

## The Greek Herbal of Dioscurides Illustrated by a Byzantine A.D. 512

In Vienna, a manuscript, called the Dioscurides manuscript(s), has been stored for a long time. One of the volumes, named *Codex Vindobonensis medicus graecus 1* (« Wiener Dioskurides ») contains 375 sheets with coloured drawings of garden plants used for medicinal purposes (Dioscurides, 1970). Different versions of the manuscript exist (Dioscurides, *Codex Neapolitanus*, Napoli, Biblioteca Nazionale, Ms. ex Vindob. Gr. 1), and the precise age of the collection is debatable. There is, however, no doubt that part of the content is from before the birth of Christ, while other parts are younger. The title of the book by Gunther (1968) gives the realistic information « Illustrated by a Byzantine A.D. 512 » indicates its minimum age.

The collection has recently become more available as a facsimile edition (Dioscurides, 1970). The manuscript contains handwritten Greek names, Arabic names and comments, as well as more modern names. In a companion volume, an updated set of available information and comments are presented, including plant lists etc. with references to the plates (Gerstinger, 1970).

Other botanists have previously been interested in this rare collection : Gunther (1968) gives other information including comments made by the botanist Prof. Charles Daubeny in 1857 on the degree of reliability of the identifications of the drawings. Of 345 plants, 127 plants are evaluated as « pretty good », 93 as « good », 9 as « tolerably like », 16 with « some resemblance », 17 as « bad », 44 as « indifferent », and 36 as « fictitious ». In this last category, the artist may have misunderstood the plant(s), or perhaps mixed earlier text and plant plates. The plant names alone, however, are of some importance as a literature source, in spite of the wrong plant having been drawn or copied. Some of the illustrations have surely been copied from other and older illustrations, and the artist has not seen the plant. On the other hand some of the plants, perhaps within the categories « pretty good » and « good », have probably been familiar to the artist(s), and have been in daily use at A.D. 512.

In the following, the collection refers to the combined work of Dioscurides (1970) and Gerstinger (1970).

The collection is of great importance as a supplement to our knowledge of garden species in the first 500 years A.D. in Europe. The lists and drawings may also be of interest to people working with garden history before the Birth of Christ.

A large number of typical medicinal plants dominates the collection in the same way as in the different Herbarium Vivum from 1500 onwards (e.g. Herbarium Bauhin (16 Century) (Candolle, 1903 ; Binz, 1905), Herbarium Antoni Gaymans (A.D. 1630-1680) (Sosef *et al.*, 1987), Herbarium de Besche (A.D. 1719) (Moe, 1989). Plants used in religious connections and some more ornamental species, such as lilies, are also included. Real vegetables are not common. In the collection, however, *Lactuca sativa*, *Brassica rapa*, and *Allium cepa* are mentioned, and taxa such as *Crocus sativus* and *Allium sativum* are included as well.

An alphabetical list of taxa mentioned in the original collection presented in Gerstinger (1970) with plate references to Dioscurides (1970) is given below :

Acanthus mollis	72v	Ambrosia maritima	21v
Acanthus spinosus	53v	Ambrosia milbaticum	21v
Achillea ageratum	65v	Ambrosia quiprom	21v
Achillea magna	24v	Ambrosia silvaticum	21v
Achillea millefolium	322v	Ammi copticum	59v
Aconitum napellus	67v	Ammi visnaga	59v
Acorus calamus aromaticus	58v	Anacyclus pyrethrum	259
Adiantum capillus veneris	157v	Anagallis arvensis var phoenicea	39v
Adiantum nigrum	101	Anagallis coerulea	40v
Adonis autumnalis	28v	Anagyris foetida	252, 397/2
Aegilops orata	128	Anchusa italica	76v
Aegilops ovata	56v	Anchusa tinctoria	70v
Agrimonia eupatoria	130	Anemone apeninna	25v
Agrostemma corona	210v	Anemone coronaria	25v
Agrostemma githago	211v	Anemone hortensis	25v
Alisma plantago	48v	Anethum foeniculum	229v, 394v
Allium ampeloprasum	208v	Anethum graveolens	27v
Allium cepa	185v	Anthemis pyrethrum	259
Allium descendens	314v	Antirrhinum angustifolium	159v
Allium magicum	235v	Antirrhinum asarina	380v
Allium nigrum	235v	Antirrhinum majus	159v
Allium porrum	278	Apium graveolens	108v, 306
Allium sativum	116v	Aristolochia clematidis	17v
Allium scordoprasum	250	Aristolochia pallida	18v
Aloë vulgaris	15v	Aristolochia parviflora	17v
Althaea cannabina	168v	Aristolochia rotunda	18v
Althaea officinalis	16v	Artemisia abrotanum	23v
Amarantha blitum	77v	Artemisia absinthium	22v
Ambrietia deltoidea	325v	Artemisia arborescens	20v
Ambrosia cuprum	21v	Artemisia maritima	44v

<i>Artemisia spicata</i>	20	<i>Cicer arietinum</i>	119
<i>Arum dracunculus</i>	97	<i>Cirsium stellatum</i>	53v, 353v
<i>Arum italicum</i>	97	<i>Cirsium tuberosum</i>	212v
<i>Arum maculatum</i>	98	<i>Clematis vitalba</i>	195v
<i>Asarum europaeum</i>	30v	<i>Cnicus acarna</i>	60v
<i>Asklepias dioscoridis</i>	47v	<i>Cnicus ferox</i>	60v
<i>Asklepias vincetoxicum</i>	47v	<i>Coix lacryma</i>	200v
<i>Asphodelus microcarpus</i>	113v	<i>Conium maculatum</i>	187v
<i>Asphodelus racemosus</i>	26v, 397/3	<i>Convallaria multiflora</i>	104v
<i>Aspidium filix-mas</i>	266, 395v	<i>Convallaria polygonatum</i>	258
<i>Aspidium lonchitis</i>	213v	<i>Convallaria verticillata</i>	104v
<i>Asplenium adiantum nigrum</i>	42v	<i>Convolvulus althaeoides</i>	233v
<i>Asplenium ceterach</i>	290v	<i>Convolvulus arvensis</i>	106, 280
<i>Asplenium trichomanes</i>	41v	<i>Convolvulus scamonia</i>	331v
<i>Aster amellus</i>	32v	<i>Convolvulus sepium</i>	181v, 332v
<i>Astragalus magniformis</i>	173v	<i>Convolvulus soldanella</i>	184v
<i>Athamanta libanotis</i>	249	<i>Coriandrum sativum</i>	155v
<i>Athanasia maritima</i>	94	<i>Corydalis claviculata</i>	151v
<i>Atriplex halimus</i>	34v	<i>Crithmum maritimum</i>	184v
<i>Atriplex hortensis</i>	50v	<i>Crocus sativus</i>	192v
<i>Avena fatua</i>	81	<i>Croton tinctorium</i>	131, 317v
<i>Beta vulgaris</i>	302	<i>Crucinella monspeliaca</i>	193v
<i>Beta vulgaris</i>	215v	<i>Cucumis colocynthis</i>	190v
<i>Betonica alopecurus</i>	194v	<i>Cuminum cyminum</i>	179v
<i>Botris artemisia</i>	21v	<i>Cuscuta epithimum</i>	107v
<i>Brassica cretica</i>	183v	<i>Cyclamen europaeum</i>	164v
<i>Brassica rapa</i>	89	<i>Cyclamen graeceum</i>	164v
<i>Bryonia alba</i>	82	<i>Cynanchum erectum</i>	68v
<i>Bryonia celtica</i>	79	<i>Cynodon dactylon</i>	38v
<i>Bunium pumilum</i>	74v	<i>Cynoglossum officinale</i>	166v
<i>Bupleurum fruticosum</i>	329v	<i>Cynoglossum pictum</i>	166v
<i>Butomus umbellatus</i>	334	<i>Cynomorium coccineum</i>	356
<i>Cachrys libanotis</i>	175v	<i>Cyperus rotundus</i>	199v
<i>Cachrys morisonii</i>	144	<i>Cytinus hypocistis</i>	355
<i>Calamagrostis epigeios</i>	154v	<i>Daphne gnidium</i>	134v
<i>Calchicum autumnale</i>	104v	<i>Daucus carota</i>	88, 312
<i>Calendula arvensis</i>	124, 181v	<i>Daucus gingidium</i>	88
<i>Cannabis sativa</i>	167v	<i>Daucus silvestris</i>	313
<i>Capparis spinosa</i>	172v	<i>Delphinium halteratum</i>	96
<i>Capsella bursa pastoris</i>	141	<i>Delphinium peregrinum</i>	96
<i>Carduus pycnocephalus</i>	177v	<i>Delphinium staphis agrai</i>	326v
<i>Carthamus lanatus</i>	62v	<i>Digitalis ferruginea</i>	114v
<i>Carthamus tinctoris</i>	198v	<i>Digitalis sanguinalis</i>	38v
<i>Carum carvi</i>	188v	<i>Dipsacus fullonum</i>	100
<i>Caucalis grandiflora</i>	57v	<i>Dipsacus silvestris</i>	100
<i>Centaurea dalmatica</i>	212v	<i>Dolichos lubia</i>	370v
<i>Centaurea spinosa</i>	353v	<i>Dolichos melanophthalmos</i>	370v
<i>Cerinthe aspera</i>	336	<i>Doronicum pardalianches</i>	66v
<i>Cerinthe major</i>	336	<i>Dracunculus vulgaris</i>	97
<i>Ceterach officinarum</i>	290v	<i>Ecballium elaterium</i>	298v
<i>Cheiranthus cheiri</i>	202v	<i>Echium diffusum</i>	61v
<i>Chondrilla juncea</i>	377v	<i>Echium italicum</i>	219v
<i>Chrysanthemum coronarium</i>	75v, 373	<i>Echium rubrum</i>	113
<i>Chrysocome linosyris</i>	372	<i>Ephedra distachya</i>	341v

<i>Ephedra fragilis</i>	144v	<i>Heliotropium supinum</i>	131, 317v
<i>Epimedium alpinum</i>	105v	<i>Heliotropium villosum</i>	291v
<i>Equisetum fluviatile</i>	144v	<i>Helleborus officinalis</i>	115v
<i>Equisetum telmateja</i>	145v	<i>Hemerocallis fulva</i>	133
<i>Erigeron graveolens</i>	152v	<i>Heracleum sphondylium</i>	314
<i>Erigeron viscosum</i>	152v	<i>Herniaria glabra</i>	113v
<i>Erodium malachoides</i>	85, 86	<i>Holcus cernuus</i>	117
<i>Erucaria aleppica</i>	186v	<i>Hordeum vulgare</i>	376v
<i>Eruca sativa</i>	118	<i>Hyacinthus orientalis</i>	357v
<i>Ervum lens</i>	365v	<i>Hypecoum procumbens</i>	352v
<i>Eryngium campestre</i>	126	<i>Hypericum crispum</i>	271
<i>Eryngium planum</i>	126	<i>Hypericum hircinum</i>	340v
<i>Erythrea centaaurium</i>	162v	<i>Hypericum olympicum</i>	262
<i>Euphorbia allepica</i>	349	<i>Hypericum origanifolium</i>	65v
<i>Euphorbia apios</i>	286	<i>Hypericum perforatum</i>	357
<i>Euphorbia chamaesyce</i>	378v	<i>Inula helenium</i>	120
<i>Euphorbia characias</i>	339v	<i>Iris foetida</i>	242
<i>Euphorbia cyparissias</i>	349	<i>Iris germanica</i>	147v
<i>Euphorbia dendroides</i>	346v	<i>Isatis silvestris</i>	160v
<i>Euphorbia helioscopias</i>	350	<i>Isatis tinctoria</i>	160v
<i>Euphorbia lathyris</i>	217v	<i>Juncus acutus</i>	246
<i>Euphorbia myrsinites</i>	345v	<i>Juncus maritimus</i>	246
<i>Euphorbia paralias</i>	351	<i>Juniperus oxycedrus</i>	34
<i>Euphorbia paplis</i>	276	<i>Juniperus phoenicea</i>	33v
<i>Euphorbia pityusa</i>	263	<i>Juniperus sabina</i>	84
<i>Euphorbia platyphyllos</i>	347v	<i>Lactuca sativa</i>	136
<i>Euphorbia spinosa</i>	146v	<i>Lactuca scariola</i>	137
<i>Evax pygmaeus</i>	124	<i>Lagoecia cuminoides</i>	180v, 220v
<i>Farsetia clypeata setie</i>	46v	<i>Lamium amplexicaule</i>	304
<i>Ferula asa foetida</i>	398	<i>Laserpitium</i>	398/1
<i>Ferula communis</i>	240	<i>Lavandula stoechas</i>	319v
<i>Ferula opananax</i>	281	<i>Lecanora parella</i>	216
<i>Ferula tingitana</i>	45v	<i>Lemna minor</i>	366v
<i>Frankenia pulverulenta</i>	290	<i>Leontice chrysogonum</i>	374v
<i>Fumaria capreolata</i>	151v	<i>Leontice leontopetalum</i>	209v
<i>Fumaria officinalis</i>	156v	<i>Lepidium sativum</i>	186v, 396/1
<i>Galium aparine</i>	55v	<i>Lilium candidum</i>	176v
<i>Galium verum</i>	90v	<i>Linaria elatine</i>	94
<i>Gentiana lutea</i>	95	<i>Lithospermum tenuiflorum</i>	200v
<i>Geranium rotundifolium</i>	86	<i>Liziphora capitata</i>	277
<i>Geranium tuberosum</i>	85	<i>Lloydia graeca</i>	368v
<i>Gladiolus communis</i>	241	<i>Lolium perenne</i>	364v
<i>Glaucium corniculatum</i>	90	<i>Lolium temulentum</i>	71v
<i>Glaucium flavum</i>	225v	<i>Lonicera etrusca</i>	280
<i>Glaucium luteum</i>	225v	<i>Lonicera periclymenum</i>	165v, 280
<i>Glaucium phoeniceum</i>	209v	<i>Lophotaenia aurea</i>	330v
<i>Glechoma hederacea</i>	380v	<i>Lotus ornithopodioides</i>	178v
<i>Glycyrrhiza glabra</i>	91v	<i>Lupinus albus</i>	134
<i>Gnaphalium leontopodium</i>	124	<i>Lupinus angustifolius</i>	135
<i>Gnaphalium stoechas</i>	375v	<i>Lupinus birsutus</i>	134
<i>Gratiola officinalis</i>	224v	<i>Lycopus exaltatus</i>	268
<i>Gypsophila ocellata</i>	290	<i>Lysmachia vulgaris</i>	214v
<i>Hedera helix</i>	174v	<i>Malva rotundifolia</i>	228v
<i>Heliotropium europaeum</i>	131, 291v	<i>Malva sylvestris</i>	227v, 228v, 398/2

<i>Malva vulgaris</i>	228v	<i>Parietaria diffusa</i>	272
<i>Marrubium pseudodicatamnus</i>	383	<i>Parietaria officinalis</i>	35v
<i>Marrubium vulgare</i>	275	<i>Paronychia serpyllifolia</i>	260
<i>Matricaria chamomilla</i>	31v	<i>Passerina hirsuta</i>	325v
<i>Matricaria parthenium</i>	31v	<i>Pastinaca sativa</i>	122
<i>Matthiola incana</i>	203v	<i>Pedicularis tuberosa</i>	254
<i>Matthiola tricuspidata</i>	203v	<i>Peltigera canina</i>	216v
<i>Medicago arborea</i>	197v	<i>Peucedanum officinale</i>	261, 397v/3
<i>Melilotus messaliensis</i>	206v	<i>Phaseolus nanus</i>	370v
<i>Melissa altissima</i>	226v	<i>Physalis alkekengi</i>	359v
<i>Mentha aquatica</i>	303	<i>Physalis somnifera</i>	35v, 359v
<i>Mentha gentilis</i>	129, 132, 153v	<i>Pimpinella anisum</i>	49v
<i>Mentha piperita</i>	129	<i>Pimpinella dioica</i>	385
<i>Mentha pulegium</i>	87	<i>Pimpinella saxifraga</i>	169v, 290
<i>Mentha silvestris</i>	303	<i>Pistia stratiotes</i>	321v
<i>Mentha tomentella</i>	153v	<i>Pisum sativum</i>	119
<i>Mentha tomentosa</i>	132	<i>Plantago asiatica</i>	29v
<i>Mentha vulgaris</i>	277	<i>Plantago psyllium</i>	384
<i>Mercurialis annua</i>	201v, 369v	<i>Polemonium coeruleum</i>	262
<i>Mercurialis perennis</i>	369v	<i>Polygala venulosa</i>	265
<i>Mesembrianthemum nodiflorum</i>	272	<i>Polygonum aviculare</i>	274
<i>Muscari comosum</i>	78	<i>Polygonum persicaria</i>	193v
<i>Myriophyllum spicatum</i>	238	<i>Polypodium dryopteris</i>	101
<i>Myrrhis odorata</i>	232v, 330v	<i>Polypodium vulgare</i>	267
<i>Narcissus poeticus</i>	238v	<i>Portulaca oleracea</i>	37v
<i>Nasturtium officinale</i>	323v	<i>Potentilla reptans</i>	273
<i>Nerium oleander</i>	283	<i>Poterium spinosum</i>	318v
<i>Nigella sativa</i>	236v, 396/2	<i>Prunella vulgaris</i>	277
<i>Nymphaea alba</i>	239	<i>Psorea bituminosa</i>	352
<i>Ocimum basilicum</i>	387	<i>Pteris aquilina</i>	142, 257
<i>Onobrychis caput Galli</i>	256	<i>Ramex aquaticus</i>	143
<i>Onopordon acanthium</i>	52v	<i>Ranunculus asiaticus</i>	307
<i>Onopordon arabicum</i>	51v	<i>Ranunculus lanquinosus</i>	308
<i>Onosma echinoides</i>	253	<i>Ranunculus muricatus</i>	308
<i>Origanum</i>	397/1	<i>Ranunculus repens</i>	307
<i>Origanum creticum</i>	247	<i>Raphanus sativus</i>	284
<i>Origanum dictamnus</i>	99	<i>Reseda canescens</i>	325v
<i>Origanum heracleoticum</i>	248	<i>Reseda phyteuma</i>	362v
<i>Origanum majorana</i>	300v	<i>Reseda undata</i>	324v
<i>Origanum maru</i>	340v	<i>Rhamnus oleoides</i>	279
<i>Origanum sipyleum</i>	234v	<i>Rheum rhaponticum</i>	284v
<i>Origanum smyrnaeum</i>	358v	<i>Ricinus communis</i>	170v
<i>Ornithopus compressus</i>	173v, 178v	<i>Roemeria hybrida</i>	209v
<i>Orobus sessifolius</i>	64v	<i>Rosa centifolia</i>	282
<i>Panocratium maritimum</i>	127	<i>Rosmarinus officinalis</i>	69v, 395v/2
<i>Panicum dactylum</i>	38	<i>Rubia lucida</i>	112, 397v/2
<i>Panicum italicum</i>	117	<i>Rubia tinctoria</i>	112
<i>Panicum miliaceum</i>	191v	<i>Rubus tomentosus</i>	83
<i>Papaver argemone</i>	25v, 223v	<i>Rumex acetosus</i>	204v
<i>Papaver dubium</i>	223v	<i>Rumex bucephalophorus</i>	245
<i>Papaver rhoeas</i>	222, 223v	<i>Rumex crispus</i>	244
<i>Papaver setigerum</i>	222	<i>Ruscus aculeatus</i>	102v
<i>Papaver somniferum</i>	221v	<i>Ruscus hypophyllum</i>	102v
<i>Parietaria cretica</i>	230v	<i>Ruscus racemosus</i>	379v

Ruta graveolens	270	Spiraea filipendula	254
Salvia horminum	255	Stachys germanica	304
Salvia officinalis	121	Stachys glutinosa	338
Salvia pomifera	121	Stachys heraclea	295v
Sambucus ebulus	73v, 382	Stachys recta	295v
Sambucus nigra	73v	Statice limonium	215v, 345
Saponaria ocmoides	386	Supercilium veneris millefolium	24v
Saponaria officinalis	294v	Tamarix africana	231v
Satureja capitata	138	Teucrium flavum	343v
Satureja thymbra	139	Teucrium scordium	320v
Saxifraga granulata	290	Thapsia garganica	140
Scabiosa ambrosioides	264	Thelygonum cynocrambe	158v
Scandix pecten Veneris	333v	Thymus acinos	54v
Scilla maritima	297v	Thymus graveolens	338
Scolopendrium officinale	367v	Thymus glabratus	111
Scolopendrium vulgare	101, 142	Thymus serpyllum	111
Scolymus maculatus	309	Tithymalus characias	339v
Scorzonera resedifolia	150v	Tragopogon picroides	149v
Scrophularia peregrina	92v	Tragopogon porrifolium	340
Sedum amplexicaule	13v	Tribulus terrestris	337
Sedum anopetalum	14v	Trifolium arvense	220v
Sedum ochroleucum	13v	Trigonella elatior	207v
Sedum rhodiola	284v	Trigonella foenum graecum	335
Sedum stellatum	14v	Trinia dioica	385
Sempervivum arboreum	12v	Triticum dicoccum	376v
Sempervivum soboliferum	13v	Triticum repens	38v
Senecio vulgaris	110	Triticum spelta	376v
Seseli annuum	249	Tussilago petasites	258v
Seseli tortuosum	328v	Typha angustifolia	342v
Setaria italica	117	Typhia latifolia	342v
Sideritis scordioides	295v	Ulva fluctua	80
Sideritis syriaca	194v	Umbilicus erectus	163v
Silene gallica	386	Umbilicus horizontalis	163v
Silene inflata	224v	Urtica dioica	171v
Silybus marianus	293v	Urtica pillulifera	171v
Silybus syriacus	53v	Urtica urens	171v
Sinapis alba	310	Veratrum album	114v
Sinapis incana	218v	Verbascum ferrugineum	43v
Sisymbrium polyceratum	103v	Verbascum limmense	43v
Sium latifolium	305	Verbascum plicatum	360v
Smilax aspera	125	Verbascum sinuatum	360v
Smyrnum perfoliatum	123	Verbascum thapsus	361
Solanum dulcamara	35v	Verbena officinalis	268, 269
Solanum nigrum	292v, 397v/1	Vicia cracca	63v
Sonchus arvensis	315, 316	Vicia ervilia	251
Sonchus asper	315	Vicia faba	189v
Sonchus oleraceus	315	Vinca minor	196v
Sorghum halepense	154v	Viola odorata	148v
Sparganium simplex	334	Vitex agnus castus	36v, 396v
Spartium junceum	327v	Xanthium strumarium	243

REFERENCES

- BINZ, A., 1905, *Die Herbarien der botanischen Anstalt Basel*, in *Verhandlung der Naturforschenden Gesellschaft Basel*, XIX, 3, p. 137-155.
- DE CANDOLLE, A.P., 1903, *L'herbier de Caspard Bauhin*, in *Bulletin de l'herbier Boissier Ser. 2*, Tome IV, 3, p. 201-205.
- DIOSCURIDES ANAZARBEUS, P., 1970, (*De materia medica*). *Codex Vindobonensis med. gr. 1* (Codices selecti Fax. 12) (Der Österreichischen Nationalbibliothek, XII), Graz, Facsimile.
- GERSTINGER, H., 1970, *Dioscurides : Codex Vindobonensis med. gr. 1. Kommentarband zu der Faksimileausgabe*, Akademische Druck-und Verlagsanstalt, Graz (Austria), 94 p.
- GUNTHER, R.T. (ed.), 1968, *The Greek Herbal of Dioscorides*, Hafner Publishing Company, London-New York, 701 p. (Facsimile of work from 1934).
- MOE, D., 1988, *De Besche haven – Maartmannshaven – Ole Bulls plass. Havehistorie i Bergens sentrum*, in *Gamle Bergen, Yearbook 1988*, p. 3-34.
- SOSEF, M.S.M., VAN VLIET, G.J.C.M., VAN DER MEIJDEN, R. and SCANNELL, M.J.P., 1987, *Catalogue of the Herbarium of Antoni Gaymans (+ 1630-1680) and a comparison with the plant collection of the Leiden Hortus Botanicus in 1668*, Rijksherbarium, Leiden, 131 p.