe pedunculati. *Calyx* anguste tubulosus, 5.5–6.5 mm. longus, 1–2.5 mm. latus, apicem versus vix constrictus; costae trinerviae (nervis approximatis) breviter glanduloso-hirsutae; striae commissurales membranaceae fere obsoletae; dentes breves, rotundati vel late ovati (margine membranaceo incluso), subobtus, breviter mucronati, 0.5 mm. longi. *Petala* alba, lineari-spathulata, integra, 6.5–7.5  $\times$  1 mm., eligulata, infra limbo orbiculari exserto vix 1 mm. longo involute constricta, sensim et longissime unguiculata. *Stamina* 10, 6 mm. longa. *Styli* 2. *Capsula* cylindrica, subexserta, sessilia, valvis 4 breviter dehiscens, oligosperma. *Semina* late oblonga, 2  $\times$  1 mm., laevia, nigrescentia, margine incrassata in sicco involuta; radícula breviter prominens; hilum subcentricum.

Prov. Antalya, dist. Kemer (Lycia): Kesme boğaz near Kemer, 14 Aug. 1947, *Davis & Bilger* (D. 14057); Gönük, by dry stream bed, 7 July 1949, *Davis, Bilger & Attila* (D. 15009—holo. K; iso. E).

The small genus *Velezia*, centred in the Mediterranean, has hitherto contained only 4 species: *V. rigida* L. (type of genus), *V. fasciculata* Boiss., *V. quadridentata* Sibth. & Sm. and *V. hispida* Boiss. & Bal. No new species have been found for nearly a century, but the plant described above is more than just a fifth species of *Velezia*; it forms a link between this genus and *Tunica*.

Generic limits in the Caryophyllaceae are notoriously vague, and those between *Dianthus*, *Kohlrauschia*, *Tunica* and *Velezia* are no exception. Here, however, we are only concerned with the circumscription of *Velezia* and *Tunica*. Though these both appear to be natural genera, their limits are ill-defined, particularly so since the discovery of *Velezia tunicoides*. The main differences between these two genera (excluding *Kohlrauschia* from *Tunica*) are summarised in a table on p. 167. The diagnostics listed differ somewhat from those given by Williams in his revisions of *Velezia* (Journ. of Bot. xxvii, 25: 1899) and *Tunica* (Journ. of Bot. xxviii, 194: 1890). I am indebted to Mr. Mosharraf Hossain for drawing my attention to the slender ridges on the petal claw of *Tunica*.

It can be seen from the table that *Velezia hispida* Boiss. & Bal. occupies an isolated position in the genus, since it has a broad commissural membrane between the stout 1-nerved ribs. This membrane is characteristic of *Tunica*, although in that genus it is usually thinner and more transparent

than in *Vevezia hispida*. In facies, petal form, constricted calyx mouth and seed shape, however, the species is a typical *Vevezia*. In the genus *Tunica*, *T. pamphylica* Boiss. & Heldr. holds an anomalous position, having a tubular multi-nerved calyx without commissural membranes and with 8–12 bracteoles at the base—just like that of a *Dianthus*; this plant however is linked to typical *Tunica* by *T. Peroninii* Boiss. and in habit and petal shape is typical of the genus to which Boissier assigned it. Although *Vevezia hispida* and *T. pamphylica* have calyces that are somewhat anomalous in their genera, there can be no doubt that the perspicacious Boissier knew what he was doing; by placing them in those genera, he expressed their true affinities. We hope that we have done the same with *Vevezia tunicoides*.

In habit the new *Vevezia* is so like an annual *Tunica* that only a careful examination of floral characters—particularly the form of the calyx—decided us to assign it to *Vevezia*. There is another good reason for placing it in that genus: there is no doubt that the plant is more closely related to *Vevezia fasciculata* Boiss. (a rare species from the Levant) than it is to any known species of *Tunica*. From *V. fasciculata* it is readily distinguished by its graceful habit, stems glabrous above, flowers borne on slender pedicels or peduncles (instead of very shortly pedicellate in terminal fascicles), shorter calyx with subobtusate teeth, and entire petals. The petals of both species are eligulate and white (!), and are very similar in form except that those of *V. fasciculata* are retuse.

There can be little doubt that *Vevezia tunicoides* is the least specialised member of its genus—the inflorescence is lax, the calyx relatively short, the petals entire. Except for the more widespread *V. rigida*, the genus is confined to the Eastern Mediterranean, and it seems very likely that this annual genus has evolved from *Tunica*, centred in the same region. In its annual habit, calyx naked at the base and with 3-nerved ribs, *Vevezia* comes closest to *Tunica* Sect. *Pachypleura* (Jaub. & Spach) Boiss.

#### TUNICA

Habit perennial or annual, usually slender.

Flowers solitary and pedicellate in lax dichasial cymes (rarely congested) or crowded into heads with an involucre of usually short, scarious bracts.

Calyx campanulate, turbinate, obconical or sometimes tubular, not constricted at the mouth, naked or 2–12-bracteolate at the base; ribs 1–3-nerved (7-nerved in *T. pamphylica*) and separated by a conspicuous thin, subtransparent, commissural membrane (absent in *T. pamphylica*).

Petals usually entire, sometimes retuse or bifid; base of the limb

#### VEVEZIA

Habit annual, rigid (slender in *V. tunicoides*).

Flowers (except in *V. tunicoides*) very shortly pedicellate, axillary or crowded into fascicles at the apex of the branchlets.

Calyx narrowly tubular, often slightly constricted towards the throat, naked at base; ribs usually 3-nerved and not separated by a transparent membrane (1-nerved in *V. hispida*, separated by a thick subopaque commissural membrane).

Petals entire, retuse, bifid or quadrifid; base of limb with an



## TUNICA

eligulate; claw usually with 2 slender longitudinal ridges on the inner face between the median and lateral nerves.

Stamens 10.

Capsule ovoid or oblong, usually many-seeded.

Seeds usually with the radical not or scarcely projecting.

## VELEZIA

obscure ligule of ciliae (in *V. rigida* and *V. quadridentata*) or eligulate; claw without ridges.

Stamens 5 or 10.

Capsule cylindrical, few-seeded.

Seeds usually with a projecting radical.

## ROSACEAE

*Potentilla discipulorum* P. H. Davis, sp. nov. (Grex *Speciosae* Wolf).

Plate 11.

Species distinctissima, affinis *P. speciosae* Willd. sed indumento diverso viscido, foliolis suborbicularibus rugosis attingentibus vel incumbentibus, sepalis membranaceis majoribus prominenter reticulato-nervis, petalis longissime unguiculatis, carpellis glabris facile distinguenda.

*Planta* perennis; saxatilis, calcicola, pulvinum formans. *Caudex* ramosus, elongatus, stipulis emortuis nigricantibus et petiolis vetustis vestitus. *Caules* floriferi 14–21 cm. alti, ascendenti-erecti, paucifoliati, sulcati, viscoso-tomentosuli, simplices, sparsim corymbosa. *Folia radicalia* ternata, longe petiolata; stipulae late ovatae, 10–12 mm. longae, ad medium connatae, auriculis triangularibus acutis provisae; petiolum breviter viscoso-tomentosum, 5–9 cm. longum; foliola brevissime petiolulata, suborbicularia, basi late cuneata, attingentia vel incumbentia, rugosa, crassa, 1.5–2.5 cm. longa, subtus elevatim nervosa (etiam nervulis transversis prominentibus), margine (basi cuneata exclusa) 6–11-crenata (crenis late ovatis terminali lateralibus sub-breviore), supra glanduloso-pubescentia, subtus tomento laxo breviter arachnoideo et pilis brevissimis glandulosis provisa, nervis adpresse pilosis; folia juniora supra breviter subtus longe sericea. *Folia caulina* ternata, breviter petiolata vel subsessilia; stipulae ovatae, acuminatae, membranaceae, basi adnatae, eae foliorum superiorum majores foliaceae ovatae dentatae; foliola ovato-orbiculata (ea foliorum summorum ovata) crenato-dentata vel etiam acute dentata. *Corymbus* laxis, pauciflorus, 2–6-florus, 3–6 cm. latus, nunc ad florem unicum reductus. *Flores* magni, longipedicellati. *Pedicelli* dense et breviter tomentosi, 7–17 mm. longi. *Calyx et epicalyx* subadpresse piloso-pubescentes, 10–17 mm. longi; sepala ovata, cuspidata, 5–7 mm. lata, membranacea, manifeste reticulato-nervosa, sordide albida; episepala calycem subaequantia, lineari-lanceolata vel etiam ovato-lanceolata, 2–3 (–4.5) mm. lata, glandulifera, pallide virescentia. *Petala* lactea, calyce paulo breviora, limbo orbiculari concavo (in sicco margine undulato) 2–4 mm. longo in unguem filiformem 4–6 longum abrupte angustato. *Stamina* 20, inaequalia, stylis breviora; filamenta glabra in annulo glabro affixa; antherae oblongae 0.5–1 mm. longae. *Receptaculum* subconicum, dense pilosum. *Carpella* etiam ad umbilicum glaberrima, carinata, reniformi-ovata, vix 1 mm. longa. *Stylus* subterminalis, filiformis, 3.5 mm. longus, stigmate punctato haud dilatato.



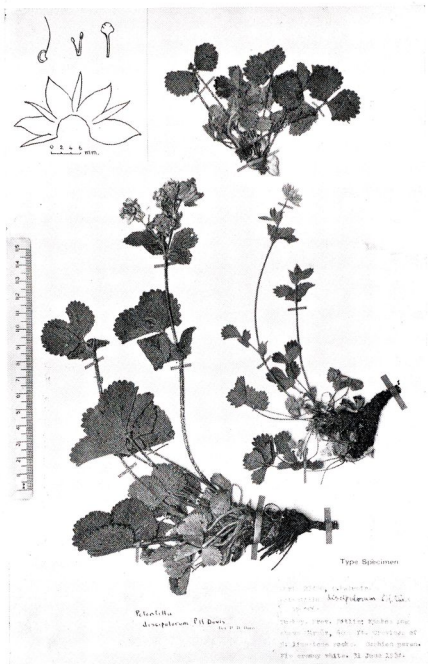


PLATE II *Potentilla discolorum* P. H. Davis. (D. 23498.)  
 Inset : calyx (one sepal and episepal removed), petal, stamens and  
 carpel (on twice scale of other organs).



PLATE 12 *Potentilla Doddsii* P. H. Davis (D. 21074.)

Inset: calyx (one sepal and episepal removed), petal, stamen and carpel (on twice scale of other organs).

PROV. BITLIS (Kurdistan): Kambos Dağ above Hürmüz, 1900 m., crevices of N. limestone rocks, cushion perennial, flowers creamy white, 30 June 1954, Davis & O. Polunin (D. 23498—holo. E; iso. K, BM).

This new *Potentilla* from Turkish Kurdistan is an unusually distinct species. The lax, arachnoid tomentum on the under side of the mature leaves places it in *Grex Speciosae* where it finds its nearest affinity with *P. speciosa* Willd., an alpine species that extends from the Balkans to Kurdistan without showing any marked geographical differentiation.

*P. discipulorum* is the only glandular-viscid member of *Grex Speciosae* and can be readily distinguished from *P. speciosum* by its indumentum, broader rugose leaflets that touch or overlap one another, large membranous petaloid sepals that are whitish and conspicuously net-veined, petals with their limb much shorter than the claw, and glabrous carpels. It also appears to differ in having the stipules of the upper stem leaves foliaceous and dentate, but there is a slight tendency for this to occur in *P. speciosa* (of which abundant material is available), so that it has not been included in the diagnosis; it may be an abnormality.

In its broad, viscid leaflets the new species shows some resemblance to *P. libanotica* Boiss. in *Grex Crassinerviae*, but that species lacks the curly tomentum of *P. discipulorum* (diagnostic of *Grex Speciosae*) and the very different floral characters—especially petal shape—preclude any close affinity. Completely glabrous carpels—a feature of *P. discipulorum*—are of very rare occurrence in Wolf's "Sect. *Potentillae Trichocarpae*" to which *Grex Speciosae* and *Crassinerviae* belong.

The specific epithet refers to the students who attended the taxonomy course, and largely worked out the new species written up in this paper.

***Potentilla Daddsii*** P. H. Davis, sp. nov. (*Grex Crassinerviae* Wolf).

Plate 12.

Affinis *P. brachypetalae* Fisch. & Mey. et *P. grammopetalae* Mor.; a prima caulibus floriferis brevioribus densissime villosis, foliolis subtus indumento diverso utrimque 3–6-serrato-dentatis (dentibus acutis terminali lateralibus multo brevioribus), sepalis magis attenuatis indumento diverso praeditis recedit; ab altera caulibus villosissimis, foliis basalibus quinatis, stipulis majoribus auriculis minus attenuatis, dente terminali foliolorum lateralibus multo brevioribus, petalis albis obovatis, carpellis magis pilosis differt.

*Planta saxatilis*, alpina, graniticola, pulvinata, 20–25 cm. alta. *Caudex* ramosus, stipulis emortuis nigro-fuscis dense vestitus. *Caulis* floriferi 8–15 cm. alti, 1 mm. lati, ascendenti-erecti, paucifoliati, virescentes, simplices vel superne parce ramosi, dense corymbiferi, pilis longissimis mollibus patentibus et pilis brevibus glandulosis ut petioli viscoso-villosissimi. *Folia radicalia* quinata, longe petiolata; stipulae magnae, 15–23 mm. longae, basi connatae late ovatae, auriculis magnis ovato-triangularibus breviter acuminatis villosulis; petiolus 4–7 cm. longus; foliola brevissime petiolulata, late obovata, obtusa, firma, mediana 2.2–3.8 cm. longa, externa minora, supra sparsim pilosa, subtus elevatim nervosa ut calyces pilis longis subadpresse villosa (juniora subsericea) et glandulis subsessilibus vestita, flavescenti-viridia, supra medium 3–7-serrato-dentata, dentibus

anguste triangularibus acutis subincurvis, dente terminali lateralibus multo brevioribus. *Folia caulina* inferiora ternata vel quinata, lamina petiolum subaequante, foliolis parce serrato-dentatis; folia inflorescentiae ternata petiolo stipulis multo brevioribus, summa petiolo obsoleto et foliolis ad stipulas (quae nunc furcatae videntur) saepe adnatis. *Corymbus* 3-9-florus, congestus, 2-4.5 cm. latus, pedicellis calyce brevioribus, floribus lateralibus saepe horizontalibus. *Calyx* pilis longis eglandulosis et glandulis breviter stipitatis hirsuto-villosus, 7-11 mm. longus; episepala sepalis aequalia vel sublongiora, lineari-acuminata, 1-1.25 mm. lata; sepala ovato-lanceolata longe acuminata, nervosa, 3-3.5 mm. lata. *Petala* calyce paulo breviora, alba, obovata, retusa, 6-7 mm. longa, brevissime unguiculata. *Stamina* 20, stylis breviora, filamentis glabris pilosis in annulo piloso insertis, antheris oblongis 1.5 mm. longis. *Receptaculum* hemisphaericum, pilosissimum. *Carpella* late oblongo-ovoidea, obtusa, 0.75 mm. longa, ex toto sed praesertim ad basin longissime pilosa. *Stylus* fere terminalis, filiformis, carpellis 4-6-plo longior, stigmate punctato vix dilatato.

PROV. RIZE (Lazistan), dist. Ikizdere: Cermanin Tepe above Cimil, 3100 m., saxatile on vertical S. granite rocks, local, hemispherical perennial, flowers white, 29 Aug. 1952, *Dodds & Davis* (D.21074—holo. E; iso. K, BM).

During the taxonomy course, when we had no material available of *P. brachypetala* Fisch. & Mey., it was thought that the plant described above might be conspecific with Fischer & Meyer's species, but when material of the latter could be examined at Kew our plant proved to be specifically distinct and of phytogeographical interest. This very shaggy, Pontic species in Wolf's *Grex Crassinerviae* forms a morphological link between the Caucasian *P. brachypetala* Fisch. & Mey. and *P. grammopetala* Mor. confined to the southern part of the Alps.

*Potentilla Doddsii* differs from *P. brachypetala* in its shorter stature, more densely villose stems, fewer and more pointed leaf teeth (the terminal one being much shorter than the laterals), denser corymbs (the outer flowers being horizontal) and more attenuated sepals. It is distinguished further by an important difference in the indumentum of the lower leaf surface, sepals and epicalyx. Whereas *P. brachypetala* has an underfelt of short, adpressed hairs, this feature is quite lacking in *P. Doddsii*, the indumentum consisting only of long eglandular hairs and shortly stalked glands.

The new species resembles *P. grammopetala* in facies, having the latter's short stature, congested corymbs and leaf indumentum and dentation (except that in *P. grammopetala* the terminal leaf tooth is about as long as the lateral teeth). *P. Doddsii* differs from the European species, however, in several important diagnostics: quinate (instead of ternate) basal leaves, more shaggy stems, stipules with longer more attenuated auricles, broader white petals, and hairier carpels.

*P. Doddsii* was the dominant plant on the one cliff on which we found it, and the cushions were so dense that they supported the flowering bulbs of an *Allium* (D.21072) rooted in the debris that had accumulated between

the caudex branches. It is a pleasure to name this interesting find after Mr. J. C. Dodds who accompanied me on my 1952 expedition to the Pontus and Anti-Taurus.

**Potentilla libanotica** Boiss., Diagn. Ser. I (1), 4 (1843) var. **isaurica** P. H. Davis, var. nov.

A typo petalis ellipticis acutis, carpellis solum in parte superiore carinae pilosis divergit. Antherae roseo-purpureae.

PROV. ANTALYA, dist. Alanya (Isauria): Kargı Çay, between Durbanas (above Alanya) and Derince dere, on limestone cliffs, 25 Aug. 1947, Davis & Bilger (D. 14466—holo. E; iso. K, BM).

The typical form of the species grows in Lebanon, and has outlying stations in the N. Amanus (Düldül Dağ, 1500–2000m., Haradjian 3890!) and Cilicia (Siehe a. 1896, n. 643!). It differs from the more western var. *isaurica* primarily in the form of its petals, which are always obovate-oblong and obtuse.