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## Contribution to the flora of Cyprus. 4

### Abstract

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The results of a fourth floristic investigation of Cyprus are presented with notes on 159 taxa. Two new combinations are made: *Pinus pallasiana* subsp. *caramanica* and *Ranunculus cyprius*; *Lathyrus aphaca* subsp. *cyprius* is described as new. *Bassia indica*, *Fumaria capreolata* and *Galium divaricatum* are reported as new for the Greek part of Cyprus and *Lolium multiflorum* subsp. *gaudini* is found new for all Cyprus. Many taxa are reported as new to one or more of the eight botanical divisions of Cyprus. The presence of some taxa has been confirmed after a long time. The chorology of some species is discussed in detail.

### Introduction

This is a continuation of our previous contributions to the flora of Cyprus (Chrtek & Slavík 1981, 1993, 1994, Slavík & al. 1993). The taxa included are those contained in vol. 1 and only in two instances vol. 2 of the Flora of Cyprus (Meikle 1977, 1985). The arrangement of taxa and nomenclature mostly follow this flora as does the use of botanical divisions 1-8.

This study is mainly based on herbarium material by the Czech botanists J. Dostál (Prague) and V. Vašák (Šumperk) and by the Austrian botanists L. Mucina (Vienna, now Stellenbosch), W. Franz, G. and G. Leute and J. Zeitlinger (Klagenfurt). The following abbreviations are used: C & S = J. Chrtek & B. Slavík in April 1978, D = J. Dostál in April 1982, V = V. Vašák in November and December 1995, M = L. Mucina in August 1995, F = W. Franz in April 1993, L = G. a G. Leute in April 1993, Z = J. Zeitlinger in April 1986. Herbarium specimens of the first five collectors are deposited in herbarium PR (Prùhonice near Prague), the specimens of other four collectors are deposited in KL (Klagenfurt).

One hundred and fifty-nine taxa are reported from 261 localities in the Greek part of Cyprus. Three species are reported as new to the area: *Fumaria capreolata*, \**Galium divaricatum* and *Bassia indica* (the latter was found in the Turkish part of Cyprus in 1988 and 1992 by Viney; see Viney 1994: 552). *Lolium multiflorum* subsp. *gaudini* is reported for

the first time for all Cyprus. The latter two important data are published here even though they are not included in vol. 1 of Meikle's flora. Taxonomic observations are provided for several species: *Pinus pallasiana*, *Ranunculus cyprius*, *Glaucium flavum*, *Fumana thymifolia*, *Lathyrus aphaca* and *Linum spicatum*; based on these studies, some new nomenclatural combinations are proposed, including: *Pinus pallasiana* subsp. *caramanica* and *Ranunculus cyprius*, and a new subspecies, *Lathyrus aphaca* subsp. *cyprius* is described. Special attention was paid to the chorology of *Linum strictum*, *L. spicatum* and *L. corymbulosum* and dot maps showing their distribution were prepared.

A number of the localities are new to some of the botanical divisions of Cyprus (considering not only Meikle 1977, but also our previous studies of 1981, 1993 and 1994). These include four taxa for region No. 1 (*Aizoon hispanicum*, \**Cakile maritima*, *Galium canum*, *Galium divaricatum*), 3 taxa for region No. 2 (*Glaucium leiocarpum*, *Lolium multiflorum* subsp. *gaudini*, *Medicago rugosa*), 2 taxa for region No. 3 (*Ferula communis*, \**Sagina apetala*), 15 taxa for region No. 4 (*Bassia indica*, *Brassica nigra*, *Daucus glaber*, *Fumaria bracteosa*, *Fumaria capreolata*, \**Fumaria parviflora*, *Geranium pusillum*, *Glaucium corniculatum*, *Papaver rhoeas* subsp. *cyprius*, \**Paronychia macrosepala*, *Pseudorlaya pumila*, *Pteranthus dichotomus*, \**Rubia tenuifolia*, *Torilis nodosa*, *Umbilicus rupestris*). Regarding the fact that the present paper was sent to the editorials of *Flora Mediterranea* as early as 1998, the contributions to the flora of Cyprus published after that date (Alzier 2000; Hand 2000) could not be taken into consideration. The species marked by an asterisk (\*) are even reported from the same regions in the publications quoted above.

Localities of taxa contained in vol. 2 of Meikle's flora will be considered in a following contribution.

### **Pinaceae**

***Pinus pallasiana*** Lamb. subsp. ***caramanica*** (Loudon) Chrtek & Slavík, **comb. nova.** - Basionym: *Pinus laricio* Poir. var. *caramanica* Loudon, Arb. & Frut. Brit. 4:2001, 1838. - Syn.: *P. nigra* Arnold subsp. *caramanica* (Loudon) Osorio-Tafall & Seraphim, List Vasc. Pl. Cyprus:3, 1973, comb. inval.; *P. nigra* Arnold subsp. *caramanica* (Loudon) Businsk" Acta Pruhonic. 68: 22, 1999.

2. Mt. Olympus, pure stand, 1700m, on serpentine, L 12604; the summit area of Mt. Olympus, F 1776.

Opinions as to the taxonomy of pines of the *Pinus nigra* Arnold and *P. pallasiana* Lamb. groups differ considerably. The majority of botanists, mainly from the western part of the area, prefer a wide concept of *P. nigra* distinguishing a number of subspecies including subsp. *pallasiana* (Lamb.) Holmboe (Novák in Klika & al. 1953, Zoller 1981, Greuter & al. 1984). Some botanists, mainly from the eastern part of the area (e.g. Post 1933, Èerepanov 1981, Barbariè & Lypa 1987) treat *P. pallasiana* as a separate species. We are inclined to follow the latter treatment. Throughout the area of this species there are several intraspecific taxa called, especially by foresters, "climatypes". A taxon "*caramanica*" was described from southern Anatolia; it also occurs in Cyprus. Rehder (1927, 1940), Chapman (1949) and Osorio-Tafall & Seraphim (1973) have noticed that it was different from subsp. *pallasiana* in Cyprus. We accept the opinion of the latter two authors that this is subsp. *caramanica* but we prefer to subordinate it to *P. pallasiana*, not to *P. nigra*.

*Pinus halepensis* Mill.

4. Table Mountain, between Paralimni and Ayia Napa, 100m, D 41638.

### **Cupressaceae**

*Juniperus oxycedrus* L.

2. Pedhoulas, *Pinus brutia* forest, 1500 m, Z 86129.

*Juniperus phoenicea* L.

1. Akamas, *Pinus brutia* forest, 350m, Z 86126; Neokhorio, 200m, V s. n. - 4. Shrubby place near the hotel Sunrise between Paralimni and Ayia Napa, D 41650; Paralimni, rocky calcareous between Pernera and Hagios Elias, D 41624; Ayia Thecla between Ayia Napa and Xylophaghou, 1-10m, V s. n.; Cape Greco, rocky calcareous, 10-80m, V s. n.

### **Ephedraceae**

*Ephedra fragilis* Desf. subsp. *campylopoda* (C. A. Mey.) Aschers. & Graebn.

3. Kourion, amphitheatre, F 1787.

### **Ranunculaceae**

*Adonis microcarpa* DC.

3. Akrotiri, W of the village, 40m, L 12609a, b.

*Adonis dentata* Del.

4. Paralimni, shrubby place between Pernera and Sunrise, D 41506.

*Ranunculus bullatus* L. subsp. *cytheraeus* (Hal.) Vierhapper & Rechinger fil.

4. Ayia Napa, seashore near the chapel Hagios Gheorgios, 1-10m, V s. n.

*Ranunculus asiaticus* L.

1. Paphos, seashore, F 1769; Coral Bay, garigue on calcareous formations, 30m, var. *sanguineus* (Mill.) DC., L 12575.

*Ranunculus paludosus* Poir.

1. Akamas, between Baths of Aphrodite and Fontana Amorosa, garigue on calcareous formations, L 12588. - 2. Kykko monastery, 1200m, D 41362.

***Ranunculus cyprius* (Boiss.) Chrtek & B. Slavik, comb. nova**

Basionym: *Ranunculus cadmicus* Boiss. var. *cyprius* Boiss., Fl. Orient. 1:32, 1867.

2. Mt. Olympus, 1900m, Z 861117.

*Ranunculus cyprius* belongs to the *Ranunculus cadmicus* Boiss. group described from Turkey (Boissier 1843:65). Later Boissier (1867:32) noticed that plants from Cyprus (in summo monti Troodos Cypri) differed somewhat from the typical *Ranunculus cadmicus* (grumae oblongo-cylindricae, petioli basi magis dilatati) and named them *R. cadmicus* â

*cyprius* Boiss. Holmboe (1914:81), a connoisseur of the Cyprus flora, writes: "Judging from my material, the characters distinguishing beta *cyprius* Boiss. ...are not constant enough to give the plant growing on the Troodos rank as a separate variety". However, he considered only the characters mentioned by Boissier. Vierhapper (in Vierhapper & Rechinger fil. 1935:132) having studied *R. cadmicus* and related species in the eastern Mediterranean in detail, arrived at the conclusion that "Cyprus erscheint mir ... jedenfalls so gut, dass ich ihm, im Gegensatz zu Holmboe (Cypr., p. 81) mindestens den Rank einer Subspezies des *R. cadmicus* einräumen möchte". Davis (1965:182) also noticed the difference and observed: "Considerable leaf variation is shown in the Turkish material. The Cyprus population differs in its larger achenes and longer cataphylls, and has been differentiated as subsp. *cyprius* (Boiss.) Vierh. ...". Meikle (1977:52) points out the endemic character of the Cyprus plants which he refers to var. *cyprius* Boiss. He describes this variety as follows: "Leaves normally stained violet-purple below ...; 5-7-lobed; ... Achenes larger and with a longer beak than in typical var. *cadmicus*." He goes on to say that "Turkish material of *R. cadmicus* differs (perhaps constantly) in having 3-lobed leaves, apparently green on both sides, and lacking the conspicuous basal sheaths of var. *cyprius*". Greuter & al. (1989:428) report *R. cadmicus* subsp. *cyprius* (Boiss.) Vierh. as an endemic taxon of Cyprus.

We observed a number of plants of this taxon in the Troodos area and found the populations to be homogenous, corresponding to Meikle's concept. We arrived at the conclusion that the Cyprus plants are best classified as a separate species differing from the closely related *R. cadmicus* in a number of characters (colour and structure of leaves, size of achenes and length of beak) which are of considerable importance in *Ranunculus*.

*Ranunculus chius* DC.

1. Akamas, moist ground by springs near Baths of Aphrodite, L 12586. - 2. Kykko monastery, 1200m, var. *chius* with fruits muricate and rare var. *leiocarpus* P. H. Davis with fruits smooth, D 41374, growing together.

*Ranunculus muricatus* L.

2. Kykko monastery, 1200m, D 41364.

*Nigella nigellastrum* (L.) Willk.

4. Stony places at the foot of Table Mountain near Paralimni, 30-50m, D 41458, 41459; seashore between Dherinia and Paralimni, D 41539, 41540.

*Nigella fumariifolia* Kotschy

1. Paphos, rudery place, F 1844. - 4. Paralimni, seashore near Pernera in the direction of Famagusta, D 41274, 41275.

***Paeoniaceae***

*Paeonia mascula* (L.) Mill.

2. Pedhoulas, *Pinus pallasiana* forest, Z 861129.

***Berberidaceae***



*Berberis cretica* L.

2. Between Troodos and Pano Platres, 1300m, V s. n.

**Papaveraceae***Papaver rhoeas* L. subsp. *rhoeas*

2. Kykko monastery, by roadsides below the Mt. Tripylos, 1300m, Z 86195, 86196. - 4. Paralimni, seashore and fields near Pernera, D 41546, 41698; Paralimni, fields near the hotel Sunrise, D 41297, 41298.

*Papaver rhoeas* L. subsp. *cypricum* Chrtek & Slavík

4. Ayia Napa, seashore, D 41730, 41731, 41746.

*Papaver hybridum* L.

3. Akrotiri, W of the village, 40m, L 12613c. - 4. Fields between Paralimni and Ayia Napa, D 41735; Paralimni, seashore near the hotel Sunrise, D 41161; shrubs near the chapel Hagios Elias, D 41665; Paralimni, fields near the hotel Sunrise, D 41771, 41700.

All specimens from botanical division 4 have stems and fruit stalks appressed-hairy, only in a plant from sheet no 41700 are they erecto-patent.

*Glaucium corniculatum* (L.) J. H. Rudolph

4. Fields between Paralimni and Ayia Napa, D 41722, 41723, 41724, 41725.

*Glaucium flavum* Crantz subsp. *leiocarpum* (Boiss.) Chrtek & Hajdúk

2. Troodos, by roadsides, 1300m, Z 861111, 861112, 861113.

This combination had been published in 1986 (Chrtek & Hajdúk 1986:62) but *G. corniculatum* was cited as a basionym by mistake instead of *Glaucium leiocarpum* Boissier, Fl. Orient. 1: 122, 1867.

*Hypocoum imberbe* Sibth. & Sm.

4. Paralimni, fields near Pernera, D s. n.

**Fumariaceae***Fumaria capreolata* L.

4. Paralimni, seashore near Pernera in the direction of Famagusta, D 41239; Paralimni, fields near Pernera, D 41683, 41684.

*Fumaria petteri* Reichb. subsp. *thuretii* (Boiss.) Pugsley

2. Near Pedhoulas, 920m, Z 861168, 861169.

*Fumaria bracteosa* Pomel

4. Fields between Paralimni and Ayia Napa, D 41732, 41733; shrubs near the chapel Hagios Elias, D 41657.

*Fumaria parviflora* Lam.

4. Fields between Paralimni and Ayia Napa, D 41747; calcareous slopes near the chapel Hagios Elias, 40m, D 41812, 41813; Paralimni, shrubs between Pernera and the hotel Sunrise, D 41202.

**Cruciferae***Brassica nigra* (L.) Koch

4. Paralimni, calcareous slopes between Pernera and the chapel Hagios Elias, D 41620, 41621, 41622.

*Sinapis alba* L.

3. Kouklia, 100m, V s. n.

*Erucaria hispanica* (L.) Druce

4. Paralimni, field borders near Pernera, D 41760, 41779, 41919; calcareous slopes between Paralimni and the chapel Hagios Elias, D 41919a; Voroklini, seashore, 5-10m, V s. n.

*Cakile maritima* Scop.

1. Polis, seashore, Z 86138.

*Biscutella didyma* L.

1. Akamas, between Baths of Aphrodite and Fontana Amorosa, garigue on calcareous formations, F 1794, L 12581.

*Neslia apiculata* C. A. Mey.

4. Paralimni, fields near Pernera, 20m, D 41696.

*Alyssum minus* (L.) Rothm.

2. Mts. Troodos, valley of the river Dhiarizos, F 1757; between Prodhromos and Pedhoulas, road-side, D 41431.

*Alyssum strigosum* Banks. & Sol.

4. Paralimni, seashore N of Pernera, D 41534.

*Arabis purpurea* Sibth. & Sm.

2. The summit area of Mt. Olympus, 1850m, *Pinus pallasiana* forest, Z 861115; N slopes of Mt. Opypmus, forest, F 1779B; Moutoullas, 760m, Z 86127; Pano Platres, Caledonian Falls, forest path on the restaurant Psilo Dhendro, 1200m, L 12596.

*Turritis laxa* (Sibth. & Sm.) Hayek

2. Pedhoulas, D 41413, 41416, 41419, 41420; Cedar Valley, F 1832, L 12614; Mt. Olympus, 1800m, Z 8612/2; Kryos Potamos, rocky serpentine slopes, Z 8612/1.

*Matthiola tricuspidata* (L.) R. Br.

4. Seashore between Pernera and Dherinia, D 41214, 41241.

### ***Resedaceae***

*Reseda lutea* L.

1. Polis, near the seashore, Z 86141, 861136. - 3. Kourion, Amphitheatre, F 1784.

*Reseda orientalis* (Muell. Arg.) Boiss. ex Kotschy

1. Ktima, near the Tombs of the Kings, 50m, D 41869, 41870. - 4. Seashore between Pernera and Dherinia, D 41223.

### ***Cistaceae***

*Cistus creticus* L.

1. Akamas, on the hill Mavri Shinia, 350m, Z 86145; Tsadha, 600m, V s. n. - 2. Platres, Z 861114; Prastio, 550m, V s. n. - 4. Near Pernera, D 41727.

*Cistus parviflorus* Lam.

4. Paralimni, shrubs between Pernera and the hotel Sunrise, D 41204.

*Cistus salviifolius* L.

2. Cedar Valley, F 1833; between Troodos and Pano Platres, 1300m, V s. n.; Pharmakas, 1100 m, V s. n.

*Cistus monspeliensis* L.

1. Lachi, calcareous slopes, 400m, Z 86175; Neokhorio, 200m, V s. n.

*Helianthemum syriacum* (Jacq.) Dum.-Cours.

1. Akamas, calcareous slopes, 400m, Z 86178.

*Helianthemum obtusifolium* Dunal

3. Akrotiri, stony ground, F 1819. - 4. Paralimni, seashore near Pernera in the direction of Famagusta, D 41261.

*Helianthemum stipulatum* (Forssk.) C.Christens.

4. Pernera, rocky and sandy seashore near the town and in the direction of Famagusta, D 41193, 41240, 41280; Paralimni, seashore near the hotel Sunrise, D 41156, 41157; Cape Kiti near Perivolia, seashore, V s. n.

*Helianthemum salicifolium* (L.) Mill.

4. Paralimni, rocky slopes between Pernera and the chapel Hagios Elias, D 41475; between Hagios Elias and Table Mountain, D 41181.

*Fumana thymifolia* (L.) Verlot subsp. *thymifolia*

1. Akamas, between Baths of Aphrodite and Fontana Amorosa, rocky slopes, F 1806. - 4. Pernera, seashore in the direction of Famagusta, D 41262; in the surroundings of the chapel Hagios Elias, D 41322, 41804, 41826; between Hagios Elias and Table Mountain, D 41262. Based on indumentum and leaf shape and some other characters, Meikle (1977:199-200) distinguishes, in Cyprus, var. *thymifolia* and var. *laevis* (Cav.) Grosser. We can confirm his observation that var. *thymifolia* is more frequent. His note that "the two varieties are almost always clearly distinguishable, and may well merit subspecific (or possibly specific) differentiation" made us study this species in its entire area. Having examined material from all herbaria in the Czech Republic, we concluded that these are two subspecies, differing in a number of morphological characters, not only indumentum, shape of leaves and sepals, size of stipules and flowers, but also in habit (thick in subsp. *thymifolia*, thin in subsp. *laevis*), but, first of all, in the sculpture of fruit surface (irregular longitudinal furrows in subsp. *thymifolia*, irregularly foveolate in subsp. *laevis* - Fig. 1). An interesting feature could be seen in plants from Sicily where old leaves were conspicuously glabrous whereas those of this year were densely hairy. It is unclear whether these plants belong to the *Helianthemum barrelieri* Ten. group, or to another separate taxon. Molero & Rovira (1987) studied the *Fumana thymifolia* group in detail and, based on morphology, karyology, phenology, ecology and especially palynology, divided *F. thymifolia* into two subspecies, viz subsp. *thymifolia* and subsp. *laevis* (Cav.) Molero & Rovira. We adopt this treatment even though the possibility cannot be excluded that further study will demonstrate that the two taxa are good species.

#### **Frankeniaceae**

*Frankenia hirsuta* L. var. *hispida* (DC.) Boiss.

1. Coral Bay, garigue on calcareous formations, 30m, L 12574. - 4. Ayia Napa, Cape Greco, coastal limestone cliffs, 15m, M 5165d, 5166b; Ayia Napa, W of harbour coastal plateau, petrified sand dunes, 1m, M 5150f.

#### **Caryophyllaceae**

*Velezia rigida* L.

1. Akamas, on the hill Mavri Shinia, 350m, on serpentine, Z 861183.

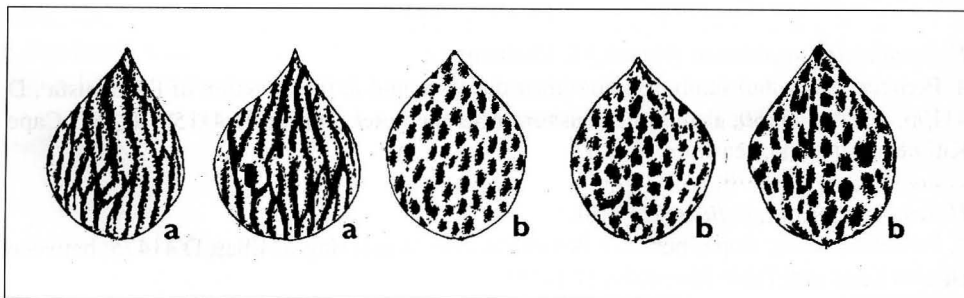


Fig. 1. Sculpture of fruit surface of *Fumana thymifolia* (L.) Verlot subsp. *thymifolia* (a), and subsp. *laevis* (Cav.) Molero & Rovira (b).

*Dianthus strictus* Banks & Sol. var. *troodi* (Post) S. S. Hooper

4. Ayia Napa, Cape Greco, steep coastal limestone cliff, 45m, M 5155c.

*Kohlrauschia velutina* (Guss.) Reichb.

2. Pedhoulas, shrubby slope, D 41409.

*Vaccaria pyramidata* Medik.

1. Between Polis and Lachi, Z 861162. - 4. Between Paralimni and Ayia Napa, fallow fields, D 41738, 41739.

*Silene fruticosa* L.

1. Akamas, calcareous rock, Z 861149. - 4. Ayia Napa, Cape Greco, coastal limestone cliffs, 45m, M 5155d.

*Silene vulgaris* (Moench) Garcke

4. Shrubs near the chapel Hagios Elias, D 41659; Paralimni, shrubby places between Pernera and the hotel Sunrise, D 41203; Xylophagou, 40m, V s. n.

*Silene sedoides* Poir.

4. Paralimni, seashore near Pernera in the direction of Famagusta, D 41253, 41254; seashore near Pernera in the direction of Lefkolla, D 41916, 41917;

*Silene colorata* Poir. var. *colorata*

1. Polis, seashore, Z 861189. - 4. Paralimni, between Pernera and Dherinia, D 41226; Hagios Elias, on the foot of the hill with the chapel, D 41589; Paralimni, rocky slopes of Table Mountain, 30-50m, D 41448.

*Cerastium brachypetalum* Pers. subsp. *roeseri* (Boiss. & Heldr.) Nyman

2. Platres, above the trout-station, Z 86118.

*Stellaria media* (L.) Vill. subsp. *media*

2. Near the Kykko monastery, 1200m, D 41334a.

*Stellaria media* subsp. *apetala* Èelak.

2. The summit area of Mt. Olympus, 1850m, Z 86113.

*Minuartia thymifolia* (Sibth. & Sm.) Bornm.

4. Paralimni, seashore near Pernera in the direction of Famagusta, D 41227, 41252.

*Minuartia hybrida* (Vill.) Schischk.

3. Kourion, amphitheatre, F 1786.

*Sagina apetala* Ard.

3. Kourion, amphitheatre, F 1790.

*Spergularia diandra* (Guss.) Heldr. & Sart.

3. Kourion, amphitheatre, D 41906.

*Spergularia bocconii* (Scheele) Aschers. & Graebn.

1. Ktima, near the Tombs of the Kings, 50m, D 41867. - 4. Between Paralimni and Ayia Napa, fallow fields, D 41721.

*Spergularia marina* (L.) Griseb.

1. Paphos, seashore, F 1843.

*Polycarpon tetraphyllum* (L.) L.

4. Paralimni, seashore near Pernera, D 41918.

### ***Illecebraceae***

*Paronychia argentea* Lam.

4. Paralimni, between Pernera and Dherinia, D 41213; Paralimni, rocky slopes on the foot of Table Mountain, 30-50m, D 41457, 100 m, D 41856; Ayia Napa, W of harbour coastal plateau, petrified sand dunes, 3m, M 5153c; Ayia Napa, Cape Greco, coastal limestone cliffs, 15m, M 5167e.

*Paronychia macrosepala* Boiss.

4. Paralimni, seashore near Pernera in the direction of Famagusta, D 41235.

*Herniaria cinerea* DC.

4. Seashore NW of Pernera, D 41547.

*Pteranthus dichotomus* Forssk.

4. Table Mountain W of Paralimni, calcareous slopes, 60m, D s. n. ; between Paralimni and Ayia Napa, rocky slopes, 50m, D 41767.

### ***Malvaceae***

*Malva aegyptia* L.

1. Akamas, Baths of Aphrodite, F 1813; Paphos, seashore, F 1764.

*Malva sylvestris* L. var. *sylvestris*

2. Pedhoulas, by roadsides, Z 8619.

*Malva parviflora* L.

2. Near the Kykko monastery, 1200m, D 41344, 41368.

### ***Linaceae***

*Linum bienne* Mill.

4. Table Mountain W of Paralimni, calcareous slopes, 60m, D 41901.

*Linum corymbulosum* Reichb.

1. Akamas, Mavri Shinia, on serpentine, Z 861181.

*Linum spicatum* Pers.

1. Akamas, Neokhorio, Mavri Shinia, 350m, Z 861180, 861193; Akamas, between Baths of Aphrodite and Fontana Amorosa, garigue and rocky slopes, F 1801, L 12580.

When studying material from Cyprus, we found only a uniform taxon corresponding to subsp. *spicatum* (Pers.) Nyman. This is in agreement with Holmboe (1914: 117), Osorio-Tafall & Seraphim (1973: 65) and Meikle (1977: 322). Having learned from Meikle that subsp. *strictum* is rare in eastern Mediterranean, we paid some attention to the distribution of both subspecies. Having examined materials from BRNM, BRNU, PR and PRC, we concluded that the two subspecies were distinguishable, with no transitional forms. Therefore we consider them to be separate species differing mainly in the characters of inflorescence. The flowers are usually congested to globular or ellipsoid heads in *L. strictum* but form mostly thin racemes in *L. spicatum*. We are unable to confirm the differences in the size of fruits and seeds reported by some authors. Besides morphological differences, their distribution is also different. While *L. spicatum* is distributed mainly in the eastern part of the Mediterranean, with isolated sites in Spain and Portugal, *L. strictum* prevails in the western Mediterranean. We also considered the closely related *L. corymbulosum* Reichb., treated as a subspecies of *L. strictum* by some authors (e.g. Rouy 1897: 60, Pignatti 1982: 25). We consider it to be a good species. The seemingly transitional types are usually young plants with poorly developed inflorescences resembling *L. strictum* subsp. *strictum*.

Dot maps of the species *Linum strictum*, *L. spicatum* and *L. corymbulosum* are given.

*Linum strictum* L.

Specimens seen: - France: Anjou, s.d., ? leg. (PR); Charente-Inférieure, Angoulins, 1927, J. Charrier (PR); Charente-Inférieure, Pointe de Chef-de Baie, 1889, Maire (PR); Charente, Charen, s.d., s.coll. (PR); Charente, s.d., J. Charrier (BRNM); Gironde, Roque de Tau, 1927, Jallu in Duffour Exs. Soc. Franc. No. 5417 (BRNU); Dordogne, Eymet, 1846, de Dives (PRC); Lot, Cahors, 1855, A. Irat in Schultz Herb. Norm. No. 233 (BRNU); Lot, Limogne, 1873, J. Giraudias (BRNU); Haute-Garonne, Toulouse, 1883, s.coll. (BRNU); Ariège, 1936, P. V. Estival (PR); Pyrénées-Orientales, Sournia, 1908, Couell (PR); Pyrénées-Orientales, Saint Paul, s.d., L. Anthonaid (PRC); Hérault, Béziers, 1873, Théveneau (BRNU); Hérault, Montagnac, 1902, E. Mandon (PR); Hérault, Cette, 1937, K. Preis (PRC); Hérault, Montpellier, 1937, K. Preis (PRC); Bouche-du-Rhône, Aix, 1894, F. Bruyas (PR); Provence, s.d., s.col. (PR); Var, Toulon, 1861, Deseglise (PRC); Alpes-Maritimes, Cannes, 1887, de Nanteuil in Magnier Fl. Select. Exs. No. 1110 (BRNM, PRC); Alpes-Maritimes, Col de Brouis, s.d., s.coll. (PR). - Corse: Bastia, 1932, V. Skřivánek (BRNM); Bonifacio, 1880, Herdier (BRNM), s.d., herb. Rohrer (PRC); Corsica, s.d., Sieber (PRC). - Spain: Torla, 1873, Bordære (BRNM); Barcelona, s.d., v. Heuck (BRNU); Calatayud, 1910, Viciosa (PRC); Jaén, 1873, Torre Pando (BRNM); Almeria, 1879, Huter, Porta & Rigo in Itin. Hisp. (PRC). - Mallorca: Castell Bellver near Palma, 1873,



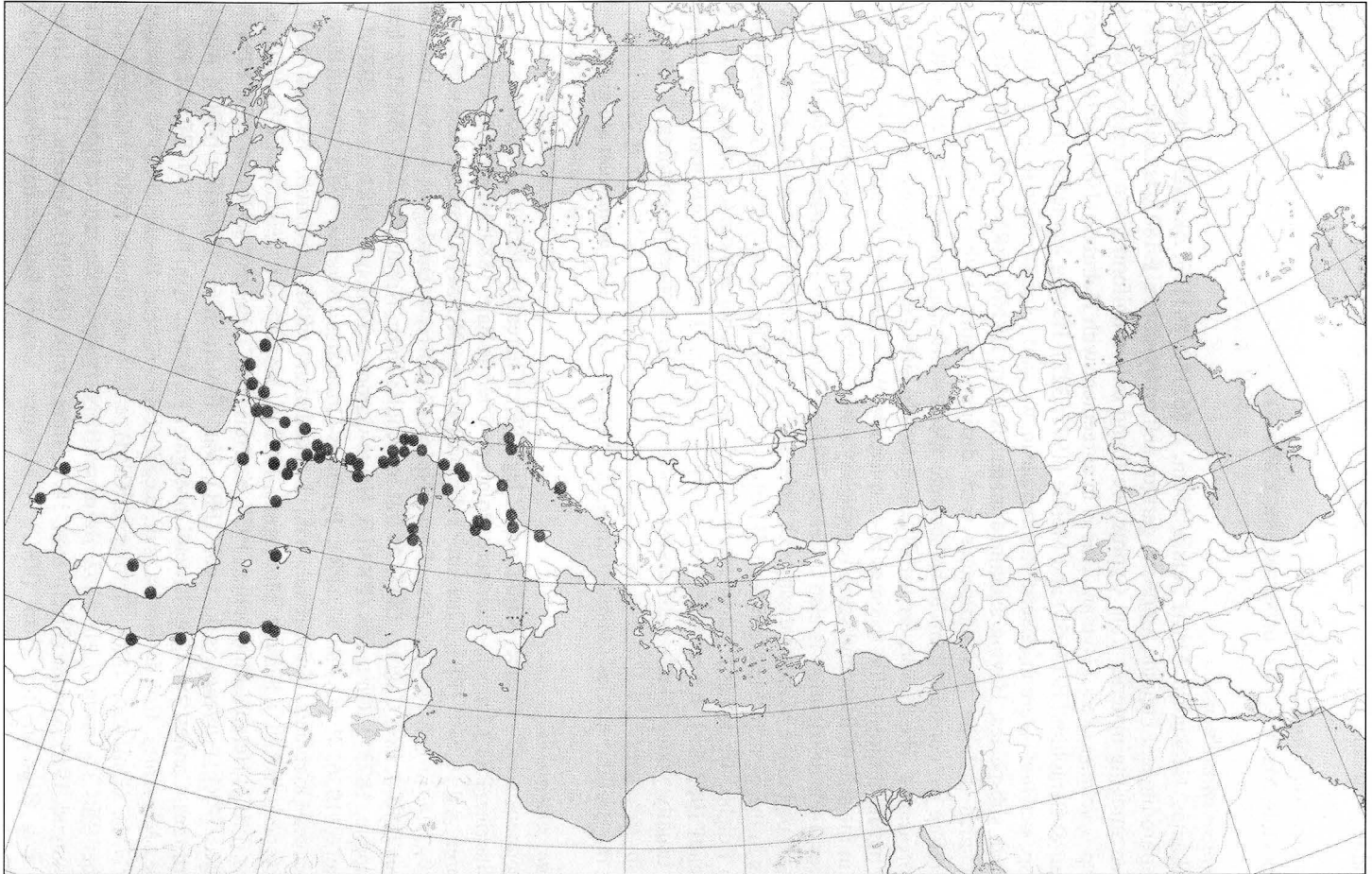


Fig. 2. Distribution of *Linum strictum* L., based on specimens from the following herbaria: BRNM, BRNU, PR, PRC.

Willkomm (PR), 1873, F. Hegelmaier in Iter Gall.-Hisp. (BRNM). - Portugal: Coimbra, Balea, 1888, A. Moller in Fl. Lusit. Exs. No. 565 (BRNM, PRC); Lisboa, Perna de Pau, 1877, J. Daveau (PRC). - Italy: Ventimiglia, 1882, O. Penzig (PRC); Bordighera, 1920, H. Guiot (BRNM); Alba, 1914, E. Gerrari (BRNM); Acqui, 1889, J. Vetter (BRNU); Genova, s.d., s.coll. (PR); Liguria, s.d., Cesati (PR); Pietrasanta, 1843, P. Savi (PR); Prato in Toscana, 1872, E. Levier (BRNM), 1873, A. Groves (BRNU, PR); Firenze, 1873, A. Groves (PRC), 1910, A. Fiori (BRNU); Torre San Vincenzo, 1843, P. Savi (PR); Roma, Monte Mario, 1962, F. Èernoch (BRNM); Roma, Ponte Galera, 1883, Solea (PRC); Tivoli, s.d., L. Vaccari (BRNU); Ancona, s.d., s.coll. (PR); Pescara, 1899, G. Rigo in Dörfler Iter Ital. No. 157 (BRNU); Cansano, s.d., Loser (PR); San Nicandro Garganico, 1874, Porta & Rigo (PR, PRC). - Sardegna: Tempio, Santa Teresa, 1881, E. Reverchon (BRNM). - Croatia: Rovinj, Mt. Sicule, 1876, J. Freyn (BRNM); Pula, Val Lovina, 1909, Teuber (BRNM); Split, s.d., F. Petter in Fl. Dalm. Exs. No. 230 (BRNU). - Morocco: Mar Chica, 1909, M. Gandoger (BRNU). - Algeria: Oran, 1923, A. Faure (BRNM, BRNU), 1925, A. Faure (PR); Miliana, 1936, R. Maire (PR); Alger, 1859, Romain in Reliq. Maill. No. 492 (PRC), s.d., Roussel (PRC); Alger, Mustapha, 1879, Gandoger in Fl. Alger. Exs. No. 929 (PRC); Maison-Carrée, 1879, Gandoger in Fl. Algh. Exs. No. 309 (PRC).

*Linum spicatum* Pers.

Specimens seen: - Portugal: Lisboa, Vallée d'Alcantara, 1877, J. Daveau (PRC); Lisboa, Tapada de Ajuda, 1885, A. R. de Cunha (BRNM, PRC). - Sardegna: Cagliari, 1827, Müller (PR, PRC). - Italy: Parma, s.d., s.coll., (PRC); Roma, s.d., Bracht (PR); Monte Circeo, 1933, Wilczek (PR); San Nicandro-Garganico, 1874, Porta & Rigo (PR, PRC); Manfredonia, 1812, Sieber in Iter Ital. (PR, PRC); Apulia, 1812, H. K. (PR); Potenza, Mt. Ciceniello, 1926, O. Gavioli (BRNU); Alessano, 1875, Porta & Rigo (PRC). - Sicilia: Messina, 1844, Nyman (BRNU); Siracusa, 1898, G. Rigo in Dörfler Iter Ital. (BRNU); Palermo, 1903, H. Ross in Herb. Sicul. No. 418 (BRNM, PR, PRC); Montagna Grande, 1879, Jacono (BRNM, PR, PRC); Sicilia, 1816, s.coll. (PR). - Isl. Lampedusa, 1884, Solla (PRC). - Croatia: Istra, 1857, E. Braig (PR); Isl. Brijuni, 1886, Marchesetti (PRC); Pula, 1874, J. Freyn (BRNM); Pula, Veruda, 1894, K. Untchj (BRNU), 1899, K. Untchj (BRNU, PR), Verudella, 1902, K. Untchj (PR, PRC); Pula, Val di Cane, 1880, E. Witting (PR); Pula, Pídol, s.d., s.coll. (PR); Medulin, Isl. Cielo, 1876, Freyn (PRC), Medulin, 1900, Teuber (BRNM); Isl. Lošinj, 1895, Beck (PRC), Mt. Asino, 1876, J. Freyn (BRNM); Isl. Mezzo ?, 1917, A. Latzel (BRNU); Šibenik, 1910, L. F. Èelakovsk" (PR, PRC); Split, 1868, Ch. Pichler (PR), s.d., Petter (PR); Split, Toretto, s.d., Pichler in Fl. Exs. Austro-Hung. No. 37 (BRNM, BRNU, PR, PRC); Split, Boticelle, s.d., F. Petter in Fl. Dalm. Exs. No. 230 (PR); Split, Monte Marian, 1872, Pichler (BRNM, PRC), 1902, G. A. Poscharsky (PR); Isl. Šolta, 1965, J. Dvořák (BRNM); Dubrovnik, 1909, Adamovic, (BRNU), 1917, A. Latzel (BRNU); Isl. Lopud, 1894, Beck (PRC), 1933, F. Skřivánek (BRNM). - Montenegro: Trebinje, s.d., Lerch (PR); Podgorica, 1900, Rohlena (PRC). - Albania: Kavaja, Ali Bey Tepesi, 1894, Formánek (BRNM). - Greece: Isl. Corfu, Analysis, 1894, Formánek, (BRNM, PR); Isl. Thasos, 1909, Dimonie (PRC); Euboea, N. Artaki, 1932, G. Širjaev in Iter Graec. No. 1093 (BRNU); Athen, Lycabettus, 1932, G. Širjaev in Iter Graec. No. 244 (BRNM, BRNU); Attica, Cholargos, H. Ioannes, Mt. Hymettus, 1932, G. Širjaev in Iter Graec. No. 1092 (BRNU); Phalerum, 1910, J. v. Sterneck in Iter Graec. No. 54 (BRNM, BRNU, PRC); Attica, Mts. Pentelici, 1888,

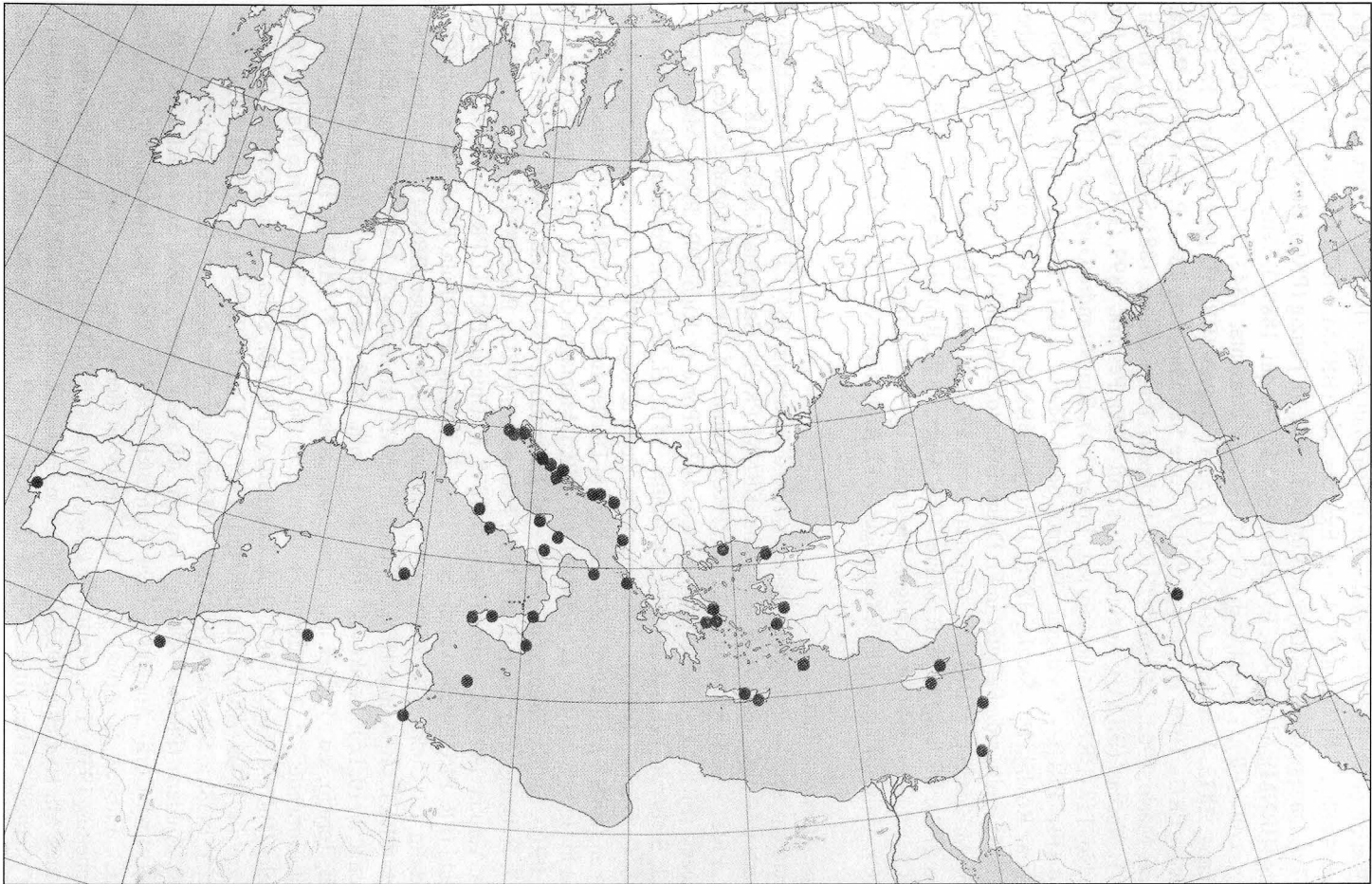


Fig. 3. Distribution of *Linum spicatum* Pers., based on specimens from the following herbaria: BRNM, BRNU, PR, PRC.

Heldreich in Herb. Graec. Norm. No. 1020 (BRNM, PR, PRC); Isl. Samos, Vathy, 1902, J. v. Sterneck in Iter Graec.-Turc. No. 88 (PRC); Isl. Rhodos, 1902, Knižek (PR), 1902, Sterneck in Iter Graec.-Turc. No. 89 (PRC). - Crete: Candia, s.d., Rohrer, (PRC), s.d., s.coll. (PR), 1914, V. Nábilek (BRNU); Hierápetros, 1900, Ch. Leonis in Dörfner Pl. Cret. No. 37 (PRC). - Turkey: Gelibolu, 1921, G. I. Širjaev (BRNU); Smyrna, 1827, Fleischer (PR, PRC). - Cyprus: Larnaka, 1893, E. Deschamps (BRNM, PRC); Kantara, 1880, Sintenis & Rigo in Iter Cypr. No. 208 (PR, PRC). - Syria: Saida, between Baramié and Hallalié, 1854, C. Gaillardot (PRC). - Israel: Jerusalem, Deir-esh-Sheikh, 1933, N. Feinbrun in Fl. Palaest. Exs. No. 253 (BRNU, PR, PRC). - Iraq: Between Derbendikhan and Sulájmánija, 1961, E. Hadaè & cons. (PR). - Algeria: Lamoriciaère, 1923, A. Faure (BRNU); Kerrata, 1897, E. Reverchon in Pl. Algér. No. 255 (BRNM). - Tunisia: Gabés, Oued Serak, 1910, C. J. Pitard in Pl. Tunis. No. 789 (BRNU).

*Linum corymbulosum* Reichb.

Specimens seen: - France: Vendée, Ste Gemme, 1877, 1883, Ch. Pontarlier (BRNU, PR, PRC). - Italy: Lago di Garda [Benaco], Brixians, 1865, P. Porta (PRC), 1870, P. Porta (BRNM, PRC), s.d., Porta in Fl. Exs. Austro-Hung. No. 2464 (BRNM, PR, PRC); Gargnano, 1899, Steidler (BRNM); Brescia, 1908, G. Rigo (PR); Sassuolo, 1889, A. Mori (PRC); Firenze, Galato, 1872, E. Levier (PR); Firenze, M. Cucciolo, 1873, Marchenthal (BRNU); Caramanico, 1909, Gudagno (PRC); Morrone, 1899, G. Rigo in Iter Ital. (BRNU); Potenza, S. Maria, 1937, O. Gavioli (BRNU); Potenza, Pollareta, 1927, O. Gavioli (BRNU); Trieste, s.d., Tomassini (PR); Muggia, 1840, Tamassini (BRNU, PRC). - Croatia: Pula, 1974, J. Freyn (BRNM), 1876, J. Freyn (PRC), 1880, E. Witting (PR), 1881, Pichler (PRC), 1881, Toepffer (PRC), 1883, Untchj (PRC), 1899, K. Untchj (PR), s.d., H. Wawra (BRNM); Pula, Isl. Brijuni, 1900, Teuber (BRNM); Isl. Krk, 1877, V. Borbás (BRNU); Isl. Lošinj, 1901, L. Richter (PR); Isl. Šolta, 1965, J. Dvořák (BRNM); Split, S. Stefano, 1886, J. Bornmüller (BRNM, PRC); Isl. Vis, s.d., s.coll. (PRC); Isl. Korèula, 1894, Beck (PRC); Dubrovnik, 1909, Adamovic (BRNU), 1910, Èelakovsk" (PRC), 1912, A. Latzel (BRNU); Isl. Lopud, 1909, A. Latzel (BRNU), 1917, A. Latzel (BRNU); Kupari, 1899, Marchantj (BRNM), 1918, R. Dvořák (BRNM). - Montenegro: Kotor, Trinita, 1894, Beck (PRC); Sveti Stefan, 1895, G. Ilic (PR, PRC); Bobovište, 1896, G. Ilic (PR). - Serbia: Leskovac, Togaèevce, s.d., G. Ilic (PRC). - Greece: Hágion Óros, Prodrom, s.d., Dimonie (PRC). - Bulgaria: Levski, Krastovištete, 1969, A. Petrova in Pl. Bulg. Exs. No. 848a (BRNM); Plovdiv, Starite Lozja, 1969, A. Petrova in Pl. Bulg. Exs. No. 848b (BRNM); Stara Zagora, 1963, F. Weber (BRNM); Sliven, Sinite Kameni, 1965, J. Šmarda (BRNM); Karabunar, 1900, J. Podpira (BRNU); Harmanli, 1900, J. Podpira (BRNU); Topolovgrad, 1886, Škorpil (PRC); Sadovo, 1892, Štrfbrn" (PRC); Ahtopol, 1931, V. Krist (BRNM). - Turkey: Gelibolu, 1921, I. Širjaev (BRNU). - The Crimea: Gursuf, 1896, Callier in Iter Taur. (PRC); Oriandra, 1898, C. Golde in Herb. Fl. Ross. No. 358 (PRC). - Cyprus: Troodos, Stavrovouni, 1893, E. Deschamps in Pfl. Cyp. No. 71 (BRNM). - Israel: Chejfa, Mt. Carmel, 1897, J. Bornmüller in Iter Syr. No. 267 (BRNM, PR, PRC). - Russia: Dagestan, 1876, Becker (BRNM). - Turkmenistan: Kisil Arvat, Kara-Kala, Mt. Sundsodágh, 1901, J. Freyn in Sintenis Iter Transcasp.-Pers. No. 1896 (PRC). - Kazakstan: Zajsan, between Buran and Mt. Èiganèi, 1928, P. Krylov & L. Sergievskaja (BRNU); Alakol, 1841, A. G. Schrenk (BRNM).



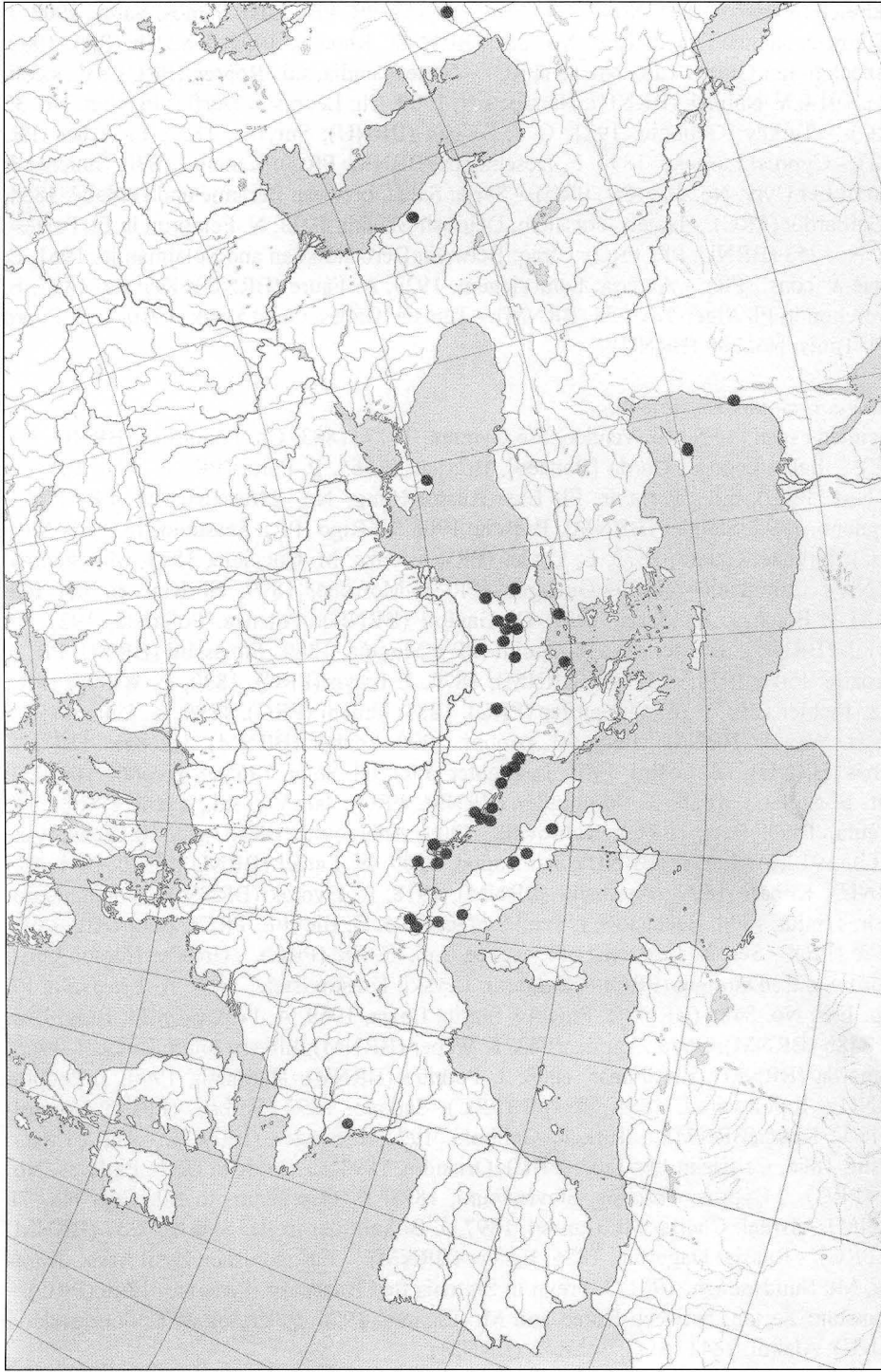


Fig. 4. Distribution of *Limum corymbulosum* Reichb., based on specimens from the following herbaria: BRNM, BRNU, PR, PRC.

*Linum nodiflorum* L.

1. Akamas, Neokhorio, Mavri Shinia, on serpentine, 350m, Z 861179, 861182, 861194.

**Zygophyllaceae***Fagonia cretica* L.

3. Stony slopes by the Petra tou Romiou between Kouklia and Pissouri, F 1780, L 12608; near Kouklia, 100m, V s. n.

*Zygophyllum album* L.f.

3. Akrotiri, W of the village, 40m, L 12613b. - 4. Ayia Napa, W of harbour coastal plateau, petrified sand dunes, 1m, M 5150g.

**Geraniaceae***Geranium tuberosum* L.

1. Coral Bay, garigue on calcareous formations, 30m, L 12573.

*Geranium pusillum* Burm. f.

4. Paralimni, between Hagios Elias and Table Mountain, D 41179.  
The only records of this species from Cyprus were made in 1862.

*Geranium rotundifolium* L.

2. Kykko monastery, 1200m, D 41356, 41360.

*Geranium purpureum* Vill.

2. Mt. Olympus, on serpentine, 1800m, Z 861172; Kakopetria, Solea valley, 650m, D 41404.

*Erodium gruinum* (L.) L'Hérit.

3. Shrubby places between Pano Lefkara and Kato Lefkara, D 41385. - 4. Between Paralimni and Ayia Napa, 50m, D 41769; between Paralimni and Hagios Elias, 20m, D 41800; Table Mountain near Ayia Napa, 100m, D 41865.

*Erodium laciniatum* (Cav.) Willd.

4. Paralimni, shrubby place between Pernera and Sunrise, D 41210.

*Erodium crassifolium* L'Hérit.

3. Kourion, amphitheatre, F 1785.

**Oxalidaceae***Oxalis pes-caprae* L.

4. Paralimni, shrubby place between Pernera and Sunrise, D 41207; seashore between Dherinia and Paralimni, D 41740, 41741, 41759.

**Rhamnaceae**

*Rhamnus oleoides* L. subsp. *graecus* (Boiss. & Reut.) Holmboe

2. Between Parapedhi and Mandria, 1000m, V s. n. - 5. Near Mathiati, 400m, V s. n.

*Ziziphus lotus* (L.) Lam.

4. Rocky slopes near Voroklini, 20-100m, V s. n.

**Leguminosae**

*Lupinus angustifolius* L.

2. Near Pedhoulas, 1150m, Z 86166.

*Genista sphacelata* Decne subsp. *crudelis* (Meikle) Chrték & B. Slavík

2. Between Troodos and Pano Platres, 1300m, V s. n.

*Medicago rugosa* Desr.

1. Paphos, waste places, F 1845.

*Melilotus sulcatus* Desf.

3. Kolossi castle, F 1827.

*Trifolium pamphylicum* Boiss. & Heldr. var. *pamphylicum*

4. Ayia Napa, W of harbour coastal plateau, petrified sand dunes, 3m, M 5153f.

*Trifolium clypeatum* L.

1. Baths of Aphrodite, F 1810.

*Trifolium resupinatum* L.

1. Paphos, waste place near the hotel Theofano, F 1851.

The standard at most 4.5mm long but peduncles of inflorescens are longer than petioles of supporting leaves.

*Trifolium tomentosum* L.

1. Paphos, waste place near the hotel Theofano, F 1851a. - 3. Kolossi Castle, F 1826.

*Astragalus echinus* DC.

2. Near Mandria, 1000m, V s. n.

*Scorpiurus muricatus* L. subsp. *subvillosus* (L.) Thell.

1. Paphos, waste place near the hotel Theofano, F 1852; Polis, 20m, Z 86151, 86882; between Baths of Aphrodite and Fontana Amorosa, rocky slopes, F 1805.

*Coronilla scorpioides* (L.) Koch



1. Between Polis and Lachi, 20m, Z 861167.

*Hedysarum spinosissimum* L.

1. Paphos, seashore, F 1765; Coral Bay, garigue on calcareous formations, 30m, L 12570.

*Onobrychis venosa* (Desf.) Desv.

3. Akrotiri, stony ground, F 1821.

*Vicia cassia* Boiss.

2. Moutoullas, road banks, 1300m, Z 86134.

*Vicia villosa* Roth. subsp. *eriocarpa* (Hauskn.) P. W. Ball

1. Polis, Z 86850.

*Vicia lunata* (Boiss. & Bal.) Boiss.

2. Moutoullas, road banks, 760m, Z 86128, 861118, 861128.

***Lathyrus aphaca* L. subsp. *cyprius* Chrtek & B. Slavík, subsp. *nova***

Planta perennis, glabra; caulibus, procumbentibus, teneris, usque 12 cm longis; stipulis parvis, 2-6 mm longis et 2.0-3.5 mm latis; pedunculis cca 1.2 cm longis; floribus 5.0-5.5 mm longis cum corolla lutea haud violaceo striata; calycibus ca 4.5 mm longis, glabris, dentibus calycinis lanceolatis, tubae sesquialongioribus; leguminibus 16 mm longis.

Holotypus: Cyprus, Stavros, silva (*Pinus brutia*), solo calcareo, 1030m supra mare, leg. 29.4. 1986, J. Zeitlinger, in herbario KL (Klagenfurt), in collectione J. Zeitlinger asservatur.

2. Stavros tou Ayiasmati, *Pinus brutia* forest, 1030m, Z 86140.

*Lathyrus aphaca* is a variable species, especially in its habit and colour of flowers (various shades of yellow). Its variation is most conspicuous in the eastern Mediterranean (cf. Davis 1969). Meikle (1977:569) points out that two deviations can be observed in Cyprus, differing in the colour of flowers, ecology and distribution. He goes on to mention plants from pine forest in mountain region having small flowers and slender stems, approaching *L. pseudoaphaca* Boiss. *Lathyrus aphaca* was described from Turkey by Boissier and has short, procumbent, slender stems, small leaves and flowers, calyx-teeth longer than the calyx tube and pods smaller than in the type plants. Venation of the petals is distinctly violet-tinged. Plants from Cyprus are very similar but the violet tinge is always missing. This has been noticed by Davis (1969:369) who reports for var. *pseudoaphaca* (Boiss.) Davis "... Variety *pseudoaphaca* usually has a narrower standard than the other varieties. Similar plants from Cyprus lack the characteristic violet venation." Based on a study of herbarium material, including Boissier's specimens, and on our field studies in Troodos (here especially in pine forests), we assume that it is appropriate to treat *L. pseudoaphaca* as a subspecies of *L. aphaca*, distributed mainly in southern mountain regions of Turkey. Cyprus plants confined to pine forest in the mountain region of Troodos are treated as an endemic subspecies, subsp. *cyprius*.

*Lathyrus blepharicarpos* Boiss.

1. Paphos, waste place, F 1847.

### **Rosaceae**

*Rubus sanctus* Schreb.

2. Pano Platres, Caledonian Falls, forest path on the restaurant Psilo Dhendro, 1200m, L 12600a; north slopes of Mt. Olympus, Pinus brutia forest, F 1779A.

*Sarcopoterium spinosum* (L.) Spach

1. Paphos, seashore, F 1771. - 4. Near Ormidhia, 10m, V s. n.

*Crataegus azarolus* L.

2. Near Mandria, 1000m, V s. n.

### **Crassulaceae**

*Umbilicus rupestris* (Salisb.) Dandy

4. Between Paralimni and Ayia Napa, 50m, D 41765.

*Umbilicus horizontalis* (Guss.) DC.

4. Calcareous slopes near the chapel Hagios Elias, D 41320; between Hagios Elias and Table Mountain, D 41186.

*Sedum sediforme* (Jacq.) Pau

2. Galata, Solea valley, 800m, V s. n.

*Sedum microstachyum* (Kotschy) Boiss.

2. Between Troodos and Pano Platres, 1300m, V s. n.

*Sedum cypricum* A. K. Jackson & Turrill

2. Galata, Solea valley, 800m, V sine no; Pharmakas, 1100m, V sine no; near Askas, 1000m, V s. n.

*Sedum porphyreum* Kotschy

4. Between Paralimni and Ayia Napa, 50m, D 41766; stony places at the foot of Table Mountain near Paralimni, 30-50m, D 41446.

*Sedum caespitosum* (Cav.) DC.

4. Calcareous slopes near the chapel Hagios Elias, D 41312; between Hagios Elias and Pernera, D 41625.

### **Lythraceae**

*Lythrum junceum* Banks & Sol.

1. Polis, camping site, 20m, Z 86849.

**Cucurbitaceae***Bryonia cretica* L.

4. Between Paralimni and Ayia Napa, D 41742.

**Aizoaceae***Mesembryanthemum nodiflorum* L.

4. Larnaca, Salt Lake-shore, V s. n.

*Aizoon hispanicum* L.

1. Paphos, seashore, F 1763. - 4. Ayia Napa, Cape Greco, coastal limestone cliffs, 15m, M 5167a.

**Umbelliferae***Lagoecia cuminoides* L.

1. Akhelia, grassy places on the bank of the river Ezousas SW of the village, C&amp;S sine no; Paphos, E of the town, C&amp;S s. n. - 3. Amathus, grassy slope N of the hotel Amathus, C&amp;S s. n. - 4. Stony places at the foot of Table Mountain near Paralimni, 30-50m, D 41453, 41843; calcareous slopes near the chapel Hagios Elias, D 41489, 41588.

*Scandix pecten-veneris* L.

2. Troodos, 1400m, Z 8611. - 4. Near Pernera, D 41672, 41673; near Hagios Elias, D 41663; Paralimni, Table Mountain, 100m, D 41840.

*Torilis nodosa* (L.) Gaertn.

4. Between Paralimni and Ayia Napa, 100m, D 41626; seashore between Pernera and Sunrise, D 41212; N of Pernera, D 41538.

*Torilis leptophylla* (L.) Reichb.

1. Paphos, waste place, F 1846. - 2. Between Prodhromos and Pedhoulas, road-side, D 41427. - 3. Kourion, amphitheatre, F 1783B. - 4. Near Pernera, 20m, D 41701.

*Orlaya daucooides* (L.) Greuter

2. Moutoullas, road banks, 1000m, Z 86160.

*Pseudorlaya pumila* (L.) Grande

4. Paralimni, near the hotel Sunrise, D 41171.

*Daucus glaber* (Forssk.) Thell.

4. Ayia Napa, Cape Greco, coastal limestone cliffs, 15m, M 5165; Ayia Napa, W of harbour coastal plateau, petrified sand dunes, 1m, M 5150c.

*Coriandrum sativum* L.

4. Shrubby slopes near the chapel Hagios Elias, D 41664.

*Smyrniium connatum* Boiss. & Kotschy

2. Kykko monastery, D 41928, 41929, 41930, 41931; Kakopetria, Solea valley, 650m, D 41408.

*Lecokia cretica* (Lam.) DC.

2. Cedar Valley, F 1835, L 12618.

*Bupleurum lancifolium* Hornem.

4. Near Pernera, 20m, Dostál 41692.

*Bupleurum gracile* Urv.

1. Akamas, on the hill Mavri Shinia, 300m, Z 86121, 86138.

*Bupleurum semicompositum* L.

4. Paralimni, seashore near the hotel Sunrise, D 41164, 41200; Ayia Napa, Cape Greco, coastal limestone cliffs, 15m, M 5167b.

*Bunium ferulaceum* Sibth. & Sm.

4. Paralimni, shrubby place between Pernera and the hotel Sunrise, D 41508.

*Crithmum maritimum* L.

4. Seashore near Pernera, D 41790, 41791.

*Ferula communis* L.

3. Shrubby places between Pano Lefkara and Kato Lefkara, D 41387, 41388.

*Tordylium syriacum* L.

4. Paralimni, shrubby slopes near the chapel Hagios Elias, D 41656, 41660, 41661.

*Tordylium aegyptiacum* (L.) Poir.

4. Near Pernera, D 41712, 41715, 41719.

*Ainsworthia trachycarpa* Boiss.

4. Paralimni, shrubby place between Pernera and the hotel Sunrise, D 41523; between Hagios Elias and Pernera, D 41616; between Hagios Elias and Paralimni, D 41805.

#### ***Araliaceae***

*Hedera helix* L.

2. Pharmakas, 1100m, V sine no; Polystipos, 1100m, V s. n.

#### ***Rubiaceae***

*Valantia muralis* L.

4. Ayia Napa, Cape Greco, coastal limestone cliffs, 45m, M 5155.

Only two localities are known in Cyprus.

*Valantia hispida* L.

1. Baths of Aphrodite, F 1814. - 4. Paralimni, seashore near Pernera in the direction of Famagusta, D 41234; seashore between Pernera and Dherinia, D 41224; near Pernera, D 41586.

*Rubia tenuifolia* Urv.

4. Paralimni, calcareous slopes near the chapel Hagios Elias, D 41310.

*Galium canum* Req.

1. Akamas, 4km W of Baths of Aphrodite, Z 86183, 86184. - 4. Ayia Napa, Cape Greco, coastal limestone cliffs, 45m, M 5155h.

*Galium pisiferum* Boiss.

4. Paralimni, calcareous slopes near the chapel Hagios Elias, D 41488.

*Galium verrucosum* Huds.

1. Coral Bay, garigue on calcareous formations, 30m, L 12568.

*Galium parisiense* L.

2. Between Prodhromos and Pedhoulas, road-side, D 41428.

*Galium divaricatum* Pourret ex Lam.

1. Paphos, waste place near the hotel Theofano, F 1850.

Meikle (p. 788) reports one single locality in 6: Dhiorios, leg. Meikle 1962.

*Galium recurvum* Req. in DC. var. *recurvum*

2. Between Prodhromos and Pedhoulas, road-side, D 41422, 41423; Kakopetria, Solea valley, 650m, D 41405.

*Asperula cypria* Ehrend.

1. Akamas, W of Baths of Aphrodite, Z 86180, 86181. - 4. Table Mountain, between Paralimni and Ayia Napa, 100m, D 41830, 41831.

*Crucianella latifolia* L.

3. Khalassa NW of Limassol, 300m, V s. n. - 4. Table Mountain near Paralimni, 60m, D 41895.

*Crucianella aegyptica* L.

4. Paralimni, seashore near Pernera in the direction of Famagusta, D 41238; seashore between Pernera and Dherinia, D 41704; near Pernera, D 41772, 41773, 41774.

*Sherardia arvensis* L.

1. Akamas, between Baths of Aphrodite and Fontana Amorosa, rocky slopes, F 1807A. - Near Pernera, fields, D 41718.

### *Theligonaceae*

*Theligonum cynocrambe* L.

1. Akamas, between Baths of Aphrodite and Fontana Amorosa, rocky slopes, F 1796.

### *Chenopodiaceae*

*Bassia indica* (Wight) A. J. Scott

4. Ayia Napa, surroundings of the harbour, ruderal habitats, 2-3m, M s. n.

### *Gramineae*

*Lolium multiflorum* Lam. subsp. *gaudini* (Parl.) Schinz & Thell.

2. Stavros tou Ayiasmati, *Pinus brutia* forest, 1030m, Z 861173.

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