

Contributions to the phytodiversity of ruderal and riparian habitats of Cyprus

Dietmar Brandes, Braunschweig

Cyprus is the third largest island of the Mediterranean Sea. Its climate is arid Mediterranean (MEIKLE 1977) with short and cool winter resp. long and dry summer. The average temperature is about 19.1°C, the average precipitation amounts 498 mm (WALTER & LIETH 1960/67). In spring 1997 we studied the synanthropic vegetation of the western part of the island between Paphos, Polis, Troodos Mts. and Episkopi.

Old town center of Paphos:

<i>Chenopodium murale</i>	<i>Oxalis pes-caprae</i>
<i>Conyza bonariensis</i>	<i>Parietaria judaica</i>
<i>Cynodon dactylon</i>	<i>Phagnalon rupestre</i>
<i>Euphorbia peplus</i>	<i>Plantago lagopus</i>
<i>Hordeum leporinum</i>	<i>Polycarpon tetraphyllum</i>
<i>Malva parviflora</i>	<i>Ricinus communis</i>
<i>Nerium oleander</i>	<i>Rostraria cristata</i>
<i>Nicotiana glauca</i>	<i>Sonchus oleraceus</i>
<i>Oryzopsis miliacea</i>	

Glebionis coronarium stands on fallow land in Paphos

Area 40 m², vegetation cover 85-90 %

3.2 *Glebionis coronarium*, 3.3 *Avena barbata*, 3.3 *Bromus madritensis*;

1.2 *Notobasis syriaca*, 1.2 *Trifolium clypeatum*, 1.2 *Lavatera cretica*, 1.2 *Echium angustifolium*, + *Sinapis alba*, 1.2 *Melilotus sulcatus*, 1.1 *Lathyrus ochrus*, +.2 *Coriandrum sativum*, +.2 *Gladiolus italicus*, +.2 *Vicia sativa*, +.2 *Vicia hydrida*, +.2 *Phlomis spec.*, + *Hippocrepis unisiliquosa*, + *Anagallis arvensis*, + *Erodium malacoides*, + *Convolvulus arvensis*, + *Ononis viscosa*, + *Plantago lagopus*, + *Geropogon hybridus*.

Byzantine Castle of Paphos:

<i>Ainsworthia trachycarpa</i>	<i>Hordeum leporinum</i>
<i>Ajuga chamaepitys</i> subsp. <i>palaestina</i>	<i>Hymenocarpus circinnatus</i>
<i>Allium ampeloprasum</i>	<i>Lathyrus aphaca</i>
<i>Anchusa aegyptiaca</i>	<i>Lavatera cretica</i>
<i>Asparagus stipularis</i>	<i>Limonium sinuatum</i>
<i>Asphodelus aestivus</i>	<i>Lotus peregrinus</i>
<i>Asphodelus fistulosus</i>	<i>Malva parviflora</i>
<i>Avena barbata</i>	<i>Medicago polymorpha</i>
<i>Bosea cypria</i>	<i>Mercurialis annua</i>
<i>Bromus madritensis</i>	<i>Misopates orontium</i>
<i>Campanula erinus</i>	<i>Nicotiana glauca</i>
<i>Capparis spinosa</i>	<i>Nigella damascena</i>
<i>Carduus pycnocephalus</i>	<i>Notobasis syriaca</i>
<i>Carlina involucrata</i>	<i>Ononis viscosa</i>
<i>Catapodium rigidum</i>	<i>Oryzopsis miliacea</i>
<i>Convolvulus siculus</i>	<i>Pallenis spinosa</i>
<i>Conyza bonariensis</i>	<i>Parietaria judaica</i>
<i>Crepis aspera</i>	<i>Parietaria lusitanica</i>
<i>Cupressus sempervirens</i>	<i>Phagnalon rupestre</i>
<i>Cyclamen persicum</i>	<i>Pistacia terebinthus</i>
<i>Cynara cardunculus</i>	<i>Polycarpon tetraphyllum</i>
<i>Dittrichia viscosa</i>	<i>Polygonum equisetiforme</i>
<i>Echium angustifolium</i>	<i>Rostraria cristata</i>
<i>Emex spinosa</i>	<i>Sinapis alba</i>
<i>Erodium moschatum</i>	<i>Smyrniolum olusatrum</i>
<i>Euphorbia helioscopia</i>	<i>Stipa capensis</i>
<i>Euphorbia peplus</i>	<i>Trachynia distaya</i>
<i>Fumaria macrocarpa</i>	<i>Tragopogon sinuatus</i>
<i>Galium aparine</i>	<i>Trifolium campestre</i>
<i>Geranium rotundifolium</i>	<i>Urospermum picroides</i>
<i>Glebionis coronarium</i>	<i>Urtica pilulifera</i>
<i>Herniaria spec.</i>	<i>Veronica cymbalaria</i>
<i>Hippocrepis multisiliquosa</i>	<i>Withania somnifera</i>

Tab. 1: *Withania somnifera*-*Lavatera cretica* stands

Number of relevé	1	2	3
Area [m ²]	8	8	30
Vegetation cover [%]	85	95	85
Number of species	7	7	13
<hr/>			
<i>Withania somnifera</i>	3.2	1.1	3.2
<i>Lavatera cretica</i>	2.2	3.4	3.3
<i>Galium aparine</i>	+	2.2	3.3
<i>Parietaria judaica</i>	.	4.4	2.3
<i>Mercurialis annua</i>	.	1.1	1.2
<i>Tragopogon porrifolius</i>	1.1	.	.
<i>Linaria chalepensis</i>	+	.	.
<i>Antirrhinum majus</i>	+	.	.
<i>Sinapis alba</i>	+	.	.
<i>Bromus madritensis</i>	.	1.2	.
<i>Lactuca serriola</i>	.	+	+
<i>Sonchus oleraceus</i>	.	.	1.2
<i>Erodium moschatum</i>	.	.	1.2
<i>Astragalus boeticus</i>	.	.	1.2
<i>Crepis aurea</i>	.	.	+
<i>Avena sterilis</i>	.	.	2.2
<i>Verbascum sinuatum</i>	.	.	+
<i>Misopates orontium</i>	.	.	+
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Fig 1: *Withania somnifera* in flower.



Fig. 2: *Withania somnifera* fruiting.

“Tomb of the kings” in Paphos

Acacia cyanophylla
Allium ampelosprasum
Allium neapolitanus
Anchusa aegyptiaca
Anthemis rigida
Anthemis tricolor

Asparagus stipularis
Asphodelus aestivus
Avena sterilis
Biscutella didyma
Bosea cypria
Bromus madritensis

<i>Capparis spinosa</i>	<i>Mercurialis annua</i>
<i>Carduus pycnocephalus</i>	<i>Micromeria nervosa</i>
<i>Carlina involucreta</i>	<i>Misopates orontium</i>
<i>Carthamus lanatus</i>	<i>Moraea sisyrinchium</i>
<i>Chenopodium murale</i>	<i>Nerium oleander</i>
<i>Convolvulus althaeoides</i>	<i>Nigella damascena</i>
<i>Convolvulus coelestiacus</i>	<i>Onobrychis crista-galli</i>
<i>Crupina crupinastrum</i>	<i>Ononis viscosa</i>
<i>Cyclamen persicum</i>	<i>Onopordum cyprium</i>
<i>Dittrichia viscosa</i>	<i>Oxalis pes-caprae</i>
<i>Echium angustifolium</i>	<i>Pallenis spinosa</i>
<i>Emex spinosa</i>	<i>Parietaria judaica</i>
<i>Ephedra fragilis</i> subsp. <i>campylopoda</i>	<i>Parietaria lusitanica</i>
<i>Eryngium creticum</i>	<i>Paronychia argentea</i>
<i>Ficus carica</i>	<i>Phagnalon rupestre</i>
<i>Galium aparine</i>	<i>Pistacia lentiscus</i>
<i>Galium verrucosum</i>	<i>Reseda orientalis</i>
<i>Glebionis coronaria</i>	<i>Ruta chalepensis</i>
<i>Helianthemum obtusifolium</i>	<i>Salvia verbenaca</i>
<i>Hirschfeldia incana</i>	<i>Silene vulgaris</i>
<i>Hyparrhenia hirta</i>	<i>Stipa capensis</i>
<i>Hypericum triquetrifolium</i>	<i>Thelygonum cynocrambe</i>
<i>Lagurus ovatus</i>	<i>Urginea maritima</i>
<i>Lavatera cretica</i>	<i>Urospermum picroides</i>
<i>Limonium sinuatum</i>	<i>Urtica pilulifera</i>
<i>Mandragora officinarum</i>	<i>Valantia hispida</i>
<i>Medicago marina</i>	

Parietaria judaica stands are common at rock bases of the “Tomb of the kings”, which are shaded for some hours, they are characterized by nitrophilous and sciophilous plants like *Urtica pilulifera*, *Galium aparine* and *Mercurialis annua*. The occurrence of *Mandragora autumnalis* is noticeable, this species grows often in ruins (SCHÖNFELDER & SCHÖNFELDER 2008).

Parietaria judaica stand in the area of “The tomb of the kings”

Area 7 m², vegetation cover 80 %, shaded by overhanging rock:

4.3 *Parietaria judaica*, 2.2 *Urtica pilulifera*, 2.2 *Galium aparine*, 2.2 *Mercurialis annua*, 2.1 *Mandragora autumnalis*, +.2 *Allium neapolitanum*, + *Chenopodium murale*, + *Thelygonum cynocrambe*;
1.2 *Cyclamen persicum*, 1.2 *Convolvulus althaeoides*, 1.1 *Asparagus stipularis*, + *Bromus madritensis*, + *Phagnalon rupestre*.

***Parietaria lusitanica*-*Veronica cymbalaria* community in Kathikas**

Wall base in Kathikas, area 0,2 m x 6 m, vegetation cover 30 %:

2.2 *Veronica cymbalaria*, 1.2 *Parietaria lusitanica*;

2.2 *Parietaria judaica*, 1.2 *Hordeum leporinum*.



Fig. 3: *Anchusa aegyptiaca*.



Fig. 4: *Valantia hispida*.

Retaining wall built-up by field-stones near Ag. Georgios, 30 m above the sea-level

Area 10 m², vegetation cover 75 %:

3.4 *Bosea cypria*, 2.3 *Lycium schweinfurthii*, 2.2 *Pistacia lentiscus*, 2.2 *Ephedra fragilis* subsp. *campylopoda*, 1.1 *Astragalus stipularis*.

***Geranium purpureum*-*Malva cretica* stands**

Small hollow of a vertical rock plate shaded by *Pistacia lentiscus* in the peninsula Akámas:

Area: 0,8 m², vegetation cover: 70 %:

3.3 *Geranium purpureum*, 2.2 *Malva cretica*, 2.2 *Trachynia distachya*, 1.2 *Lotus peregrinus*, 1° 2 *Carduus argentatus*, 1.1 *Cyclamen persicum*, 1.1 *Convolvulus siculus*, +.2 *Melica minuta*, + *Arisarum vulgare*, + *Asphodelus aestivus*, + *Geranium columbinum*, + *Trifolium stellatum*.



Fig.5: *Bosea cypria*, an endemic shrub.

***Urtica pilulifera*-*Lavatera cretica* community**

Skirt community shaded by *Cupressus sempervirens* along a small road 10 km south of Polis, grazed by goats, area: 2 m x 20 m, vegetation cover: 98 %:

3.4 *Lavatera cretica*, 3.4 *Urtica pilulifera*;

+ *Sonchus oleraceus*, + *Notobasis syriaca*, + *Mercurialis annua*, + *Sinapis alba*, + *Urospermum picroides*, + *Bromus rigidus*, + *Hordeum leporinum*, + *Plantago lagopus*, +° *Glebionis coronaria*, r *Ammi majus*.

***Smyrnum olusatrum* stands**

Dense *Smyrnum olusatrum* stands sheltered by planted *Eucalyptus camaldulensis* are characterized by sciophilous and nitrophilous species like *Sambucus nigra*, *Allium neapolitanum*, *Galium aparine*, *Oxalis pes-caprae* and *Oryzopsis miliacea*. *Smyrnum olusatrum* is typical for moist shady places under trees in villages or by irrigation channels.

Village of Kannaviou, area 40 m², vegetation cover 90 %:

Shrub layer: 1.1 *Sambucus nigra*,

Herb layer: 5.4 *Smyrnum olusatrum*, 1.2 *Oryzopsis miliacea*, 1.2 *Galium aparine*, 1.1 *Allium neapolitanum*, 1.1 *Silybum marianum*, 1.1 *Asparagus acutifolius*, +.2 *Sinapis alba*, + *Oxalis pes-caprae*, + *Sonchus oleraceus*, + *Lavatera cretica*.



Fig. 6: *Urtica pilulifera*.

Village of Koukليا, area 20 m², vegetation cover 70 %:

4.4 *Smyrnum olusatrum*, 2.2 *Urtica pilulifera*, 1.2 *Ecballium eleaterium*, 1.2 *Mercurialis annua*, 1.2 *Lavatera cretica*, 1.2 *Galium aparine*, + *Lamium moschatum*; 1.2 *Glebionis coronarium*, 1.2 *Avena sterilis*, + *Bromus madritensis*.



Fig 7: *Smyrniolus satrum* stands.

***Onopordum cyprium* stands**

Ruderal communities dominated by the endemic *Onopordum cyprium* are often growing on road verges and field borders.

Roadside near Kouklia, south faced in contact to a field border, area 10 m x 1,5 m, vegetation cover 95 %:

3.2 *Onopordum cyprium*, 2.1 *Echinops spinosissimus*, 1.2 *Asphodelus aestivus*, 1.2 *Echium angustifolium*, 1.2 *Lavatera cretica*, 1.1 *Notobasis syriaca*, 1.1 *Cichorium intybus*, 1.1 *Anthemis palaestina*;

3.2 *Glebionis coronarium*, 2.3 *Bromus rigidus*, 1.2 *Avena barbata*, 1.2 *Oryzopsis miliacea*, 1.2 *Hypericum triquetrifolium*, 1.1 *Urospermum picroides*, +.2 *Mercurialis annuus*, + *Scabiosa prolifera*, + *Paronychia argentea*, + *Trifolium tomentosum*, + *Centaurea hyalolepis*, + *Stipa capensis*, + *Ononis viscosa*, + *Onobrychis crista-galli*.



Fig. 8: *Onopordum cypricum*, an endemic thistle.

Castle of the Order of St. John of Jerusalem in Kolóssi

<i>Antirrhinum majus</i>	<i>Mercurialis annua</i>
<i>Asphodelus fistulosus</i>	<i>Micromeria nervosa</i>
<i>Avena sterilis</i>	<i>Misopates orontium</i>
<i>Calendula arvensis</i>	<i>Notobasis syriaca</i>
<i>Campanula erinus</i>	<i>Oryzopsis miliacea</i>
<i>Convolvulus althaeoides</i>	<i>Oxalis pes-caprae</i>
<i>Convolvulus arvensis</i>	<i>Papaver rhoeas</i>
<i>Emex spinosa</i>	<i>Parietaria judaica</i>
<i>Erodium malacoides</i>	<i>Plantago lagopus</i>
<i>Erodium moschatum</i>	<i>Polycarpon tetraphyllum</i>
<i>Euphorbia peplus</i>	<i>Ricinus communis</i>
<i>Galium aparine</i>	<i>Sinapis alba</i>
<i>Glebionis coronaria</i>	<i>Sisymbrium irio</i>
<i>Hedypnois rhagadioloides</i>	<i>Sisymbrium orientale</i>
<i>Hyoscymus albus</i>	<i>Smyrniolum olusatrum</i>
<i>Lavatera cretica</i>	<i>Stipa capensis</i>
<i>Linaria chalepensis</i>	<i>Urtica pilulifera</i>
<i>Matricaria recutita</i>	



Fig. 9: Castle of the order of St. John of Jerusalem in Kolossi.

Ficus carica, *Nicotiana glauca*, *Oryzopsis miliacea*, *Parietaria judaica* and *Phagnalon rupestre* were recorded from the retaining walls of the old church in the vicinity of the castle.

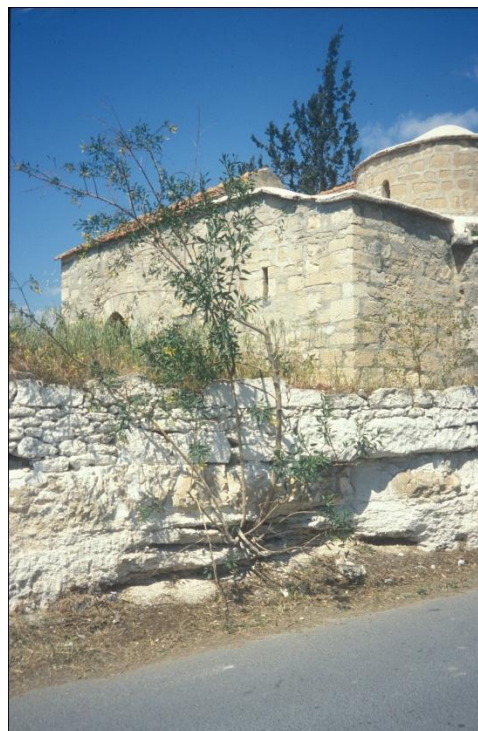


Fig. 10: *Nicotiana glauca* in front of the old church near the castle of Colossi.

Castle of the order of St. John of Jerusalem in Kolossi. Wall base north-faced.

Area 8 m², vegetation cover 85 %:

3.3 *Lavatera cretica*, 3.2 *Sinapis alba*, 2.2 *Parietaria judaica*, 2.2 *Campanula erinus*, 1.2 *Mercurialis annua*, 1.2 *Matricaria recutita*, 1.2 *Galium aparine*, 1.1 *Euphorbia peplus*, 1.1 *Polycarpon tetraphyllum*, 1.1 *Erodium moschatum*, + *Emex spinosa*, + *Veronica cymbalaria*, + *Avena sterilis*, + *Medicago sulcata*, + *Verbascum sinuatum*, +° *Glebionis coronarium*.



Fig. 11: *Linaria chalepensis*.

Roadside verge in the valley of the Dhiarizos near Souskiou

Area 2 m x 10 m, vegetation cover 95 %:

3.3 *Erodium malacoides*, 2.2 *Centaurea hyalolepis*, 2.2 *Hirschfeldia incana*, 2.2 *Hordeum leporinum*, 2.2 *Calendula arvensis*, 1.2 *Notobasis syriaca*, 1.2 *Chrysanthemum coronarium*, 1.2 *Crepis aspera*, 1.2 *Plantago lagopus*, 1.2 *Scabiosa prolifera*, 1.2 *Bromus madritensis*, 1.2 *Avena barbata*, 1.1 *Aegilops spec.*, +.2

Mercurialis annua, + *Stipa capensis*, + *Carthamus lanatus*, + *Erodium gruinum*, + *Euphorbia helioscopia*, + *Lolium rigidum*, + *Sonchus oleraceus*, + *Carduus pycnocephalus*, + *Lavatera cretica*, + *Tordylium aegyptiacum*.

The total flora of roadsides of Cyprus comprises some 500 species. The omnipresence of *Sinapis alba* along roads especially on limestone gravel, at least till 750 m above sea-level, is striking. Annuals and short-lived perennials are favored by mechanical removing of the undesired vegetation of the roadside. *Dittrichia graveolens* and *Dittrichia viscosa* are frequent on road verges of sunken roads. Common species of roadsides in the western parts of Cyprus are listed below (locally dominating species are printed in bold letters):

Acacia cyanophylla (cultivated and naturalized)

Allium ampeloprasum

Allium neapolitanum

Alyssum strigosum

Anagallis arvensis subsp. *arvensis*

Anagallis arvensis subsp. *caerulea*

Anagyris foetida

Anchusa aegyptiaca

Anchusa azurea

Anchusa strigosa

Anchusa undulata

Andrachne telephioides

Anemone coronaria

Anthemis palaestina

Anthemis tricolor

Arabis purpurea

Arenaria leptoclados

Arundo donax

Asphodelus aestivus

Astragalus lusitanicus

Atractylis cancellata

Avena barbata

Blackstonia perfoliata

Briza maxima

Calendula arvensis

Capsella bursa-pastoris

Carduus argentatus

Carduus pycnocephalus

Carlina involuocrata subsp. *cypria*

Carthamus lanatus

Cedrus libanii subsp. *brevifolia* (young plants in the Troodos mountains)

Centaurea hyalolepis

Ceratonia siliqua (cultivated and subsponaneous)

Cichorium endivia

Cichorium intybus

Cistus creticus

Cistus salviifolius

Convolvulus althaeoides

Crataegus azarolus

Crucianella latifolia

Crupina crupinastrum

Cupressus sempervirens

Cynara cardunculus

Cynodon dactylon

Dactylis glomerata

Daucus carota subsp. *maximus*

Dittrichia graveolens

Dittrichia viscosa

Echinops spinosissimus

Echium angustifolium

Echium italicum

Erodium gruinum

Erodium malacoides

Erodium moschatum

Eruca sativa

Erucaria hispanica

Eryngium creticum

<i>Euphorbia helioscopia</i>	<i>Phlomis spec.</i>
<i>Ferula communis</i>	<i>Picnomon acarna</i>
<i>Foeniculum vulgare</i>	<i>Picris altissima</i>
<i>Galium setaceum</i>	<i>Pinus brutia</i>
<i>Genista spec</i>	<i>Pisum sativum</i>
<i>Geranium rotundifolium</i>	<i>Pistacia lentiscus</i>
<i>Geranium tuberosum</i> (Troodos Mts.)	<i>Plantago afra</i>
<i>Geropogon hybridus</i>	<i>Plantago coronopus</i>
<i>Gladiolus italicus</i>	<i>Plantago lagopus</i>
<i>Glebionis coronarium</i> var. <i>coronarium</i>	<i>Plantago lanceolata</i>
<i>Helichrysum conglobatum</i>	<i>Polycarpon tetraphyllum</i>
<i>Hirschfeldia incana</i>	<i>Polygonum aviculare</i>
<i>Hordeum bulbosum</i>	<i>Polygonum equisetiforme</i>
<i>Hordeum leporinum</i>	<i>Poterium sanguisorba</i>
<i>Hyparrhenia hirta</i>	<i>Prasium majus</i>
<i>Lactuca serriola</i>	<i>Ranunculus asiaticus</i>
<i>Lagaoecia cuminoides</i>	<i>Reseda lutea</i>
<i>Lagurus ovatus</i>	<i>Ricinus communis</i>
<i>Lamium amplexicaule</i>	<i>Rubus sanctus</i>
<i>Lathyrus ochrus</i>	<i>Rumex cyprius</i>
<i>Lavatera cretica</i>	<i>Ruta chalepensis</i>
<i>Lithodora hispidula</i>	<i>Salvia fruticosa</i>
<i>Lotus peregrinus</i>	<i>Salvia verbenaca</i>
<i>Malva parviflora</i>	<i>Sarcopoterium spinosum</i>
<i>Malva sylvestris</i>	<i>Scabiosa prolifera</i>
<i>Marrubium vulgare</i>	<i>Scorpiurus muricatus</i>
<i>Matthiola longipetala</i>	<i>Senecio vulgaris</i>
<i>Mercurialis annua</i>	<i>Silene vulgaris</i>
<i>Misopates orontium</i>	<i>Silybum marianum</i>
<i>Nerium oleander</i>	<i>Sinapis alba</i>
<i>Notobasis syriaca</i>	<i>Sisymbrium officinale</i>
<i>Onobrychis cf. christa-galli</i>	<i>Smilax aspera</i>
<i>Ononis viscosa</i>	<i>Smyrniolum olusatrum</i>
<i>Onopordum bracteatum</i> (Troodos Mts.)	<i>Stipa capensis</i>
<i>Onopordum cyprium</i>	<i>Tetragonolobus purpureus</i>
<i>Opopanax hispidus</i>	<i>Thlaspi cyprium</i> (Troodos Mts.)
<i>Oryzopsis miliacea</i>	<i>Torularia torulosa</i>
<i>Oxalis corniculata</i>	<i>Tragopogon sinuatus</i>
<i>Oxalis pes-caprae</i>	<i>Trifolium campestre</i>
<i>Pallenis spinosa</i>	<i>Trifolium clypeatum</i>
<i>Papaver rhoeas</i>	<i>Trifolium stellatum</i>
<i>Parentucellia latifolia</i>	<i>Urginea maritima</i>
<i>Phagnalon rupestre</i>	<i>Urospermum picroides</i>

Valerianella spec.

Verbascum sinuatum

Vicia hybrida

Vicia sativa var. sativa



Fig. 12: Roadside with dominating *Glebionis coronarium*.



Fig. 13: *Ferula communis* on a road verge.



Fig. 14: *Ruta chalepensis*.



Fig. 15: *Tragopogon porrifolius*.

Riparian flora



Fig. 16: Gravel bed of the river Dhiarizos.

Riparian flora of the Dhiarizos

A: 390-400 m above sea-level, downstream Fiousa

B: 290-300 m above sea-level, near Kithasi

C: 120 m above sea-level, above Fasoula

D: 100 m above sea-level, near Souskiou

Aethiorhiza bulbosa (B)

Alcea spec. (A)

Alliaria petiolata (A)

Alnus orientalis (B)

Anagallis arvensis (B, C, D)

Anchusa aegyptiaca (C)

Anchusa undulata (A)

Andrachne telephioides (C)

Arabis pupurea (A)

Arisarum vulgare (D)

Arum cf. hygrophilum (B, D)

Arundo donax (A, B)

Asphodelus aestivus (B, D)

Avena barbata (A, B, C, D)

Avena sterilis (C)

Bellardia trixago (C, D)

Biscutella didyma (C)

Bolboschoenus maritimus (D)

Briza maxima (B)

Bromus madritensis (A, B, C)

Bromus rigidus (C)

Buglossoides arvensis (A)

Calendula arvensis (B, C, D)

Cardamine graeca (A)

Carduus argentatus (A, C)

Carduus pycnocephalus (A, B, C)

Carlina involucreta (A, C, D)

Catapodium rigidum (C)

<i>Centaurea hyalolepis</i> (C, D)	<i>Oryzopsis miliacea</i> (A, B, D)
<i>Clypeola jonthaspi</i> (A)	<i>Oxalis pes-caprae</i> (B, C, D)
<i>Cnicus benedictus</i> (C)	<i>Pallenis spinosa</i> (A)
<i>Conium maculatum</i> (A)	<i>Paronychia argentea</i> (B, C, D)
<i>Convolvulus coelesyriacus</i> (C)	<i>Phagnalon rupestre</i> (A, B, C, D)
<i>Crepis aspera</i> (C)	<i>Phalaris minor</i> (C)
<i>Crupina crupinastrum</i> (B)	<i>Picnomon acarna</i> (A)
<i>Cynoglossum creticum</i> (A)	<i>Plantago afra</i> (B, C, D)
<i>Daucus carota</i> s. l. (A, D)	<i>Plantago coronopus</i> (D)
<i>Dittrichia graveolens</i> (A)	<i>Plantago lagopus</i> (B, C, D)
<i>Dittrichia viscosa</i> (A, B, C, D)	<i>Plantago lanceolata</i> (A, C, D)
<i>Echinops spinosissimus</i> (A, B, D)	<i>Plantago major</i> (B)
<i>Echium angustifolium</i> (C)	<i>Platanus orientalis</i> (A, B)
<i>Equisetum ramosissimum</i> (B)	<i>Polygonum equisetiforme</i> (A, B, C, D)
<i>Erodium malacoides</i> (D)	<i>Potentilla reptans</i> (B)
<i>Euphorbia helioscopia</i> (D)	<i>Ptilostemon chamaepeuce</i> (A)
<i>Euphorbia peplus</i> (B)	<i>Raphanus raphanistrum</i> (A, B, C, D)
<i>Foeniculum vulgare</i> (A, B, C, D)	<i>Reseda lutea</i> (A, C)
<i>Fumaria judaica</i> (B)	<i>Rhagadiolus edulis</i> (B)
<i>Galium aparine</i> (A, B, D)	<i>Rubus sanctus</i> (A, B, D)
<i>Geranium dissectum</i> (B)	<i>Rumex conglomeratus</i> (A)
<i>Geranium purpureum</i> (A, B)	<i>Salix alba</i> (A, B)
<i>Geranium rotundifolium</i> (B)	<i>Sarcopoterium spinosum</i> (A, C, D)
<i>Glebionis coronaria</i> (C, D)	<i>Scrophularia peyronii</i> (C)
<i>Hirschfeldia incana</i> (C)	<i>Senecio vulgaris</i> (B, C, D)
<i>Hordeum leporinum</i> (D)	<i>Serapias vomeracea</i> (A, B, D)
<i>Hymenocarpus circinnatus</i> (B, C, D)	<i>Sherardia arvensis</i> (C)
<i>Lactuca serriola</i> (A)	<i>Silybum marianum</i> (D)
<i>Lamium moschatum</i> (A)	<i>Silene vulgaris</i> (C)
<i>Lathyrus aphaca</i> (A, C)	<i>Sinapis alba</i> (A, B, D)
<i>Lathyrus ochrus</i> (C)	<i>Smilax aspera</i> (B)
<i>Linum bienne</i> (C, D)	<i>Smyrniolum olusatrum</i> (B)
<i>Lotus peregrinus</i> (C)	<i>Sonchus oleraceus</i> (A, C)
<i>Malva sylvestris</i> (D)	<i>Stellaria media</i> (A)
<i>Medicago</i> div. spec. (C)	<i>Stipa capensis</i> (C)
<i>Melissa officinalis</i> (A, B)	<i>Tamarix</i> cf. <i>tetrandra</i> (A, B, D)
<i>Mercurialis annua</i> (B)	<i>Thelygonum cynocrambe</i> (A, B)
<i>Nerium oleander</i> (B, D)	<i>Trachynia distachya</i> (A, C)
<i>Onobrychis christa-galli</i> (A, B, D)	<i>Tragopogon sinuatus</i> (B, C, D)
<i>Ononis viscosa</i> (A, C, D)	<i>Trifolium campestre</i> (A, C, D)
<i>Onopordum cyprium</i> (D)	<i>Trifolium resupinatum</i> (C, D)
<i>Ophrys sphegodes</i> (B)	<i>Trifolium stellatum</i> (B, D)
<i>Ornithogalum</i> cf. <i>narbonense</i> (B, D)	<i>Urospermum picroides</i> (A, D)

Verbascum sinuatum (A, B, C, D)
Verbena officinalis (A, B)
Vicia hybrida (B)

Vicia sativa (A, B, C)
Xanthium strumarium s. l. (A)



Fig. 17: *Sarcopoterium spinosum*.

Gravel banks with high disturbance are colonized by therophytes (20 % vegetation cover) and patches of *Dittrichia viscosa*. Groups of *Tamarix* cf. *tetrandra* and *Rubus sanctus* are also inserted in the matrix. *Oxalis pes-caprae*, *Ornithogalum narbonense*, *Oryzopsis miliacea* and *Asphodelus aestivus* are growing in the shelter of the shrubs.

Small riparian forests are dominated by deciduous tree species (*Alnus orientalis*, *Platanus orientalis* and *Salix alba*). Their scrub layer is in contrast winter-green (*Rubus sanctus*). The following record shows typical riparian woodland near Kithasi:

Riparian forest near Kithasi between river Dhiarizos and the road. Area 80 m², vegetation cover 90 %:

Tree layer: *Platanus orientalis*, 4.4 *Alnus orientalis*, 1.1 *Salix alba*;

Shrub layer: 3.2 *Rubus sanctus*, + *Tamarix* cf. *tetrandra*;

Herb layer: 2.2 *Aethiorhiza bulbosa*, 2.2 *Oryzopsis miliacea*, 2.1 *Melissa officinalis*, 1.2 *Geranium purpureum*, 1.2 *Fumaria judaica*, 1.2 *Carduus pycnocephalus*, 1.1 *Bromus madritensis*, + *Tragopogon sinuatus*, + *Foeniculum vulgare*, +° *Sinapis alba*, r *Orobanche spec.*

Riparian flora of the river Ezousas near Akkelia respectively Kannaviou:

<i>Acacia spec.</i> (A)	<i>Nerium oleander</i> (K)
<i>Allium ampeloprasum</i> (A)	<i>Ononis spinosa</i> (A)
<i>Arundo donax</i> (A, K)	<i>Onopordum cypricum</i> (A)
<i>Asparagus stipularis</i> (K)	<i>Oryzopsis miliacea</i> (A, K)
<i>Asphodelus aestivus</i> (A)	<i>Oxalis pes-caprae</i> (A)
<i>Avena barbata</i> (A)	<i>Phagnalon rupestre</i> (A)
<i>Avena sterilis</i> (A)	<i>Picnomon acarna</i> (K)
<i>Bolboschoenus maritimus</i> (A)	<i>Pinus brutia</i> juv. (K)
<i>Bromus lanceolatus</i> (A)	<i>Plantago lanceolata</i> (A, K)
<i>Bromus madritensis</i> (A, K)	<i>Platanus orientalis</i> (K)
<i>Calendula arvensis</i> (K)	<i>Polygonum aviculare</i> (K)
<i>Carduus argentatus</i> (A)	<i>Polygonum equisetiforme</i> (A)
<i>Chrysanthemum coronarium</i> (A)	<i>Rubus sanctus</i> (A, K)
<i>Crepis aspera</i> (A)	<i>Rumex pulcher</i> (K)
<i>Daucus carota</i> s. l. (A)	<i>Sarcopoterium spinosum</i> (A, K)
<i>Dittrichia viscosa</i> (A, K)	<i>Scorpiurus muricatus</i> (A)
<i>Echium angustifolium</i> (A)	<i>Serapias vomeracea</i> (A)
<i>Euphorbia peplus</i> (A)	<i>Sinapis alba</i> (A, K)
<i>Ferula communis</i> (A)	<i>Smyrniium olusatrum</i> (K)
<i>Foeniculum vulgare</i> (A, K)	<i>Stellaria media</i> subsp. <i>cupaniana</i> (K)
<i>Geranium purpureum</i> (K)	<i>Stipa capensis</i> (A)
<i>Helichrysum conglobatum</i> (A)	<i>Tamarix tetrandra</i> (T, K)
<i>Hyparrhenia hirta</i> (A)	<i>Tetragonolobus purpureus</i> (A)
<i>Lathyrus annuus</i> (A)	<i>Trachynia distachya</i> (A)
<i>Lathyrus aphaca</i> (K)	<i>Trifolium campestre</i> (A)
<i>Lathyrus ochrus</i> (A)	<i>Trifolium clypeatum</i> (A)
<i>Lavatera cretica</i> (A)	<i>Urospermum picroides</i> (A)
<i>Limonium sinuatum</i> (A)	<i>Verbascum sinuatum</i> (K)
<i>Linum bienne</i> (A)	<i>Vicia laxiflora</i> (A)
<i>Melissa officinalis</i> (A, K)	<i>Vicia sativa</i> (A)
<i>Mercurialis annua</i> (A, K)	



Fig. 18: *Lathyrus aphaca*.

Small torrents show scattered vegetation on their plane gravel banks with *Dittrichia viscosa*, *Nerium oleander* and *Tamarix* spp. In contact to fields the edges of the floodplain corridors are covered with dense stands of *Rubus sanctus* and *Arundo donax*. *Ficus carica* and *Phragmites australis* were also found along small streams.

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Address:

Prof. Dr. Dietmar Brandes

Arbeitsgruppe für Vegetationsökologie, Institut für Pflanzenbiologie

Technische Universität Braunschweig

38023 Braunschweig (Germany)

d.brandes@tu-bs.de