Rosmarinus officinalis L. 1323 Labiatae

Nomenclatural reference 1100 GRIN Database (Germplasm Resources Information Network). USDA-ARS. Retrieved from www.ars-grin.gov

Summary

Distribution	Rosmarinus officinalis is native to most of southwestern Europe, northern Africa, Madeira and the Canary Islands, Cyprus, and Turkey. Introduced to other parts of Europe and some parts of the USA. Widely cultivated.
Legislation	The species is not protected by CITES.
Threat Category	Not assessed globally by IUCN. Not found in recent national red lists.
Threat	No threat causes known in most of its range. Overcollection, overgrazing and drought in Morocco.
Abundance	No published information on abundance available.
Habitat	Found in dry, rocky places, on hills and near the sea. Common in the macchia vegetation throughout the Mediterranean region.
Regeneration	Very tolerant of pruning as plants can regenerate from old wood. Also reproduced through cuttings.
Reproduction	Flowers hermaphroditic, self-fertile. Pollinated by bees. Distribution of seeds through ants.
Lifeform	Perennial shrub or semi-shrub of up to 2 m.
Plant Parts	The flowers and leaves are used.
Use	Rosemary is used in seasonings, food products, perfumes, cosmetics and as an ornamental. The fresh tops, leaves and twigs are destilled to obtain essential oils used in food products, perfumery, soaps, creams, hair tonics, shampoos and certain technical preparations.
Trade Scale	The species is in significant trade for a wide range of purposes, both from wild and cultivated sources. In Morocco it has been identified as a target plant in the development strategy for the medicinal and aromatic plants sector.

Synonyms

Name Used in Pharmacopoeias and other References

Name as used in Source	Reference	
Rosemarinus officinalis L.	8378	United States Pharmacopeia (ed.) (2008): Food Chemicals Codex. 6th edition. U.S. Pharmacopeia.
Rosmarinus officinalis	5253	Özhatay, N., Koyuncu, M., Atay, S. & Byfield, A.J. (1997): The wild medicinal plant trade in Turkey. Dogal Hayati Koruma Dernegi, Istanbul.
Rosmarinus officinalis	5641	Lange, D. (1998): Europe's medicinal and aromatic plants. Their use, trade and conservation. Traffic International, Cambridge.
Rosmarinus officinalis	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. Data obtained through the courtesy of Professor Norman R. Farnsworth, University of Illinois at Chicago.
Rosmarinus officinalis	8394	Therapeutic Goods Administration (ed.) (2007): Substances that may be used in listed medicines in Australia. Therapeutic Goods Administration, Symonston. Retrieved from http://www.tga.gov.au/cm/listsubs.pdf, viewed: 25.01.2009.
Rosmarinus officinalis L.	1101	Hänsel, R. & al. (1992-1998): Hagers Handbuch der pharmazeutischen Praxis. 5. Auflage.5 volumes [4179, 4180, 4181, 6097, 6098]
Rosmarinus officinalis L.	5525	Penso, G. & Proserpio, G. (1997): Index plantarum medicinalium totius mundi eorumque synonymorum. 2nd edition. OEMF, Milano.
Rosmarinus officinalis L.	6369	McGuffin, M., Kartesz, J.T., Leung, A.Y. & Tucker, A.O. (2000): Herbs of commerce. 2nd edition. AHPA, Silver Spring, USA.
Rosmarinus officinalis L.	7279	Wyk, B.-E.van & Wink, M. (2004): Medicinal plants of the world. Timber Press, Portland.
Rosmarinus officinalis L.	8375	Medicines and Healthcare Products Regulatory Agency (2008): British Pharmacopoeia 2009. 4 volumes. Stationery Office, London.
Rosmarinus officinalis L.	8378	United States Pharmacopeia (ed.) (2008): Food Chemicals Codex. 6th edition. U.S. Pharmacopeia.
Rosmarinus officinalis L.	8380	European Directorate for the Quality of Medicines & Health Care (EDQM) (ed.) (2007): European Pharmacopoeia. 6th edition. 2 volumes. Council of Europe, Strasbourg.
Rosmarinus officinalis L.	8395	Comisión Permanente de la Farmacopea de los Estados Unidos Mexicanos (ed.) (2001): Farmacopea herbolaria de los Estados Unidos Mexicanos. Secretaria de Salud, México D.F.

Rosmarinus officinalis L.	8396	International Organization for Standardization (s.dat.): ISO Catalogue. Retrieved from http://www.iso.org/iso/iso_catalogue.htm, viewed: 22.01.2009.
Rosmarinus officinalis L.	8418	Brandão, M.G.L., Cosenza, G.P., Assis Moreira, R. & Monte-Mor, R.L.M. (2006): Medicinal plants and other botanical products from the Brazilian Official Pharmacopoeia. Revista Brasileira de Farmacognosia 16(3): 408-420.
Rosmarinus officinalis L.	8426	de Fátima Agra, M., Nurit Silva, K., Lima Diniz Basilio, I.J., França de Freitas, P. & Barbosa-Filho, J.M. (2008): Survey of medicinal plants used in the region Northeast of Brazil. Revista Brasileira de Farmacognosia 18 (3): 472-508.
Rosmarinus officinalis L.	8428	de Fátima Agra, M., França de Freitas, P. & Barbosa-Filho, J.M. (2007): Synopsis of the plants known as medicinals and poisonous in Northeast of Brazil. Revista Brasileira de Farmacognosia 17 (1): 114-140.
Rosmarinus officinalis L.	8431	Said, O., Khalil, K., Fulder, S. & Azaizeh, H. (2002): Ethnopharmacological survey of medicinal herbs in Israel, the Golan Heights and the West Bank region. Journal of Ethnopharmacology 83: 251-265.
Rosmarinus officinalis L.	8432	Al-Qura'n, S. (2009): Ethnopharmacological survey of wild medicinal plants in Showbak, Jordan. Journal of Ethnopharmacology 123: 45-50.
Rosmarinus officinalis L.	8450	Homoeopathic Pharmacopoeia of the United States (s.dat.): HPUS Online Database. Retrieved from http://www.hpus.com, viewed: 26.10.2009.
Rosmarinus officinalis L.	8460	Anon. (2009): WHO monographs on selected medicinal plants 4. WHO, Geneva.

Common Names

Common Name	Val	Typ	Lang	Country	Region	Ref	
Alecrim		ver	por			1100	GRIN Database (Germplasm Resources I
Biberiye		ver	tur			1122	Mansfeld's World Database of Agricultural
Kelil		ver	ara			1122	
Kranzenkraut		ver	ger			1101	Hänsel, R. & al. (1992-1998): Hagers Han
Mi die xiang		ver	chi			1122	Mansfeld's World Database of Agricultural
Osmarino		ver	ita			1122	
Ramerino		ver	ita			1122	
Rosemary		ver	eng			1122	
Rosmarin		ver	ger			1101	Hänsel, R. & al. (1992-1998): Hagers Han
Rosmarini aetheroleum		pha	lat			1101	
Rosmarini folium		pha	lat			1101	

Distribution Range

Distribution Range	Ref	
"Eur.: Ib, Fr, Ap, Ba; TR, Alger., Tun., nat. in CH, Krim"	6637	Erhardt, W., Götz, E., Bödeker, N. & Seybold, S. (2000): Zander, Handwörterbuch der Pflanzennamen. Dictionary of plant names. Dictionnaire des noms de plantes. 16th edition. Ulmer, Stuttgart.
"Medit.; 12 BAL COR FRA POR SAR SPA (13) alb bul GRC ITA KRI? SIC YUG (14) kry 20 ALG EGY LBY MOR TUN (21) azo cny cvi mdr 34 CYP EAI TUR (77) tex"	1126	World Checklist of Selected Plant Families, RBG Kew. apps.kew.org/wcsp/home.do
"Mediterranean region"	7279	Wyk, B.-E.van & Wink, M. (2004): Medicinal plants of the world. Timber Press, Portland.
"Mediterranean region, NW and S Anatolia, Caucasus."	1122	Mansfeld's World Database of Agricultural and Horticultural Crops. mansfeld.ipk-gatersleben.de/pls/htmldb_pgrc/f?p=185:3:3650108710811243
"Mittelmeergebiet, Portugal"	1101	Hänsel, R. & al. (1992-1998): Hagers Handbuch der pharmazeutischen Praxis. 5. Auflage.5 volumes [4179, 4180, 4181, 6097, 6098]
"Südeuropa von Südfrankreich bis zu den Griechischen Inseln, Westküste Kleinasiens, Nordafrika [...]; im übrigen Mittelmeergebiet allgemein kultiviert und eingebürgert"	1132	Hegi, Illustrierte Fora von Mitteleuropa
AE(G) Ag Bl Co Cr Cy Eg Ga Gr Hs It Ju Li Lu Ma(M) Sa Si Tn Tu(A) [Al Az Bu Ca Md Uk(K)]	1147	Euro+Med PlantBase. - http://ww2.bgbm.org/EuroPlusMed/query.asp
Native in AFRICA: Algeria, Libya, Morocco, Portugal (Madeira Islands), Spain (Canary Islands), Tunisia; ASIA-TEMPERATE: Cyprus, Turkey; EUROPE: Former Yugoslavia, France, Greece, Italy, Portugal, Spain. Naturalized in Portugal (Azores), widely cultivated.	1100	GRIN Database (Germplasm Resources Information Network). USDA-ARS. Retrieved from www.ars-grin.gov

Distribution

Continent	Region	ICC	Status	Free Text	Ref
		CS			1109
1 Europe	11 Middle Europe	CH			1109
		CH	introd., established		1108
		CH	introd., established		2117
	12 Southwestern Europe	ES			1109
		ES			1109

				ES		W-Spanien	2049
				ES		W-Spanien	2054
				ES			2117
				ES	native		1100
				ES	native	Balearic Islands	1108
				FR			1109
				FR			2117
				FR	native		1100
				FR	native	Corsica	1108
				FR	native		1147
				FR	native	Corsica	1147
				IT			1109
				IT			1109
				IT		Sardinia	2117
				IT	native		1100
				IT	native	Sardinia	1108
				PT			2117
				PT	native		1100
				PT	native		1108
		13	Southeastern Europe	AL	introduced (casual or naturalized)		1147
				AL	introd., established		1108
				AL	introd., established		2117
				BG	introduced (casual or naturalized)		1147
				BG	introd., established		1108
				BG	introd., established		2117
				GR			1109
				GR			2117
				GR	native		1100
				GR	status unclear	Crete	1108
				IT			2117
				IT	native	Sicily	1108
				IT	native	Sardinia	1147
				IT	native		1147
				IT	native	Sicily	1147
				MT		Wied Babu; Rdum Dikkiena	1109
				YU			2117
				YU	native		1108
				YU	native		1147
				YY	native		1100
		14	Eastern Europe	UA	introduced (casual or naturalized)		1147
				UA	introd., established	Krym region	1108
				UA	introd., established	Krym region	2117
2	Africa	20	Northern Africa	DZ	native		1100
				DZ	native		1147
				LY	native		1100
				LY	native		1147
				MA	native		1100
				MA	native		1147
				TN	native		1100
				TN	native		1147
		21	Macaronesia	ES	introduced (casual or naturalized)	Canary Islands	1147
				ES	native	Canary Islands	1100
				ES	native		1147
				ES	native	Balearic Islands	1147
				PT		Azores	2117
				PT	introduced (casual or naturalized)	Madeira	1147
				PT	introduced (casual or naturalized)	Azoren	1147
				PT	introd., established	Azores	1100
				PT	introd., established	Azores	1108
				PT	native	Madeira	1100
				PT	native		1147

3	Asia-Temperate	34	Western Asia	CY	native			1100
				CY	native			1147
				EG	native			1147
				GR	native	Crete and Karpathos island groups		1147
				GR	native	East Aegean Islands		1147
				GR	native			1147
				IL				8431
				JO				8432
				TR				1109
				TR	native			1100
				TR	native			1147
4	Asia-Tropical	40	Indian Subcontinent		cultivated			6198
7	Northern America	73	Northwestern U.S.A.	US	introd., established	Oregon		1107
		76	Southwestern U.S.A.	US	introd., established	California		1107
		77	South-Central U.S.A.	US	introd., established	Texas		1107
		78	Southeastern U.S.A.	US	introd., established	South Carolina		1107
				US	introd., established	North Carolina		1107
8	Southern America	81	Caribbean	PR				1109
				US	introd., established	Puerto Rico		1107
		83	Western South Americ	PE				8447

Abundance

ICC	Abundance	Reference	
IT	frequenza della specie: RR = molto raro	8987	Pignatti, S. (1982): Flora d'Itali

Ecology

TypeEc	ICC	Ecology	Ref	
alti		0-1500m	1111	Ecoport. www.ecoport.org/
alti		"often found near the coast"	1113	Ecocrop. FAO. http://ecocrop.fa
alti		"Can be found at elevations between sea level and 1500m"	1111	Ecoport. www.ecoport.org/
alti	IT	0-800m, mainly found near the coast	8987	Pignatti, S. (1982): Flora d'Italia.
habit		"In den Macchien des Mittelmeergebiets weit verbreitet"	1132	Hegi, Illustrierte Fora von Mittele
habit		"Dry scrub and rocky places, especially near the sea"	1123	Plants for a Future. www.pfaf.or
habit	IT	"Macchie e garighe (calc.) [...] caratteristico componente della macchia bassa e gariga mediterranea"	8987	Pignatti, S. (1982): Flora d'Italia.
regen		growing at medium rate	1123	Plants for a Future. www.pfaf.or
regen		"Very tolerant of pruning, plants can regenerate from old wood"	1123	
repro		"Die rasch reifenden Nüsschen werden von Ameisen gesammelt und verschleppt. Einfacher als die Saat ist die Vermehrung durch Stecklinge."	1132	Hegi, Illustrierte Fora von Mittele
repro		"Die Blüten werden von langrüssligen Apiden (Bombus, Xylocopa, Megachile, Eucera u. a.) bestäubt. Neben den proterandrischen Zwitterblüten kommen auch etwas kleinere Blüten mit völlig verkümmertem Androeceum vor."	1132	
repro		"Die Pflanze kann über Stecklinge vegetativ vermehrt werden. Die generative Vermehrung über Saatgut ist möglich."	1135	Wikipedia. www.wikipedia.org
repro		"The flowers are hermaphrodite [...] and are pollinated by bees. [...] Germination can be slow."	1123	Plants for a Future. www.pfaf.or
soil		"chalky, calcareous hills and shores"	1111	Ecoport. www.ecoport.org/
soil		"The plant prefers light (sandy) and medium (loamy) soils and requires well-drained soil. The plant prefers acid, neutral and basic (alkaline) soils and can grow in very alkaline soils."	1123	Plants for a Future. www.pfaf.or

Life Form

Duration	Lifeform	Woodiness	Height	Remark	Ref	
perennial	nanophanerophyte				1126	World Checklist of Selected Pl
perennial	semi-shrub		1-2 m		1132	Hegi, Illustrierte Fora von Mitte
perennial	shrub		up to 150-200cm	evergreen	1113	Ecocrop. FAO. http://ecocrop.f
perennial	shrub				1134	USDA NRCS Plants Database.
perennial	shrub		up to 100-150cm	evergreen	1111	Ecoport. www.ecoport.org/
perennial	shrub		to 1.5m by 1.5m	evergreen	1123	Plants for a Future. www.pfaf.o

Population Status / Threat Causes

TypePop	ICC	PopulationStatus	Remark	Ref	
	MA	"Level of threat: medium to high; Factors involved: Strong demand, over harvesting, drought" [p. 49]		8991	Imane Thami Alami (2010): Int
cause	MA	"The problem of risk exists at the level of its regeneration capacity, which is seriously diminished because of drought, overgrazing, and over-harvesting; all three have contribute to reducing the Rosemary population." [p.50]		8991	

cause	MA	"Demand is greater than the plant's regeneration rate; over–harvesting is threatening the survival of the specie[s]." [p. 46]	8991

Threat Categories

Glob	ICC	Region	Categ	Crit	Remark	Ref	
	CH		R		From: Landolt, E. 1991. Rote Liste - Gefährdung der Farn- und Blütenpflanzen in der Schweiz. [Red List - Threatened ferns and flowering plants in Switzerland]. Bern, Switzerland: Bundesamt für Umwelt, Wald und Landschaft. 185 pp.	1109	UNEP-WCMC Threatened Spe
	ES		NT		From: Fandos, J. 1996. Annotations of WCMC list of plants of the Balearic Islands.	1109	
	ES		NT			1109	
	FR		NT		From: Dupont, P. 1990. Atlas partiel de la Flore de France. Partial Atlas of the Flora of France. Paris: Muséum National d'histoire naturelle.	1109	
	FR		NT		From: Jeanmonod, D. 1996. Annotations to list entitled "Corsica - all taxa listed in the WCMC plants database".	1109	
	IT		NT		From: Valsecchi, F., C. B & B. Emanuele 1996. Annotations of WCMC list of plants of Sardinia.	1109	
	MT	Wied Babu; Rdum Dikkiena	R		From: Schembri, P.J. & J. Sultana (eds.) 1989. Red Data Book for the Maltese Islands. Malta: Department of Information. 142 pp. Col. illus.	1109	
	TR		NT		From: Guener, A. 1995. Conservation status of Turkish woody plants. 12 pp.	1109	

Purpose of Use (standardised)

Purpose	ICC	Ref	
Used as medicinal tea		6198	Lange, D. (1996): MAPCIS. Medicinal and Aromatic Plant Conservation Information System. - Dat
Used as spice		6198	Lange, D. (1996): MAPCIS. Medicinal and Aromatic Plant Conservation Information System. - Dat
Used in homoeopathy		6198	Lange, D. (1996): MAPCIS. Medicinal and Aromatic Plant Conservation Information System. - Dat
Used in liqueur industry		6198	Lange, D. (1996): MAPCIS. Medicinal and Aromatic Plant Conservation Information System. - Dat
Used in phytomedicinal products		6198	Lange, D. (1996): MAPCIS. Medicinal and Aromatic Plant Conservation Information System. - Dat
Used in the cosmetics industry (including perfumes)		6198	Lange, D. (1996): MAPCIS. Medicinal and Aromatic Plant Conservation Information System. - Dat
Used medicinally	AR	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	BR	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	CL	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	CN	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	CO	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	CU	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	ES	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	FR	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	GT	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	ID	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	IR	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	IT	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	JO	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	MA	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	MX	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	PA	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	PE	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	PT	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	TN	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	TR	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	US	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D
Used medicinally	VE	8350	Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. D

Purpose of Use (free text)

ICC	Purpose	Ref	
	"Excellent bee forage, grown in many cultivars for ornament. [...] It is employed in perfumery (with bergamot and neroli oil the chief constituent of eau-de-Cologne), for denaturing alcohol, added to insect repellents and used for culinary (vermouth liqueurs) and medicinal purposes (inhalants, liniments)."	1122	Mansfeld's World Database of
	"It is used as an herb to savor meat, savory dishes, and salads. It is used sparingly in herb mixes because of its intense scent. The essential oil is used in cosmetics and in some pharmaceutical preparations."	1136	EoL - Encyclopedia of Life. htt
	"It is used in seasonings, food products, perfumes, cosmetics and as an ornamental."	1111	Ecoport. www.ecoport.org/

	"The fresh tops, leaves and twigs are destilled to obtain essential oils used in food products, perfumery, soaps, creams, hair tonics, shampoos and certain technical preparations."	1113	Ecocrop. FAO. http://ecocrop.f
	"Traditional herbal medicinal product for symptomatic relief of dyspepsia and mild spasmodic disorders of the gastrointestinal tract. [...] As adjuvant in the relief of minor muscle and articular pain."	8864	EMEA (16.7.2009): Communit
ES	Used medicinally in: 'Canary Islands'	8350	Farnsworth, N.R., Graham, J.

Plant Parts Used

PlantPart (standardized entry)	Plant Part (free text)	Remark	Ref	
flower			1123	Plants for a Future. www.pfaf.o
flower		"leaves and flowering shoots"	1122	Mansfeld's World Database of
leaf			1101	Hänsel, R. & al. (1992-1998):
leaf			1123	Plants for a Future. www.pfaf.o
leaf		"leaves and flowering shoots"	1122	Mansfeld's World Database of

Scale and Trend of Trade

ICC	Utilization	Remark	Ref	
MA	R. officinalis is mentioned in the USAID funded National Development Strategy for the Aromatic and Medicinal Plants Sector which aims to enable the sector to shift from supplying raw materials to a genuinely industrial sector.		8978	Anon. (2008): National develop
BG	species in significant trade		2270	Mladenova, M. (1996): The tra

Trade

Type	ICC	Utilization	Ref	
com		dried leaves	1101	Hänsel, R. & al. (1992-1998):
com		essential oil	1101	
com	MA	essential oil	8978	Anon. (2008): National develop
cul		"Cultivated as an aromatic, spice and medicinal plant since Greek and Roman antiquity in the Mediterranean and at least since the Middle Ages in Britain and southern Central Europe. Recently grown mainly around the Mediterranean sea (especially in Morocco, Algeria, Tunisia, Portugal, Spain, France, Italy, Dalmatia and Turkey), in the southern parts of Western, Central and Eastern Europe, the Caucasus, Middle Asia, India, the Philippines, the southern USA (California), Mexico, the Antilles, South Africa and Australia."	1122	Mansfeld's World Database of
cul		Anbaugebiete: Im Mittelmeergebiet, auf der Krim, in Transkaukasien, Mittelasien, in Indien, auf den Philippinen, den Antillen, in Südafrika, Australien und den USA"	1101	Hänsel, R. & al. (1992-1998):
cul		SO-Europa, bes. Dalmatien, N Africa	2049	Wagner, H. (1985): Pharmaze
cul	BR	cultivated	8426	de Fátima Agra, M., Nurit Silva
cul	BR	cultivated	8428	de Fátima Agra, M., França de
cul	FR	Cultivated	2049	Wagner, H. (1985): Pharmaze
cul	IN	Cultivated	2306	Atal, C.K. & Kapur, B.M. (ed.) (
cul	PT	Cultivated	2049	Wagner, H. (1985): Pharmaze
exp		main producers of essential oil: Spain, Morocco and Tunisia	1122	Mansfeld's World Database of
exp	BG		2270	Mladenova, M. (1996): The tra
exp	MA	Plants commonly used in Morocco for essentials oils and aromatic flavouring production: Rosmarinus officinalis, Artemisia herba-alba, Cedrus atlantica, Myrtus communis, Origanum compactum, Origanum elongatum, Thymus satureioides, Laurus nobilis, Evernia prunastri, Evernia furfuracea, Ormenis mixta, Mentha pulegium	8978	Anon. (2008): National develop
exp	MA	Rosemary: 2005/6: 2.990t, 2006/7: 4.318t, 2007/8: 3.756t = increasing [p. 47]	8991	Imane Thami Alami (2010): Int
exp	TN		2028	Grossmann, Hamburg (1994):
har	AL	130 tonnes of dried raw material (leaves) wild harvested in 2001	7037	Kathe, W., Honnef, S. & Heym

Legislation

Regulation

Bibliography

1100 GRIN Database (Germplasm Resources Information Network). USDA-ARS. Retrieved from www.ars-grin.gov

1101 Hänsel, R. & al. (1992-1998): Hagers Handbuch der pharmazeutischen Praxis. 5. Auflage.5 volumes [4179, 4180, 4181, 6097, 6098]

1107 USDA Plants Database (27.4.2009): Download of Pteridophyte, Gymnosperm, Monocot and Docot data with infromation on state and province distribtion, duration, growth form and native status from http://plants.usda.gov, accessed 27.4.2009.

1108 Feig, F. (compiler): Access database containing data on species level from Flora Europaea vol. 1, ed.2 and vols. 2-5, ed.1. Nees-Institut, Bonn. Unpublished

1109 UNEP-WCMC Threatened Species Database. Download of 1997 regional threat assessments sent 15.6.2011 by H. Gillett. Cambridge, UK (cf. Walter & Gillett, 1997 IUCN Red List of threatened plants)

1111 Ecoport. www.ecoport.org/

1113 Ecocrop. FAO. http://ecocrop.fao.org/

1122 Mansfeld's World Database of Agricultural and Horticultural Crops. mansfeld.ipk-gatersleben.de/pls/htmldb_pgrc/f?p=185:3:3650108710811243

1123 Plants for a Future. www.pfaf.org

1126 World Checklist of Selected Plant Families, RBG Kew. apps.kew.org/wcsp/home.do

1132 Hegi, Illustrierte Fora von Mitteleuropa

1134 USDA NRCS Plants Database. http://plants.usda.gov/java/

1135 Wikipedia. www.wikipedia.org

1136 EoL - Encyclopedia of Life. http://www.eol.org/

1147 Euro+Med PlantBase. - http://ww2.bgbm.org/EuroPlusMed/query.asp

2028 Grossmann, Hamburg (1994): Produktliste.
2049 Wagner, H. (1985): Pharmazeutische Biologie. 2. Drogen und ihre Inhaltsstoffe, 2. ed. Stuttgart.
2054 Encke, F., Buchheim, G. & Seybold, S. (1993): Zander, Handwörterbuch der Pflanzennamen. 14th edition. Ulmer, Stuttgart.
2117 Tutin, T.G. & al. (ed.) (1972): Flora Europaea 3. University Press, Cambridge.
2270 Mladenova, M. (1996): The trade of medicinal plants (drugs) between Germany and Bulgaria. Trade Research & Promotion Institute, s.loc.
2306 Atal, C.K. & Kapur, B.M. (ed.) (1982): Cultivation and utilization of medicinal plants. Council of Science & Indiustrial Research, Jammu-Tawi.
5253 Özhatay, N., Koyuncu, M., Atay, S. & Byfield, A.J. (1997): The wild medicinal plant trade in Turkey. Dogal Hayati Koruma Dernegi, Istanbul.
5525 Penso, G. & Proserpio, G. (1997): Index plantarum medicinalium totius mundi eorumque synonymorum. 2nd edition. OEMF, Milano.
5641 Lange, D. (1998): Europe's medicinal and aromatic plants. Their use, trade and conservation. Traffic International, Cambridge.
6198 Lange, D. (1996): MAPCIS. Medicinal and Aromatic Plant Conservation Information System. - Database (dBaseIV). Compiled for the Bundesamt für Naturschutz, Bonn.
6369 McGuffin, M., Kartesz, J.T., Leung, A.Y. & Tucker, A.O. (2000): Herbs of commerce. 2nd edition. AHPA, Silver Spring, USA.
6637 Erhardt, W., Götz, E., Bödeker, N. & Seybold, S. (2000): Zander, Handwörterbuch der Pflanzennamen. Dictionary of plant names. Dictionnaire des noms de plantes. 16th edition. Ulmer, Stuttgart.
7037 Kathe, W., Honnef, S. & Heym, A. (2003): Medicinal and aromatic plants in Albania, Bosnia-Herzegovina, Bulgaria, Croatia and Romania. Bundesamt für Naturschutz, Bonn (BfN-Skripten 91).
7279 Wyk, B.-E.van & Wink, M. (2004): Medicinal plants of the world. Timber Press, Portland.
8350 Farnsworth, N.R., Graham, J. & Quinn-Beattie, M.L. (2.6.2009): NAPRALERT data-base export. Data obtained through the courtesy of Professor Norman R. Farnsworth, University of Illinois at Chicago.
8375 Medicines and Healthcare Products Regulatory Agency (2008): British Pharmacopoeia 2009. 4 volumes. Stationery Office, London.
8378 United States Pharmacopeia (ed.) (2008): Food Chemicals Codex. 6th edition. U.S. Pharmacopeia.
8380 European Directorate for the Quality of Medicines & Health Care (EDQM) (ed.) (2007): European Pharmacopoeia. 6th edition. 2 volumes. Council of Europe, Strasbourg.
8394 Therapeutic Goods Administration (ed.) (2007): Substances that may be used in listed medicines in Australia. Therapeutic Goods Administration, Symonston. Retrieved from http://www.tga.gov.au/cm/listsubs.pdf, viewed: 25.01.2009.
8395 Comisión Permanente de la Farmacopea de los Estados Unidos Mexicanos (ed.) (2001): Farmacopea herbolaria de los Estados Unidos Mexicanos. Secretaria de Salud, México D.F.
8396 International Organization for Standardization (s.dat.): ISO Catalogue. Retrieved from http://www.iso.org/iso/iso_catalogue.htm, viewed: 22.01.2009.
8418 Brandão, M.G.L., Cosenza, G.P., Assis Moreira, R. & Monte-Mor, R.L.M. (2006): Medicinal plants and other botanical products from the Brazilian Official Pharmacopoeia. Revista Brasileira de Farmacognosia 16(3): 408-420.
8426 de Fátima Agra, M., Nurit Silva, K., Lima Diniz Basilio, I.J., França de Freitas, P. & Barbosa-Filho, J.M. (2008): Survey of medicinal plants used in the region Northeast of Brazil. Revista Brasileira de Farmacognosia 18 (3): 472-508.
8428 de Fátima Agra, M., França de Freitas, P. & Barbosa-Filho, J.M. (2007): Synopsis of the plants known as medicinals and poisonous in Northeast of Brazil. Revista Brasileira de Farmacognosia 17 (1): 114-140.
8431 Said, O., Khalil, K., Fulder, S. & Azaizeh, H. (2002): Ethnopharmacological survey of medicinal herbs in Israel, the Golan Heights and the West Bank region. Journal of Ethnopharmacology 83: 251-265.
8432 Al-Qura'n, S. (2009): Ethnopharmacological survey of wild medicinal plants in Showbak, Jordan. Journal of Ethnopharmacology 123: 45-50.
8447 Brako, L.& Zarucchi, J.L. (1993): Catalogue of the Flowering Plants and Gymnosperms of Peru. Missouri Botanical Garden, St. Louis. Retrieved from xxxhttp://mobot.mobot.org/Pick/Search/peru.html#U:\1203_Nachhaltige Nutzung\MAPROW\Geographical_References\Ch
8450 Homoeopathic Pharmacopoeia of the United States (s.dat.): HPUS Online Database. Retrieved from http://www.hpus.com, viewed: 26.10.2009.
8460 Anon. (2009): WHO monographs on selected medicinal plants 4. WHO, Geneva.
8864 EMEA (16.7.2009): Community herbal monograph on Rosmarinus officinalis L., folium. Retrieved from http://www.ema.europa.eu/docs/en_GB/document_library/Herbal_-_Community_herbal_monograph/2009/12/WC500018299.pdf, viewed: 18.04.2012.
8978 Anon. (2008): National development strategy for the aromatic and medicinal plants sector. Morocco integrated agriculture and agribusiness program. USAID, s.loc. Retrieved from http://pdf.usaid.gov/pdf_docs/PNADP091.pdf, viewed: 27.03.2013.
8987 Pignatti, S. (1982): Flora d'Italia. Vol. 2. Edagricole, Bologna.
8991 Imane Thami Alami (2010): International status of selected Moroccan MAPs with market accessibility. Plants of Morocco's south and oasis. In: UNDP (ed.): Mainstreaming biodiversity into value chains for Mediterranean medicinal and aromatic plants. GEF Prop

Abbreviations and Standards

ICC = ISO Country Codes Ref = literature reference

Altitude: Low / High = minimum and maximum limits of altitude range [m]

Legislation: Source Taxon = name of taxon as contained in legislation

Utilization: TypeUtil

TypeUtil	*TypeUtilLong*
com	commodity
cul	cultivation
exp	export
har	harvest
imp	import
price	price
pur	purpose
rem	remark
sus	sustainability
tra	trade
trend	trend and scale of trade

Distribution Status: Standard

Status	*Explanation*
chk	check entry
nat	native
int	introd., established
adv	introduced, not established
ocd	occurrence doubtful
unc	status unclear
ext	extinct
cul	cultivated
sou	source doubtful
ica	introduced (casual or naturalized)
don	doubtfully native
pex	(presumably) extinct
ali	casual alien
ina	introduced (naturalized)

Common names: Type

TypeShort	*Type*
?	<unknown>
ayn	ayurvedic name
hom	homoeopathic name
pha	pharmaceutical name
scn	standardized common name
tra	trade name
ver	vernacular name

Ecology: TypeEcol

TypeEcol	*Explanation*
alti	altitude
feed	feed
grow	growth rate
habit	habitat
morph	morphology
regen	regeneration
repro	reproduction
soil	soil