

Anacyclus pyrethrum (L.) Link

127

Compositae

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

Remarks Taxonomy

genus: 12 species, 4 in Europe

identified as one of several cases in which multiple species are sold under one local name

Reference

- 8359 Mabberley, D.J. (2008): The plant-book. 3rd edition. Cambridge University Press, Cambridge.
- 8981 Abderrahim Ouarghidi, Abdelaziz Abbad & Martin, G.J. (s.dat.): Evidence that traditional ecological knowledge and traditional resource management methods combat rarefaction of wild-harvested medicinal roots in Morocco. Retrieved from http://congress-ise2012.agropolis.fr/ftpheb.agropolis.fr/es/Les_4_composantes/Colloque_scientifique/Session_files/s18.pdf, viewed: 27.03.2013.

Summary

Distribution	Anacyclus pyrethrum is a western Mediterranean element which has a restricted distribution in Algeria, Morocco and in southern Spain.
Legislation	The species is not protected by CITES.
Threat Category	Not assessed globally by IUCN. Not found in recent national red lists.
Threat	Morocco: Habitat loss and overcollection through unsustainable collection practices.
Abundance	No published information on abundance.
Habitat	Grows in forests and rangeland.
Regeneration	No information available on vegetative regeneration in the wild. In cultivation propagation by division of roots and cuttings is possible.
Reproduction	Flowers hermaphrodite. Normal method of reproduction is likely to be by seeds.
Lifeform	Perennial, up to 45 cm high.
Plant Parts	The roots of the plant are used.
Use	The root of pellitory stimulates the salivary glands and is used to soothe sore throats. It is also used externally to treat toothache, facial neuralgia and chronic catarrh. In Ayurvedic medicine the root is recognized as a tonic and is used in the treatment of paralysis and epilepsy. The oil is also used as a flavour in the liqueur industry.
Trade Scale	The market is supplied by material from wild and cultivated sources. Exports from Morocco have increased between 1999 and 2003 but remained stable in subsequent years.

Synonyms

Name	Ref
Anacyclus depressus Ball	1100 GRIN Database (Germplasm Resources Information Network). USDA-ARS. Retrieved from www.ars-grin.gov
Anthemis pyrethrum L.	1100

Name Used in Pharmacopoeias and other References

Name as used in Source	Reference
Anacyclus pyrethrum	7279 Wyk, B.-E. van & Wink, M. (2004): Medicinal plants of the world. Timber Press, Portland.
Anacyclus pyrethrum	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.
Anacyclus pyrethrum	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.
Anacyclus pyrethrum (L.) Cass.	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.
Anacyclus pyrethrum (L.) Link	1101 Hänsel, R. & al. (1992-1998): Hagers Handbuch der pharmazeutischen Praxis. 5. Auflage. 5 volumes [4179, 4180, 4181, 6097, 6098]

Anacyclus pyrethrum (L.) Link	6369	McGuffin, M., Kartesz, J.T., Leung, A.Y. & Tucker, A.O. (2000): Herbs of commerce. 2nd edition. AHPA, Silver Spring, USA.
Anacyclus pyrethrum DC	8450	Homoeopathic Pharmacopoeia of the United States (s.dat.): HPUS Online Database. Retrieved from http://www.hpus.com , viewed: 26.10.2009.
Anacyclus pyrethrum DC.	5525	Penso, G. & Proserpio, G. (1997): Index plantarum medicinalium totius mundi eorumque synonymorum. 2nd edition. OEMF, Milano.
Anacyclus pyrethrum DC.	8388	Anon. (1999-2011): The Ayurvedic Pharmacopoeia of India. Part I, Vol. I-VII, 1st edition. Government of India, Ministry of Health and Family Welfare, . Retrieved from http://www.ayurveda.hu/api.html , viewed: 14.05.2012.
Anacyclus pyrethrum DC.	8390	Anon. (2007-2008): The Unani Pharmacopoeia of India. Vols. 1-5. Government of India, Ministry of Health and Family Welfare, New Delhi.
Anthemis pyrethrum	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.

Common Names

Common Name	Val	Typ	Lang	Country	Region	Ref
Agargarha		ver	ara			2113 Boulos, L. (1983): Medicinal plants of Nort
Akkal-Kara		ver	hin			1135 Wikipedia. www.wikipedia.org
Akkarakaaram		ver	tam			1135
Camomille Africaine		ver	fre			1100 GRIN Database (Germplasm Resources I
Igendass		ver	\$\$		"appellation berbère"	8998 Francoeur, M. (2008): Étude du pyrèthre d'
Mt Atlas daisy		ver	eng			1100 GRIN Database (Germplasm Resources I
'Oud el-'attas		ver	ara			2113 Boulos, L. (1983): Medicinal plants of Nort
Pellitory		ver	eng			1100 GRIN Database (Germplasm Resources I
Pilatro		ver	ita			1101 Hänsel, R. & al. (1992-1998): Hagers Han
Pyrèthre d'Afrique		ver	fre			1100 GRIN Database (Germplasm Resources I
Pyrethri radix		pha	lat			1101 Hänsel, R. & al. (1992-1998): Hagers Han
Radix Pyrethri Romani		pha	lat			1122 Mansfeld's World Database of Agricultural
Roman Pellitory		ver	eng			1122
Roman pellitory		ver	eng			1100 GRIN Database (Germplasm Resources I
Römischer Bertram		ver	ger			1132 Hegi, Illustrierte Fora von Mitteleuropa
Spanischer Bertram		ver	ger			1101 Hänsel, R. & al. (1992-1998): Hagers Han
Spanish chamomile		ver	eng			1100 GRIN Database (Germplasm Resources I
Tigendaste		ver	\$\$		"appellation berbère"	8998 Francoeur, M. (2008): Étude du pyrèthre d'

Distribution Range

Distribution Range	Ref
SE Spain - N Africa to Arabia & Syria	1106 Germplasm Resources Information Network (20.1.2009): Download World Economic Plants Report from USDA, Germplasm Resources Information Network - GRIN. National Germplasm Resources Laboratory, Beltsville, Maryland (www.ars-grin.gov). Accessed: 20.1.2009.
Native: AFRICA: Algeria; Morocco; EUROPE: Spain. Naturalized: Ukraine, France. Adventive: Poland. Cultivated: India, Pakistan, Austria, Germany	1100 GRIN Database (Germplasm Resources Information Network). USDA-ARS. Retrieved from www.ars-grin.gov
"Ag Hs(S) Ma [Ga(F) cGe aPo Uk(U)]"	1147 Euro+Med PlantBase. - http://ww2.bgbm.org/EuroPlusMed/query.asp
"Heimat: Nordafrika (besonders in den Hochländern Marokkos), Arabien, Syrien"	1132 Hegi, Illustrierte Fora von Mitteleuropa
"Heimisch in den Bergregionen des Maghreb oberhalb 800 m: In Algerien westlich von Guelma; in Marokko im Mittleren, Hohen und Anti-Atlas. Ferner in Südspanien in der Sierra de Alcaraz sowie in Arabien und Syrien."	1101 Hänsel, R. & al. (1992-1998): Hagers Handbuch der pharmazeutischen Praxis. 5. Auflage. 5 volumes [4179, 4180, 4181, 6097, 6098]
"SE Espagne, Algérie, Maroc"	8990 Valdés, B., Rejdali, M., Achhal el Kadmiri, A., Jury, J.L. & Montserrat, J.M. (ed.) (2002): Catalogue des plantes vasculaires du Nord du Maroc, incluant des clés d'identification. Checklist of vascular plants of N Morocco with identification keys. 2 volumes. CSIC, Madrid.

Distribution

Continent	Region	ICC	Status	Free Text	Ref
1 Europe	12 Southwestern Europe	ES			2050
		ES	native		1100
		ES	native		1108
2 Africa	20 Northern Africa	DZ	native		1100
		MA	native		1100
		MA	native	"(Tazzeke), Kert Ganc"	8990

Abundance

ICC	Abundance	Reference
DZ	"Largely distributed in the country"	7910 Anon. (2005): A guide to medi
MA	"Largely distributed in the country"	7910

Ecology

TypeEc	ICC	Ecology	Ref
alti		400-3100m	7910 Anon. (2005): A guide to medici
alti		"zwischen 1100 und 3000 m Höhe, besonders bei 1500m"	1101 Hänsel, R. & al. (1992-1998): H
alti		400-3100m	8998 Francoeur, M. (2008): Étude du
habit		"forests, rangeland"	7910 Anon. (2005): A guide to medici
habit		"üblicherweise auf gut entwässertem, steinigem Boden oder Weideland"	1101 Hänsel, R. & al. (1992-1998): H
repro		"as an asteraceae, A. pyrethrum has a great potential for multiplication and dissemination" [p.50]	8991 Imane Thami Alami (2010): Inte
repro		"propagation is done in three ways: by seed, by division of roots and cuttings"	7910 Anon. (2005): A guide to medici
repro		flowers hermaphrodite	1123 Plants for a Future. www.pfaf.org

Life Form

Duration	Lifeform	Woodiness	Height	Remark	Ref
			up to 30cm		8998 Francoeur, M. (2008): Étude d
perennial			up to 0,3 by 0,3m		1123 Plants for a Future. www.pfaf.o
perennial				"Wildwachsende Pflanzen haben eine Lebensdauer von 2 oder 3 bis 5 Jahren"	1101 Hänsel, R. & al. (1992-1998):
perennial			up to 45cm		1132 Hegi, Illustrierte Fora von Mitte

Population Status / Threat Causes

TypePop	ICC	PopulationStatus	Remark	Ref
	MA	"Il est fortement suggéré d'interdire la cueillette des espèces ciblées par ce projet, surtout A. pyrethrum, C. telephifolia, M. comosum et Taraxacum spp. à cause du fort risque de surexploitation."		8999 Marcotte, C. (2011): Diagnosti
	MA	"il a été démontré que deux types de plantes, soient Igendass/A. pyrethrum var. pyrethrum et Tigensaste/A. pyrethrum var. depressus, y étaient associés. La première étant pratiquement disparue de la région et la seconde qui, à moins d'un changement au niveau de la pression exercée sur l'espèce, semble destinée au même sort."		8998 Francoeur, M. (2008): Étude d
	MA	"Level of threat: high; Factors involved: Unsustainable harvesting, demand" [p. 49]		8991 Imane Thami Alami (2010): Int
cause	MA	"its habitat has been completely disrupted by overgrazing" [p.50]		8991
cause	MA	"The roots are sought after and is thus uprooted before it seeds can germinate[...]."		8991

Threat Categories

Purpose of Use (standardised)

Purpose	ICC	Ref
Used as insecticide		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	IN	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

Purpose of Use (free text)

ICC	Purpose	Ref
	"Bei Zahnschmerzen, Erkrankungen des Mundes, Trockenheit der Mundhöhle und Zungenlähmung. Innerlich als Tonikum bei Verdauungsschwäche; als Aphrodisiakum; bei Gicht, Ischias, Epilepsie und Lethargie, Verstopfung, Wechselfieber, chron. Rheumatismus, Würmern; als Schnupfmittel bei chron. Kopf- und Nasenkatarrh."	1101 Hänsel, R. & al. (1992-1998):
	"Chewing of the root causes a remarkable flow of saliva"	2113 Boulos, L. (1983): Medicinal pl
	"Das aus der Wurzel gewonnene ätherische Öl wird neuerdings in der Likörfabrikation verwendet."	1132 Hegi, Illustrierte Fora von Mitte
	"mouthwashes, liqueur flavour"	8359 Mabberley, D.J. (2008): The pl
	"The ethereal oil is also used in the production of liqueurs."	1122 Mansfeld's World Database of
	"The root is a pungent acrid herb that stimulates the salivary glands and irritates the tissues, thereby increasing blood flow to the area. A gargle is used to soothe sore throats. It is used externally to treat toothache, facial neuralgia and chronic catarrh. In Ayurvedic medicine the root is considered to be tonic and is used in the treatment of paralysis and epilepsy."	1123 Plants for a Future. www.pfaf.o
	"widely recognized in ayurvedic system of Indian medicine as tonic and rejuvenator. [...] known to improve sexual function especially in male"	8977 Annalakshmi, R., Uma, R., Su

Plant Parts Used

PlantPart (standardized entry)	Plant Part (free text)	Remark	Ref
root			7910 Anon. (2005): A guide to medi
root			2113 Boulos, L. (1983): Medicinal pl
root			1132 Hegi, Illustrierte Flora von Mitte
root			1101 Hänsel, R. & al. (1992-1998):
stem			2113 Boulos, L. (1983): Medicinal pl

Scale and Trend of Trade

Trade

Type	ICC	Utilization	Ref
cul		"Anbauggebiete: Nordafrika, hauptsächlich in der Bergregion Nordwestalgeriens und im Hohen und Mittleren Atlas, ferner in Pakistan, Indien und Österreich; früher auch in Deutschland, den Niederlanden und Ungarn kultiviert"	1101 Hänsel, R. & al. (1992-1998):
cul		"Cultivated in Pakistan, India and Austria, formerly also in Germany, the Netherlands and Hungary."	1122 Mansfeld's World Database of
cul		"grown on experimental scale in Himalayan regions from seeds imported from Algeria"	7910 Anon. (2005): A guide to medi
cul		in India, Pakistan, Austria, Germany	1100 GRIN Database (Germplasm
exp	MA	"La période couvrant les années 1996 à 1998 présente un pic à la hausse de la quantité de pyrèthre exportée."	8998 Francoeur, M. (2008): Étude d
exp	MA	"Pyretres": 2005/6: 53t, 2006/7: 83t, 2007/8: 73t = stable [p. 47]	8991 Imane Thami Alami (2010): Int
exp	MA	78 tonnes exported in 2004 (table 1, page 5)	8979 Chaouki Al Faiz (ed.) (2007): E
exp	MA	Annual average exported from Morocco between 1999 and 2003: 43.774 kg	8978 Anon. (2008): National develop
exp	MA	annual exports 1996-1998 ca. 100kg, droppong to ca. 30kg between 2000 and 2007	8998 Francoeur, M. (2008): Étude d

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]
- 1106 Germplasm Resources Information Network (20.1.2009): Download World Economic Plants Report from USDA, Germplasm Resources Information Network - GRIN. National Germplasm Resources Laboratory, Beltsville, Maryland (www.ars-grin.gov). Accessed: 20.1.2009.
- 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
- 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
- 1132 Hegi, Illustrierte Flora von Mitteleuropa
- 1135 Wikipedia. www.wikipedia.org
- 1147 Euro+Med PlantBase. - <http://ww2.bgbm.org/EuroPlusMed/query.asp>
- 2050 Tutin, T.G. & al. (ed.) (1976): Flora Europaea 4. University Press, Cambridge.
- 2113 Boulos, L. (1983): Medicinal plants of North Africa. Reference Publications, Algonac (Medicinal Plants of the World 3).
- 5525 Penso, G. & Proserpio, G. (1997): Index plantarum medicinalium totius mundi eorumque synonymorum. 2nd edition. OEMF, Milano.
- 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.
- 7279 Wyk, B.-E. van & Wink, M. (2004): Medicinal plants of the world. Timber Press, Portland.
- 7910 Anon. (2005): A guide to medicinal plants in North Africa. IUCN Centre for Mediterranean Cooperation, Málaga.
- 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.
- 8359 Mabberley, D.J. (2008): The plant-book. 3rd edition. Cambridge University Press, Cambridge.
- 8388 Anon. (1999-2011): The Ayurvedic Pharmacopoeia of India. Part I, Vol. I-VII, 1st edition. Government of India, Ministry of Health and Family Welfare, . Retrieved from <http://www.ayurveda.hu/api.html>, viewed: 14.05.2012.
- 8390 Anon. (2007-2008): The Unani Pharmacopoeia of India. Vols. 1-5. Government of India, Ministry of Health and Family Welfare, New Delhi.
- 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.
- 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.
- 8450 Homoeopathic Pharmacopoeia of the United States (s.dat.): HPUS Online Database. Retrieved from <http://www.hpus.com>, viewed: 26.10.2009.
- 8977 Annalakshmi, R., Uma, R., Subash Chandran, G. & Muneeswaran, A. (2012): A treasure of medicinal herb, Anacyclus pyrethrum. A review. Indian Journal of Drugs and Diseases 1 (3): 59-67. Retrieved from <http://www.iseeadyar.org/ijdad/Archive/June-12/ijdad-012>
- 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.
- 8979 Chaouki Al Faiz (ed.) (2007): Biological diversity, cultural and economic value of medicinal, herbal and aromatic plants in Morocco. Annual report 2005-2006. USDA, s.loc. Retrieved from <http://www.pam-morocco.org/pdf/annual%20report%202007.pdf>, viewed: 27
- 8981 Abderrahim Ouarghidi, Abdelaziz Abbad & Martin, G.J. (s.dat.): Evidence that traditional ecological knowledge and traditional resource management methods combat rarefaction of wild-harvested medicinal roots in Morocco. Retrieved from <http://congress-ise20>
- 8990 Valdés, B., Rejdali, M., Achhal el Kadmiri, A., Jury, J.L. & Montserrat, J.M. (ed.) (2002): Catalogue des plantes vasculaires du Nord du Maroc, incluant des clés d'identification. Checklist of vascular plants of N Morocco with identification keys. 2 volum

- 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
- 8998 Francoeur, M. (2008): Étude du pyrèthre d'Afrique (*Anacyclus pyrethrum*) en vue de sa conservation au sein du Parc National d'Ifrane, Ifrane, Maroc. - viii+66 pp., Thesis, Azrou, Morocco.
- 8999 Marcotte, C. (2011): Diagnostic des plantes aromatiques et médicinales exploitées dans le Parc national d'Ifrane. - viii+116 pp., Thesis, Azrou, Morocco.

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

<i>TypeUtil</i>	<i>TypeUtilLong</i>
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

<i>Status</i>	<i>Explanation</i>
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

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

Ecology: TypeEcol

<i>TypeEcol</i>	<i>Explanation</i>
alti	altitude
feed	feed
grow	growth rate
habit	habitat
morph	morphology
regen	regeneration
repro	reproduction
soil	soil