

Some contributions to the wall flora of the French coastland between Antibes and Menton (Côte d'Azur)

DIETMAR BRANDES

Abstract

86 vascular plant species are observed on walls between Antibes and Menton. Most records are made on retaining walls and historical fortifications. 60,5 % of the plants are indigenous, 7,0 % are archaeophytes, 32,6 % are neophytes. Wooded species, at least 20 (23,3 %) play a more important role compared to Central Europe due to the climatically preferred area in the western Mediterranean. Some further species which may grow spontaneously in joints are pointed out, however clear evidence could not be found.

Introduction

During a guided excursion in early spring to important gardens at the Côte D'Azur it was possible to study the vascular plants flora of numerous walls. This cursory observation is not at all complete but they are helpful to close gaps in our research project on 'Biodiversity of walls in Europe and neighbouring areas'. Nomenclature and floristic status follow as far as possible NOBLE et al. (2016). The family affiliation of the species complies with CHRISTENHUSZ, FAY & CHASE (2017).

List of wall-dwelling species of the Côte d'Azur

Adiantum capillus-veneris L. – [Pteridaceae]

Indigenous. Moist and temporary shaded walls; e.g. Èze Village, Grasse.

Aeonium arboreum (L.) WEBB & BERTH. – [Crassulaceae]

Neophyte. Walls in settlements, also in rock crevices near gardens; e.g. Antibes, Menton.

Ailanthus altissima (MILL.) SWINGLE – [Simaroubaceae]

Neophyte. Walls near settlements, also in rock crevices; e.g. Villefranche-sur-Mer.

Aloe arborescens MILL. – [Asphodelaceae]

Neophyte. Walls, feet of walls, rock crevices near the sea; e.g. Antibes, Villefranche-sur-Mer.

Antirrhinum latifolium MILL. – [Plantaginaceae]

Indigenous. Especially on retaining walls and walls of fortifications; e.g. Antibes, Menton, Nice, St.Paul de Vence, Villefranche-sur-Mer.

Arisarum vulgare TARG.-TOZZ. – [Araceae]

Indigenous. Moist walls, rock crevices; e.g. Villefranche-sur-Mer.

Artemisia arborescens (VAILL.) L. – [Asteraceae]

Archaeophyte. Retaining walls; e.g. Tourrettes-sur-Loup.

Arum italicum MILL. – [Araceae]

Indigenous. Retaining walls; e.g. Pont du Loup.

Asparagus asparagoides (L.) DRUCE – [Asparagaceae]

Neophyte. Retaining walls and rock crevices near settlements; e.g. Menton, Villefranche-sur-Mer.

Asplenium ceterach L. – [Aspleniaceae]

Indigenous. Dry and insolated walls, e.g. Èze Village, Pont du Loup, St. Paul de Vence, Tourrettes-sur-Loup.

Asplenium trichomanes L. – [Aspleniaceae]

Indigenous. Retaining walls; e.g. Èze Village, Grasse, Menton, Nice, Tourrettes-sur-Loup.

Aster squamatus (SPRENG.) HIERON. – [Asteraceae]

Neophyte, not mentioned in NOBLE et al. (2016). Rock crevices, retaining walls; e.g. Villefranche-sur-Mer.

Bituminaria bituminosa (L.) STIRT. – [Fabaceae]

Indigenous. Retaining walls, fortifications; e.g. Villefranche-sur-Mer.

Brugmansia spec. – [Solanaceae]

Neophyte, not mentioned by NOBLE et al. (2016). Retaining walls in settlements: only one single plant in Villefranche-sur-Mer.

Buddleja madagascariensis LAM. – [Scrophulariaceae]

Neophyte, not mentioned in NOBLE et al. (2016). Retaining walls in settlements; e.g. Èze Village.

Campanula rotundifolia* agg.: cf. *Campanula rotundifolia* subsp. *macrothiza (J. GAY ex A. DC.)

BONNIER & LAYENS – [Campanulaceae]

Indigenous. Retaining walls, fortifications, rock crevices; e.g. Èze village, Saint-Jean-Cap-Ferrat (Jardins Ephrussi de Rothschild).

Capparis spinosa L. – [Capparaceae]

Archaeophyte. Retaining walls; e.g. Menton.

Carpobrotus edulis (L.) N. E. BR. – [Aizoaceae]

Neophyte. Retaining walls near the coast; e.g. Menton.

Centaurea* cf. *ragusina L. – [Asteraceae]

Neophyte. Fortifications, rock crevices; e.g. Antibes.

Centranthus ruber (L.) DC. – [Caprifoliaceae]

Indigenous. Fortifications, retaining walls; e.g. Èze Village, Menton, Pont du Loup, Villefranche-sur-Mer.

Crithmum maritimum L. – [Apiaceae]

Indigenous. Retaining walls, top of walls and fortifications near the sea; e.g. Antibes.

Cymbalaria muralis G. M. Sch. – [Plantaginaceae]

Archaeophyte. Walls, feet of walls; e.g. Antibes, Èze Village, Pont du Loup, St. Paul de Vence, Tourrettes-sur-Loup, Villefranche-sur-Mer.

Dittrichia viscosa (L.) GREUT. – [Asteraceae]

Indigenous. Retaining walls; e.g. Villefranche-sur-Mer.

Delosperma spec. – [Aizoaceae]

Neophyte, not mentioned by NOBLE et al. (2016). Retaining walls in settlements; e.g. Antibes.

Erigeron bonariensis L. (Syn.: *Conyza bonariensis* (L.) CRONQUIST) – [Asteraceae]

Neophyte. Top of walls, feet of walls; e.g. Antibes, St. Paul de Vence, Villefranche-sur-Mer.

Erigeron karvinskianus DC. – [Asteraceae]

Neophyte. Retaining walls in settlements; e.g. Èze Village, Menton, Pont du Loup, St. Paul de Vence, Tourrettes-sur-Mer, Villefranche-sur-Mer.

Erigeron sumatrensis RETZ. (Syn.: *Conyza sumatrensis* (RETZ.) E. WALKER) – [Asteraceae]

Neophyte. Feet of walls; e.g. Grasse, Tourrettes-sur-Loup.

Erodium malacoides (L.) L'HÉR. – [Geraniaceae]

Indigenous. Cornices, walls; e.g. Antibes, Villefranche-sur-Mer.

Erysimum cheiri (L.) KRANTZ – [Brassicaceae]

Archaeophyte. Top of walls, walls, feet of walls; e.g. Èze Village, Villefranche-sur-Mer.

Euphorbia characias L. – [Euphorbiaceae]

Indigenous. Retaining walls in gardens, e.g. Èze Village.

Euphorbia dendroides L. – [Euphorbiaceae]

Indigenous. Retaining walls, fortifications, rock crevices; e.g. Villefranche-sur-Mer.

Euphorbia peplus L. – [Euphorbiaceae]

Indigenous. Top of walls, feet of walls; e.g. Grasse.

Ficus carica L. – [Moraceae]

Indigenous. Retaining walls, rock crevices; e.g. Antibes, Tourrettes-sur-Loup.

Ficus pumila L. – [Moraceae]

Neophyte, not mentioned by NOBLE et al. (2016). Walls of buildings, retaining walls in gardens: only cultivated or locally going wild? E.g. Antibes, Saint-Jean-Cap-Ferrat (Jardins Ephrussi de Rothschild), Menton.

Fumaria capreolata L. – [Papaveraceae]

Indigenous. (Moist) retaining walls; e.g. Menton, Tourrettes-sur-Loup, Villefranche-sur-Mer.

***Galium aparine* L.** – [Rubiaceae]

Indigenous. Retaining walls, feet of walls, top of walls especially in gardens; e.g. Èze Village.

***Geranium purpureum* VILL.** – [Geraniaceae]

Indigenous. Rock crevices, retaining walls; e.g. Pont du Loup, Villefranche-sur-Mer.

***Geranium rotundifolium* L.** – [Geraniaceae]

Indigenous. Cornices, feet of walls; e.g. Antibes.

***Hedera helix* L.** – [Araliaceae]

Indigenous. Retaining walls, feet of walls, top of walls; e.g. Èze Village, Menton, Nice, Tourrettes-sur-Loup, Villefranche-sur-Mer.

***Hyoscyamus albus* L.** – [Solanaceae]

Indigenous. Retaining walls, fortifications, rock fissures; e.g. Antibes, Villefranche-sur-Mer.

***Hyoseris radiata* L.** – [Asteraceae]

Indigenous. Top of walls, retaining walls; e.g. Antibes, Èze Village, St. Paul de Vence.

***Iberis sempervirens* L.** – [Brassicaceae]

Indigenous. Retaining walls, fortifications; e.g. surroundings of Monaco.

***Ipomoea purpurea* ROTH** – [Convolvulaceae]

Neophyte. Retaining walls in settlements; e.g. Èze Village, Villefranche-sur-Mer.

***Jacobaea maritima* (L.) PELSER & MEIJDEN** – [Asteraceae]

Indigenous. Upper parts of walls (especially fortifications), top of walls; e.g. Antibes, Èze Village, Nice, Villefranche-sur-Mer. Characteristic species of old fortifications from St. Malo (Bretagne [BRANDES (1992)], Dubrovnik, Saranda (Albania) and Corfu (Greece).

***Lamium amplexicaule* L.** – [Lamiaceae]

Indigenous. Wall feet; e.g. Nice.

***Lavandula angustifolia* Mill.** – [Lamiaceae]

Indigenous. Retaining walls; e.g. Èze Village, Villefranche-sur-Mer.

***Lobularia maritima* (L.) DESV.** – [Brassicaceae]

Indigenous. Top of walls, walls especially near the coast; e.g. Antibes.

***Lotus cytosoides* L.** – [Fabaceae]

Indigenous. Top of walls near the coast; e.g. Antibes.

***Malva arborea* (L.) WEBB & BERTHEL.** (Syn.: *Lavatera arborea* L.) – [Malvaceae]

Indigenous. Walls near the sea, rock crevices; e.g. Antibes.

***Matthiola incana* (L.) R. BR.** – [Brassicaceae]

Archaeophyte. Walls near the sea, rock crevices; e.g. Antibes, Villefranche-sur-Mer.

Melica minuta L. – [Poaceae]

Indigenous. Rock crevices, retaining walls; e.g. Villefranche-sur-Mer.

Mesembryanthemum cordifolium L. f. (Syn. *Aptenia cordata* (L. f.) SCHWANTES) – [Aizoaceae]

Neophyte. Moist retaining walls, top of the wall; e.g. Antibes, Èze Village, Saint-Jean-Cap-Ferrat (Jardins Ephrussi de Rothschild).

Nicotiana glauca GRAH. – [Solanaceae]

Neophyte. Retaining walls, rock crevices; e.g. Villefranche-sur-Mer.

Opuntia ficus-indica (L.) MILL. – [Cactaceae]

Neophyte. Walls; e.g. Tourrettes-sur-Loup.

Osteospermum ecklonis (DC.) NORL. – [Asteraceae]

Neophyte, not mentioned by NOBLE et al. (2016) for the Département Alpes-Maritimes. Cornices, rock crevices; e.g. Antibes.

Oxalis corniculata L. – [Oxalidaceae]

Archaeophyte. Retaining walls, feet of walls; e.g. St. Paul de Vence, Villefranche-sur-Mer.

Oxalis pes-caprae L. – [Oxalidaceae]

Neophyte. Cornices, retaining walls, feet of walls: e.g. Antibes, Èze Villages, Nice, Menton, Pont du Loup, Villefranche-sur-Mer.

Parietaria judaica L. – [Urticaceae]

Indigenous. Frequent weed in pots and gardens, (retaining) walls, feet of walls, rock crevices; e.g. Antibes, Grasse, Menton, Nice, St. Paul de Vence, Villefranche-sur-Mer.

Persicaria capitata (BUCH.-HAM. ex D. DON) H. GROSS (Syn. *Polygonum capitatum* Buch.-Ham. ex D. DON) – [Polygonaceae]

Neophyte, not mentioned by NOBLE et al. (2016). Retaining walls in settlements; e.g. Èze Village, Villefranche-sur-Mer.

Phagnalon saxatile (L.) CASS. – [Asteraceae]

Indigenous. Retaining walls, fortifications, rock crevices; e.g. Nice, St. Paul de Vence, Villefranche-sur-Mer.

Phillyrea latifolia L. – [Oleaceae]

Indigenous. Retaining walls; e.g. Èze Village.

Pimpinella saxifraga L. – [Apiaceae]

Indigenous. Retaining walls; e.g. Tourrettes-sur-Loup.

Piptatherum miliaceum (L.) COSS. – [Poaceae]

Indigenous. Retaining walls; e.g. Antibes, Nice, Tourrettes-sur-Loup, Villefranche-sur-Mer.

Polypodium cambricum L. (Syn. *Polypodium australe* FÉE) [Polypodiaceae]

Indigenous. Retaining walls; e.g. Èze Village, Pont du Loup, Saint-Jean-Cap-Ferrat (Jardins Ephrussi de Rothschild).

Pteris cretica L. – [Pteridaceae]

Indigenous. Retaining walls in exotic gardens; e.g. Menton, Monaco.

Pteris vittata L. – [Pteridaceae]

Neophyte. Retaining walls, rock crevices; e.g. Èze Village, Monaco, Menton, Villefranche-sur-Mer.

Reichardia picroides (L.) ROTH – [Asteraceae]

Indigenous. Retaining walls, top of walls; e.g. Antibes, Tourrettes-sur-Loup, Villefranche-sur-Mer.

Roldana petasites (SIMS) H. ROB. & BRETTELL (Syn. *Senecio petasitis* (SIMS) DC., syn.: *Cineraria petasitis* Sims) – [Asteraceae]

Neophyte. Retaining walls of roads; esp. surroundings of Monaco.

Rosmarinus officinalis L. – [Lamiaceae]

Indigenous. Walls, rock crevices; e.g. Saint-Jean-Cap-Ferrat (Jardins Ephrussi de Rothschild), Villefranche-sur-Mer.

Sedum album L. – [Crassulaceae]

Indigenous. Retaining walls, rock crevices; e.g. Saint-Jean-Cap-Ferrat (Jardins Ephrussi de Rothschild).

Sedum dasyphyllum L. – [Crassulaceae]

Indigenous. Retaining walls, rock crevices; e.g. Antibes, Èze Village, Monaco, Pont du Loup, St. Paul de Vence, Villefranche-sur-Mer.

Senecio angulatus L. f. – [Asteraceae]

Neophyte. Steep and woody slopes, retaining walls especially near gardens, climbing in trees (e.g. *Olea europaea*, *Phyllirea latifolia*, *Pinus* div. spec.); e.g. Menton, Nice, Villefranche-sur-Mer.

Senecio haworthii (Sweet) SCH.BIP. (Syn. *Cacalia haworthii* SWEET, syn. *Kleinia haworthii* (SWEET) DC. – [Asteraceae]

Neophyte, not mentioned by NOBLE et al. (2016). Retaining walls near the place of cultivation; only found in Èze Village.

Senecio vulgaris L. – [Asteraceae]

Indigenous. Top of walls, feet of walls; e.g. Antibes.

Smilax aspera L. – [Smilacaceae]

Indigenous. Retaining walls, e.g. Villefranche-sur-Mer.

Smyrniolus olusatrum L. – [Apiaceae]

Indigenous. Cornices of retaining walls in settlements; e.g. Èze Village, Tourrettes-sur-Loup, Villefranche-sur-Mer.

Soleirolia soleirolii (REQ.) DANDY – [Urticaceae]

Neophyte. Low retaining walls, feet of walls, top of walls; e.g. Èze Village.

Sonchus oleraceus L. – [Asteraceae]

Indigenous. Retaining walls, feet of walls; e.g. St. Paul de Vence, Tourrettes-sur-Loup.

Stellaria media (L.) VILL. – [Caryophyllaceae]

Indigenous. Retaining walls, wall feet; e.g. Antibes, Èze Village.

Suaeda vera Gmel. – [Amaranthaceae]

Indigenous. Rock crevices and top of walls near the sea; e.g. Antibes.

Trachelium caeruleum L. – [Campanulaceae]

Neophyte. Low retaining walls in garden; e.g. Menton.

Umbilicus rupestris (SALISB.) DANDY – [Crassulaceae]

Indigenous. Retaining walls; e.g. Antibes, Èze Village, Menton, Pont du Loup, Saint-Jean-Cap-Ferrat (Jardins Ephrussi de Rothschild), St. Paul de Vence, Villefranche-sur-Mer.

Veronica arvensis L. – [Plantaginaceae]

Indigenous. Retaining walls; e.g. Pont du Loup.

Veronica cymbalaria BOD. – [Plantaginaceae]

Indigenous. Retaining walls, feet of walls; e.g. Èze Village, Nice, St. Paul de Vence.

Viburnum tinus L. – [Adoxaceae]

Indigenous. Retaining walls; e.g. Menton.

Wigandia caracasana KUNTH – [Boraginaceae]

Neophyte. High retaining walls of roads; e.g. Menton.

Further species are only seen cultivated on walls but may run wild in future: ***Agave attenuata*** Salm-Dyck [Asparagaceae]; ***Drosanthemum*** spec. [Aizoaceae], ***Hedera colchica*** [Araliaceae], ***Portulacaria afra*** [Didieraceae], ***Sedum palmeri*** [Crassulaceae], ***Solandra grandiflora*** [Solanaceae].



Fig. 1: View at the rampart of Antibes (15.2.2020).



Fig. 2: *Aloe arborescens* (Antibes, 15.2.2020).



Fig. 3: *Antirrhinum latifolium*
(Villefranche-sur-Mer, 16.2.2020).



Fig. 4: *Asparagus asparagoides*
(Villefranche-sur-Mer, 18.2.2020).



Fig. 5: *Centaurea* cf. *ragusina* (Antibes, 15.2.2020).



Fig 6.: *Cymbalaria muralis* (Antibes, 15.2.2020).



Fig. 5: *Erigeron karvinskianus*.
(Pont du Loup, 20.2.2020)



Fig. 6: *Ficus pumila*. (Menton, 19.2.2020).



Fig. 7: *Jacobaea maritima* (Antibes, 15.2.2020).



Fig. 8: Detail of *Jacobaea maritima* in Antibes.



Fig. 9: *Jacobaea maritima* and *Crithmum maritimum* (Antibes, 15.2.2020).



Fig. 10: *Jacobaea maritima* at the pinnacles (Citadelle of Villefranche-sur-Mer).



Fig. 11: *Matthiola incana* (Antibes, 15.2.2020).



Fig. 12: *Roldana petasitis* (Jardins Ephrussi de Rothschild, 16.2.2020).



Fig. 13: *Sedum dasyphyllum*.
(Antibes, 15.2.2020)



Fig. 14: *Soleirolia soleirolii*
(Èze Village, 15.2.2020).



Fig. 15: *Senecio angulatus*
(Villefranche-sur-Mer, 18.2.2020).



Fig. 16: *Wigandia caracasana*
(Menton, 19.2.2020).

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Address of the author:

Prof. Dr. Dietmar Brandes,
Arbeitsgruppe Vegetationsökologie, Institut für Pflanzenbiologie
Technische Universität Braunschweig
Mendelssohnstraße 4
38106 Braunschweig
d.brandes@tu-braunschweig.de

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