Uncaria tomentosa (Willd. ex Schult.) DC. 2085 Rubiaceae

Nomenclatural reference 1217 Govaerts, R. (2022): The World Checklist of Vascular Plants (WCVP). – Royal Botanic Gardens, Kew. Checklist dataset of 2022-12-08. Retrieved from https://sftp.kew.org/pub/data-repositories/WCVP/, viewed 4.3.2023.

Summary

Intrinsic Traits

Distribution	Uncaria tomentosa has its native range in central and southern tropical America. It is distributed from Guatemala and Belize in the north to Brazil in the south.
Abundance	The lianas of Uncaria tomentosa can grow in patches, densities of up to 17 individuals per hecare have been reported, but typically the plants grow more scattered.
Habitat	Uncaria tomentosa is a typical element of the primary forest, but is also found in disturbed forests and in secondary forest.
Regeneration	Uncaria tomentosa grows at a fast rate and can regenerate by sprouting. It may grow rather aggressively and is reported as a weed in plantations. It can readily grow back after fires and forest clearances.
Reproduction	The reproductive biology of Uncaria is not well understood. The flowers are possibly pollinated by bees, perhaps also by hummingbirds. The winged seeds suggest wind dispersal.
Plant Parts	While root and, more commonly, stalk bark have been the most common locally utilized plant parts, many medicinal recipes use leaves and whole stems, too.
Lifeform	Uncaria tomentosa is a woody vine (liana).
Systematics	The genus Uncaria comprises some 34 mostly tropical species. Uncaria tomentosa and U. guianensis are the only species found in the neo-tropics. Both species have overlapping distributions and are often used interchangeably as herbal medicines, but they do differ in their morphology, ecology, and chemistry.

Extrinsic Traits

Threat Status	Not assessed globally by IUCN. Not found in recent national red lists.
Threats	Uncaria tomentosa is not immediately threatened, but is subject to fairly intense collection pressures at local or regional level. These pressures will increase should the harvest and,market for latex grow.
Purpose	Cat's claw is traditionally used in the treatment of a range of conditions including stomach ulcers, AIDS, cancer, herpes, chronic fatigue syndrom, asthma, diabetes, circulatory problems, rheumatism and arthritis. It is locally used in Peru for furniture manufacturing.
Use Fields	Food; Material; Medicine; Social use.
Trade Trend	Until 1995, all Uncaria tomentosa present on the international markets came from Peruvian Amazonia. From 1996 onwards, extraction also began in the forests of Ecuador and Columbia. Exports from Peru showed a sharp increase from 1994 to 1995 but dropped to only 64 t in 1999. After this boom-and-bust period exports from Peru remained fairly stable 2002 through 2020 with volumes of 120-280 tonnes. One source shows a remarkable export volume of 663 tonnes which is not reflected in other sources.
Legislation	The species is not protected by CITES.

Taxonomy and Identification

Taxonomy	*Reference*	
"c. 34 trop. (Afr. & Med. 3, Am. 2)"	3753	Mabberley, D.J. (2017): The plant-book. 4th ed
"Though the genus, which totals about 60 species, is pan-tropical, it is mostly centred in South-East Asia. […] U. tomentosa and U. guianensis are the only species found in the neo-tropics."	6980	Shanley, P., Pierce, A.R., Laird, S.A. & Guiller
"In addition to referring to two species of Uncaria, the name uña de gato is also used in different parts of Latin America for at least 20 taxonomically and often ethnobotanically unrelated plants, including Macfadyena, Caesalpinia, Bytneria, Mimosa, Piptadenia and Zanthoxylum […], from a total of 12 different plant families."	6980	

"Study and management of uña de gato is complicated by the fact that this name is used interchangeably for two species: Uncaria guianensis (Aublet) Gmelin, and U. tomentosa (Willdenow ex Roemer and Schultes) DC. Though these species have largely overlapping distributions and are often used interchangeably as herbal medicines, they do differ in their habit, ecology and chemistry."	6980	
"trotz des ähnlichen Erscheinungsbildes nicht mit Uncaria guianensis (Aubl.) Gmel. verwechseln. Beide zeigen deutliche Unterschiede im Chromosomenmuster, weshalb ein nahes Verwandtschaftsverhältnis ausgeschlossen werden kann."	8691	Schilcher, H., Kammerer, S. & Wegener, T. (2

Synonyms

Synonym	Eval	Ref	
Nauclea aculeata Kunth		1217	Govaerts, R. (2022): The World Checklist of Vascular Plants (WCVP). –

Taxon Present in Pharmacopoeias and other References

Name as used in Source	Status	Reference	
Nauclea aculeata H.B.K.		2156	FRLHT - Indian Medicinal Plants Database - http://www.medicinalplants.in/
Uncaria tomentosa		3145	Brinckmann, J.A., Kathe, W., Berkhoudt, K, Harter, D.E.V. & Schippmann, U. (2022): A new global estimation of medicinal and aromatic plant species in commercial cultivation and their conservation status. Economic Botany 22(10): 1-15.
Uncaria tomentosa		3751	van Wyk, B.-E. & Wink, M. (2017): Medicinal plants of the world. 2nd edition. CABI, Wallingford & Boston.
Uncaria tomentosa		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.
Uncaria tomentosa (Willd. ex Roem. & Schult.) DC.		8424	Sanz-Biset, J., Campos-de-la-Cruz, J., Epiquién-Rivera, M.A. & Cañigueral, S. (2009): A first survey on the medicinal plants of the Chazuta valley (Peruvian Amazon). Journal of Ethnopharmacology 122 (2): 333-362.
Uncaria tomentosa (Willd. ex Roem. & Schult.) DC.		9301	Comisión Permanente de la Farmacopea de los Estados Unidos Mexicanos (ed.) (2013): Farmacopea herbolaria de los Estados Unidos Mexicanos. Ed. 2. Secretaria de Salud, México D.F.
Uncaria tomentosa (Willd. ex Schult.) DC.		3561	Quattrocchi, U. (2012): World dictionary of medicinal and poisonous plants. Common names, scientific names, eponyms, synonyms, and etymology. CRC Press, Boca Raton.
Uncaria tomentosa (Willd. ex Schult.) DC.		8747	Duke, J.A. (ed.) (2009): Duke's handbook of medicinal plants of Latin America. CRC Press, Boca Raton.
Uncaria tomentosa (Willd.) DC.		1101	Hänsel, R. & al. (1992-1998): Hagers Handbuch der pharmazeutischen Praxis. 5. Auflage.5 volumes [4179, 4180, 4181, 6097, 6098]
Uncaria tomentosa (Willd.) DC.		1180	GRIN (17.3.2015): Download World Economic Plants report from GRIN Taxonomy for the query. Medizin = 'Alle Nutzungen'. Retrieved from http://www.ars-grin.gov/cgi-bin/npgs/html/taxecon.pl?language=de
Uncaria tomentosa (Willd.) DC.		1236	United States Pharmacopeial Convention (2024): Dietary Supplements Compendium (DSC). https://www.usp.org/products/dietary-supplements-compendium
Uncaria tomentosa (Willd.) DC.		1246	United States Pharmacopeial Convention (2024): United States Pharmacopeia (USP). https://www.uspnf.com/
Uncaria tomentosa (Willd.) DC.		3451	United States Pharmacopeial Convention (2020): The United States Pharmacopeia USP 43. The National Formulary 38. 2020. United States Pharmacopeial Convention, Rockwell, MD.
Uncaria tomentosa (Willd.) DC.		6369	McGuffin, M., Kartesz, J.T., Leung, A.Y. & Tucker, A.O. (2000): Herbs of commerce. 2nd edition. AHPA, Silver Spring, USA.
Uncaria tomentosa (Willd.) DC.		8300	Anon. (2007): WHO monographs on selected medicinal plants 3. WHO, Geneva.
Uncaria tomentosa (Willd.) DC.		8379	United States Pharmacopeial Convention (ed.) (2008): The United States Pharmacopeia USP 32. The national formulary NF 27. 2009. 3 volumes. United States Pharmacopeial Convention, Rockwell, MD.
Uncaria tomentosa (Willd.) DC.		8876	United States Pharmacopeial Convention (2013): The United States Pharmacopeia USP 37. The National Formulary 32. 2014. United States Pharmacopeial Convention, Rockwell, MD.
Uncaria tomentosa DC.		7279	van Wyk, B.-E. & Wink, M. (2004): Medicinal plants of the world. Timber Press, Portland.

Common Names

Common Name	Typ	Language	Country	Ref	
cat's claw	scn			6369	McGuffin, M., Kartesz, J.T., Leung, A.Y. &
cat's-claw	ver			1180	GRIN (17.3.2015): Download World Econo
garabato	ver		PE	6980	Shanley, P., Pierce, A.R., Laird, S.A. & Gu
uña de gato	ver			1180	GRIN (17.3.2015): Download World Econo

Distribution Range

Distribution Range	Ref	
"native range is Central & S. Tropical America to Trinidad"	1192	Plants of the World Online (POWO). Royal B
"Native to: Belize, Bolivia, Brazil North, Colombia, Costa Rica, Ecuador, French Guiana, Guatemala, Guyana, Honduras, Nicaragua, Panamá, Peru, Suriname, Trinidad-Tobago, Venezuela"	1192	Plants of the World Online (POWO). Royal B
"U. tomentosa and U. guianensis […] have a very wide distribution: their range extends between Panama to the north, Paraguay to the south, Trinidad and Tobago, Guyana and north-eastern Brazil to the east, and the lower foothills of the Andes to the west."	6980	Shanley, P., Pierce, A.R., Laird, S.A. & Guill
"Vorkommen erstreckt sich über das gesamte Amazonasgebiet von Bolivien, Brasilien, Peru über Kolumbien, Ecuador, Surinam und Guayana bis Panama und Puerto Rico."	1135	Wikipedia. www.wikipedia.org
S. Amer.	1180	GRIN (17.3.2015): Download World Econom

Distribution

Continent	Region	ICC	Status	Free Text	Ref
8 Southern America	80 Central America	BZ	native		1192
		CR	native		1192
		GT	native		1192
		HN	native		1192
		NI	native		1192
		PA			8446
		PA	native		1192
	81 Caribbean	TT	native		1192
	82 Northern South Americ	GF			8445
		GF	native		1192
		GY			8445
		GY	native		1192
		SR			8445
		SR	native		1192
		VE	native		1192
	83 Western South Americ	BO	native		1192
		CO	native		1192
		EC	native		1192
		PE			8424
		PE			8447
		PE	native		1192
	84 Brazil	BR	native	North	1192

Abundance / Local Population Size

ICC	Abundance	Reference	
	[U. tomentosa & U. guianensis:] "some sites do have patches of adult lianas (manchales) where densities are obviously higher, but these are not very common"	6980	Shanley, P., Pierce, A.R., Laird
PE	[U. tomentosa & U. guianensis:] "Under the right conditions Uncaria may grow rather aggressively. In Central America, for example, it is reported as a weed in banana plantations […], and farmers in Amazonian Peru are familiar with the plant as a swidden weed."	6980	
PE	[U. tomentosa & U. guianensis:] "One study conducted on 60 hectares of forest in a native community on the Palcazu estimated about 17 Uncaria individuals per hectare […]. Data from another survey in Ucayali indicates densities ranging from 2 to 15 individuals per hectare."	6980	

Ecology

TypeEc	ICC	Ecology	Ref	
alti		"A plant of mainly low elevations in the tropics, where it can usually be found at elevations up to 300 metres."	1123	Plants for a Future - www.pfaf.o
alti		[U. tomentosa & U. guianensis:] "While both species overlap in their habitat range – tropical forest at altitudes ranging from 100 metres (m) to about 1000m above sea level – U. tomentosa prefers the moister, more elevated regions, while U. guianensis is more abundant at lower altitudes."	6980	Shanley, P., Pierce, A.R., Laird,
alti	CO	2-450m	1192	Plants of the World Online (POV
habit		"bosques tropicales en zonas bajas, colinas o tierras planas"	5848	Buitron, X. (1999): Ecuador. Usc
habit		"is most commonly associated in its mature form with primary rain forest where it can be found growing from the forest floor and interweaving extensively throughout the canopy"	5286	Mustalish, R.W., Evans, B., Tuc
habit		"Typical of primary forest, but also found in disturbed forest and rarely in secondary forest"	1123	Plants for a Future - www.pfaf.o
habit		[U. tomentosa & U. guianensis:] "Both species occur in tropical, pre-montane tropical and sub-tropical forests. U. tomentosa favours hilly, well-drained conditions with rich soils, as well as interfluvial levees and terra firme. U. guianensis, on the other hand, is associated with flatter terrain, várzea, poor drainage and more acidic or depleted soils. Consequently, U. tomentosa is more commonly found in mature forest, associated with light disturbances or forest gaps, while U. guianensis is found mostly in fallows, other secondary forests, river margins and/or intensely disturbed areas."	6980	Shanley, P., Pierce, A.R., Laird,

habit	CO	"forest and woodland, shrubland"	1192	Plants of the World Online (POV
regen		"growing [...] at a fast rate"	6980	Shanley, P., Pierce, A.R., Laird,
regen		"It may take twenty years to mature, climbing to over 100 feet."	3410	Useful Tropical Plants - http://trc
regen		[U. tomentosa & U. guianensis:] "Uncaria regenerates both by seed and by sprouting."	6980	Shanley, P., Pierce, A.R., Laird,
regen	PE	[U. tomentosa & U. guianensis:] "Moreover, the plant is very resistant to fire and other disturbances, growing back after forest is cleared and burned for agriculture. The aggressive growth and rapid recovery of Uncaria following burning is partly enabled by the capacity of stems to root whenever they touch the ground."	6980	
repro		[U. tomentosa & U. guianensis:] "Very little is known about the reproductive biology of Uncaria. The presence of yellow and red blossoms and a sweet odour suggest pollination by bees, though red colours are often associated with pollination by hummingbirds, as well. The presence of winged seed testa suggests wind dispersal."	6980	

Life Form

LF_Standard	Duration	Lifeform	Woodiness	Height	Ref	
		climber		10-30m	6980	Shanley, P., Pierce, A.R., Laird
		climber		up to 25m	1123	Plants for a Future - www.pfaf.
		climber		over 100 feet	3410	Useful Tropical Plants - http://tr
		climber			3753	Mabberley, D.J. (2017): The pl

Threat Situation

ICC	PopulationStatus	Ref	
	[U. tomentosa & U. guianensis:] "current trends, though poorly documented, indicate that there is little threat to the species as a whole at current exploitation levels. Ultimately, concerns that the species is threatened might be exaggerated, particularly given Uncaria's abundance, growth habit and distribution. This does not mean that continued increasing demands on Uncaria could not pose additional threats to the species."	6980	Shanley, P., Pierce, A.R., Lairc
	[U. tomentosa & U. guianensis:] "the current exploitation rate represents a low risk of extinction for both species. These conclusions also suggest that, at present, it is unjustified to take specific measures to limit exploitation of this resource."	3054	Alexiades, M.N. & Shanley, P.
	[U. tomentosa & U. guianensis:] "While current levels of commercial extraction are clearly having an impact on Uncaria, particularly on more accessible populations and/or on species demographics, the level or significance of this impact is not fully understood."	6980	Shanley, P., Pierce, A.R., Lairc
PE	"Esta especie ha sido incluida en la categoria V: Vulnerable. Su población está siendo objeto de una acelerada y grave reducción, aunque sus poblaciones son todavía abundantes."	3029	Zavala-Carillo, C.A. & Zevallos
PE	"We can therefore reliably state that the number of hectares deforested due to the extraction of Uncaria tomentosa is significantly superior to that shown in the official versions and probably for this reason the Peruvian authorities have included the plant amongst the species considered Vulnerable."	5687	Bianchi, A., Iadicicco, P. & Loa
PE	[U. tomentosa & U. guianensis:] "At the national level, there has been pressure put on the government to implement legislation to prohibit the sales of the raw material of these species, in order to capture larger shares of benefits for the national economy. Initially false conservation arguments were used to stop the collecting from the wild, as there is sufficient evidence to argue that at current harvesting levels there is no threat to the two species."	3031	de Jong, W., Melnyk, M., Alfar
PE	[U. tomentosa & U. guianensis:] "One source indicates that wild stocks of cat's claw have been almost eradicated from parts of Huánuco and Tingo María due to overharvesting, and that collectors are currently targeting areas such as Contamana and Rioja, in the departments of Loreto and San Martin, Peru, respectively."	6980	Shanley, P., Pierce, A.R., Lairc
PE	[U. tomentosa & U. guianensis:] "the Centro de Datos para la Conservación (CDC) categorizes it as 'N2', suggesting it is under threat and that, though fairly abundant, the viability of its natural populations is not guaranteed."	6980	
PE	[U. tomentosa & U. guianensis:] "The sudden increase in international demand for uña de gato in recent years has placed an entirely new level of pressure on this resource, particularly in Peru, the main commercial source country. In 1995, Peru exported over 700 tonnes of bark, mostly from the regions of Ucayali, Huánuco, Pasco and Junín. Based on estimates of yields and productivity derived from Uncaria in mature forests, [one study] extrapolates that exports for 1995 alone entailed destructive harvesting of Uncaria in 20,000 hectares of forest."	6980	

Threat Status: Global and Supranational

Threat Status: Countries

Purpose of Use

Purpose		Ref
food - beverage	"stems are a source of a potable sap that is used to quench thirst and as a restorative drink"	1123
food - general	"used as a medicine and for food"	1192
material - timber, wood products	[U. tomentosa & U. guianensis:] In addition to its medicinal use, there is local commercial demand for the liana in Peru as a raw material for furniture manufacturers.	6980
medicine - general	"immune stimulant; used against numerous ailments"	3751
	"used as a medicine and for food"	1192

	"Used for diverse indications, including stomach ulcers, AIDS, cancer, herpes, chronic fatigue syndrom, asthma, diabetes, circulatory problems, rheumatism and arthritis. It appears to be an adaptogenic tonic, as it is claimed to be immune modulating, anti-inflammatory, antimutagenic, anti-carcinogenic, antiviral and antioxidant."	3751
	"zur adjuvanten Therapie bei Gehirntumoren, Leukämie und AIDS"	8691
medicine - phytomedicinal product	"Applications for cat's claw which have had some clinical research include viral infections, pain and symptoms of Herpes infections, and for inflammatory conditions, such as Rheumatoid arthritis."	3030
medicine - traditional herbal medicine	"Cat's claw has a long history of traditional use, being employed in the treatment of a range of conditions including inflammations (especially rheumatism), arthritis, urinary tract infections and gastric ulcers."	1123
	"reportedly used by indigenous peoples in the Andes to treat inflammation, rheumatism, gastric ulcers, tumors, dysentery, and as birth control. Cat's claw is also popular in South American folk medicine for intestinal complaints, gastric ulcers, arthritis, and to promote wound healing."	3410
	[U. tomentosa & U. guianensis:] "Local applications involve both internal and external treatments, using decoction of the stems, bark roots or leaves or an infusion of leaves. The powdered bark or leaves are also used in some external applications."	6980
	Medic. (folklore)	1180
	Traditional South American medicine	3751
social use - stimulants	"The maceration of the barks in sugar cane liquor is considered an aphrodisiac."	3410

Purpose: Standardized Use Fields

Purpose: Fields of Use	Frequency
food - beverage	1
food - general	1
material - timber, wood products	1
medicine - general	4
medicine - phytomedicinal product	1
medicine - traditional herbal medicine	5
social use - stimulants	1

Purpose: Number of Use Fields

Purpose: Number of use fields

Taxon used in 7 different standardized use categories (max. 27 categories possible).

Plant Parts Used

Plant Part (standardized)	Plant Part (free text)	Remark	Ref	
bark			3751	van Wyk, B.-E. & Wink, M. (2017): Medicinal
bark	"stem bark"		3751	van Wyk, B.-E. & Wink, M. (2017): Medicinal
bark	"root bark"		3030	Hughes, K. & Worth, T. (1999): Cat's claw. N
bark	"stem bark"		3030	Hughes, K. & Worth, T. (1999): Cat's claw. N
bark	"stalk bark"		6980	Shanley, P., Pierce, A.R., Laird, S.A. & Guille
bark	"root bark"		6980	Shanley, P., Pierce, A.R., Laird, S.A. & Guille
bark	"bark of stem"		8876	United States Pharmacopeial Convention (20
bark			3410	Useful Tropical Plants - http://tropical.theferns
leaf			6980	Shanley, P., Pierce, A.R., Laird, S.A. & Guille
root			3751	van Wyk, B.-E. & Wink, M. (2017): Medicinal
stem			1123	Plants for a Future - www.pfaf.org

Scale and Trend of Trade

ICC	Trade Trend	Ref	
	"Future growth of Cat'sClaw as an ingredient could be negatively affected by the limited scientific research and marketing of the product […]. Some industry sources indicate that the product is over its top in Europe."	3052	ProFound (2014): Wild-collected botanicals and the EU market. Trade for Development Centre BTC (Belgian Development Agency), s.loc.
	"La OMS la reconoció como planta medicinal en 1994 y se autorizó su comercialización mundial. La demanda más grande proviene de Estados Unidos y también de los paises latinoamericanos […]. En 1995 se produce el ‚boom' comercial, especialmente desde Perú." [The WHO recognized it as a medicinal plant in 1994 and its worldwide commercialization was authorized. The greatest demand comes from the United States and also from Latin American countries […]. In 1995, the commercial boom took place, especially from Peru.]	5848	Buitron, X. (1999): Ecuador. Uso y comercio de plantas medicinales. Situacion actual y aspectos importantes para su conservacion. TRAFFIC International, Cambridge. Retrieved from http://www.traffic.org/medicinal-reports/traffic_pub_medicinal8.pdf, viewed: 21.10.2010.

	"The market of the immunostimulants is without doubt one of the largest in the field of phytotherapeutics […]. On this highly competitive market, the sales of products based on 'Cat's Claw' have gone from negligible position in 1995, to 2.1 %in 1996 (14th position) to 3.49% in 1997 (8th position) of the best selling plants on the American market."	5687	Bianchi, A., Iadicicco, P. & Loazya, B. (1999): Cat's claw. The healing liana from Amazon forest. Deforestation and the market dynamics of modern panacea. In: TRAFFIC Europe (ed.): Medicinal plant trade in Europe. Conservation and supply. Proceedings of the first symposium on the conservation of medicinal plants in trade in Europe, 22-23.6.1998, Kew. pp. 183-184. - TRAFFIC Europe, sine loco.
	"Until now, the way in which the market has developed seems positive for cat's claw products. As long as quality is maintained, sales will probably remain stable or increase, and the development of improved raw materials will consolidate existing markets."	3054	Alexiades, M.N. & Shanley, P. (ed.) (2004): Forest products, livelihoods and conservation. Case studies of non-timber forest product systems. Volume 3. Latin America. CIFOR, Bogor.
	[U. tomentosa & U. guianensis:] "By the 1980s, uña de gato was a popular medicinal in the local markets of such Amazonian urban centres as Pucallpa and Iquitos. Media reports […] helped focus national attention on the plant. By the early 1990s, uña de gato was widely commercialized within Peru, but still largely unknown internationally. In 1993, for example, only 0.2 (metric tonnes) were exported from Peru, and then only to the US […]. Exports increased to over 20 tonnes and eight countries in the following year, sky-rocketing to over 726 tonnes in 24 countries in 1995. […] In the following years, exports levelled off at about 300 tonnes per year […], though according to one source, 1999 exports reached 800 tonnes."	6980	Shanley, P., Pierce, A.R., Laird, S.A. & Guillen, A. (2002): Tapping the green market. Certification and management of non-timber forest products. Earthscan, London. Retrieved from https://www.researchgate.net/publication/272743208_Tapping_the_Green_Market_Certification_and_Management_of_Non-timber_Forest_Products, viewed: 13.03.2021.
	[U. tomentosa & U. guianensis:] "Despite the promising future of the international cat's claw market, as with other herbal supplements, the demand is ultimately uncertain […]. The unpredictability of the cat's claw market is exemplified by the 1995 spike in exports, interpreted by some as an attempt to stockpile Uncaria following rumours of an export ban, and/or a contraction of the market due to poor or variable bark quality […]. This may particularly be the case given concerns that 'the marketing of [uña de gato] is ahead of science' […]. Other medicinal plant experts […] have likewise cautioned in the past that the scientific evidence for the efficacy of uña de gato does not support many of the statements made by some of the companies that commercialize the plant."	6980	
	[U. tomentosa & U. guianensis:] "It is widely believed that there is a greater demand for U. tomentosa and that the US imports mostly U. tomentosa, while the European market favours U. guianensis. […] Some industry analysts have questioned both of these statements, indicating that the latter species is already playing an important role in satisfying the international, including US, demand for cat's claw […]. In any event, there are very likely additional, as yet undeveloped, markets for other plant parts and/or for U. guianensis."	6980	
PE	"In the early 1990s, the plants - especially U. tomentosa - came to be widely known outside Peru and their collection and marketing intensified […]. The ensuing boom followed the typical boom-and-bust trend of other Amazon products. Sales of mainly the bark accelerated abroad, resulting in a strong increase in the extraction of the plants. When the markets became saturated, warehouses in the principal centres of collection became oversupplied because international demand declined significantly."	3054	Alexiades, M.N. & Shanley, P. (ed.) (2004): Forest products, livelihoods and conservation. Case studies of non-timber forest product systems. Volume 3. Latin America. CIFOR, Bogor.
PE	"The total volumes of dried una de gato bark exports from Peru, mainly harvested from stems, increased from 200 kg in 1993 to 726 t in 1995, but dropped again in 1996. […] Total exports in 1996 were only 48% of that in 1995, largely due to a decrease in exports to the US as this country changed from buying 93% of all the exported una de gato in 1995 to only 46% of all the exported bark in 1996. Some say that the earlier exports to the US saturated the North American market, while others argue that the entry of poor quality materials and products during 1995 may have resulted in a loss of consumer confidence and decreased demand."	3031	de Jong, W., Melnyk, M., Alfaro, L., Rosales, L.M. & García, M. (2000): A concerted approach to uña de gato development in Peru. International Tree Crops Journal 10(4): 321-336. Retrieved from https://www.researchgate.net/publication/254235898_A_concerted_approach_to_UNA_de_Gato_development_in_Peru, viewed: 01.03.2022.

Utilization: Commodity, Cultivation, Harvest, Sustainability, Trade

Type	ICC	Utilization	Ref	
com		"inner bark of the stems"	8876	United States Pharmacopeial
com		"The part of the plant traditionally used is the bark of the trunk […] The bark of the root is often used, due to a presumed higher concentration of the active ingredients, although no study had ever confirmed this."	5687	Bianchi, A., Iadicicco, P. & Loa
com		[U. tomentosa & U. guianensis:] "While root and, more commonly, stalk bark have been the most common locally utilized plant parts, many medicinal recipes use leaves and whole stems, too. The commercial market for Uncaria is almost entirely based on stem bark, even though many of the evaluations of pharmacological activity have been conducted with root-bark extracts."	6980	Shanley, P., Pierce, A.R., Laird
com		[U. tomentosa & U. guianensis:] Locally, "Uncaria is most commonly commercialized as chopped, shredded or ground bark, powdered leaves, or as a beverage made with the bark steeped in spirits. […] Nationally and internationally, uña de gato is commercialized as milled bark, tea bags from pulverized bark, extracts and tinctures, capsules, pills and creams."	6980	
cul		[U. tomentosa & U. guianensis:] "Many other efforts are […] underway for cultivating Uncaria. One major commercial supplier of Uncaria has reportedly been cultivating the vine for ten years."	6980	

cul		[U. tomentosa & U. guianensis:] "uña de gato planted in open areas is unlikely to produce much marketable bark, instead spreading as tangled shrubs, which may ultimately also compete with other crops. Hence, the problem is not so much cultivating Uncaria, but cultivating it in such a way as to produce bark."	6980	
cul	BR	Agroforestry; Fortaleza, Ceará and Paraná	3145	Brinckmann, J.A., Kathe, W.,
cul	BR	Agroforestry; Mato Grosso, west-central Brazil	3145	
cul	BR	cultivated: Agroforestry	3145	
cul	CR	Natural Fostering and Agroforestry; Cariari- Limón	3145	
cul	PE	[U. tomentosa & U. guianensis:] "A few programmes have sought to work closely with local communities to develop controlled or managed harvesting practices. The Peruvian non-governmental organization (NGO) Pro-Naturaleza, for example, has developed a cat's claw management project with a Yanesha community. The community has set aside 170 hectares of forest for harvesting of nontimber forest products (NTFPs). Only 60 per cent of uña de gato individuals are harvested from this area, on a ten-year rotation basis. Thus, 40 per cent of the Uncaria stock is left to regenerate naturally. Individuals are cut 1m from the base in order to increase their chances of survival, and competing vines are removed at regular intervals to assist regrowth."	6980	Shanley, P., Pierce, A.R., Lairc
cul	PE	[U. tomentosa & U. guianensis:] "Studies in Peru suggest that Uncaria can successfully be intercropped with other secondary-forest economic species, such as Croton […], or with such cultigens as plantains, beans, manioc, papaya, pineapples, sweet potatoes, watermelons and fruit trees."	6980	
cul	PE	Agroforestry; Loreto region, Amazon forest	3145	Brinckmann, J.A., Kathe, W.,
cul	PE	cultivated: Agroforestry	3145	
cul	PE	cultivated: Agroforestry	3145	
exp		"Until 1995, all the Uncarla tomentosa present on the international markets came from Pemvian Amazonia, from 1996 onwards, following the product's commercial success, extraction at an intense rate also began in the forests of Ecuador and Columbia, but no data is available for these countries. Peru's export show a sharp upturn from 200 kg/year in 1993 to 722.975 kg/year in 1995."	5687	Bianchi, A., Iadicicco, P. & Loa
exp	PE	2017: 239637 kg; 2018: 257916 kg; 2019: 231712 kg	3050	Quelopana Inga, F.M. (2021):
exp	PE	AgroDataPeru figures: 2009-2ß12: increase from 67 to 197 tonnes, 2015-2016 shows 201 to 216 tonnes. 2020 shows a sharp increase to 663 tonnes.	3051	AgroData Peru (2022): Uña de
exp	PE	PromPeru figures: From 2002 to 2013, the exports of cat's claw raw material oscillated between 150 and 200 tonnes. After 2013 until 2020, the exports increased to 220-280 tonnes.	3053	Comisión de Promoción del Pe
har		[U. tomentosa & U. guianensis:] "1 m-long sections are then cut off and pounded, allowing the outer bark to be easily peeled away. The reddish inner bark is stripped away from the stem and tied into 40–50kg bundles. Leaves and branches are usually wasted, given the limited demand for these materials."	6980	Shanley, P., Pierce, A.R., Lairc
har		[U. tomentosa & U. guianensis:] "about 0.5 kg of the bark may be harvested per meter from a 10cm-wide liana. Destructive harvesting of such an individual would thus yield about 30kg of dry bark. Other estimates of 8-10kg for a 5cm-wide liana roughly agree with this figure […]. Based on these figures, an approximate harvest rate of 60kg of dry bark per hectare in mature forests, or 17 hectares for 1 tonne, based on an average of two lianas per hectare [is estimated]."	6980	
har		[U. tomentosa & U. guianensis:] "Although more abundant in fallows and young secondary vegetation, Uncaria biomass in these environments consists mostly of leaf matter or thin stems, with relatively little harvestable stalk and root bark. In contrast, the larger vines found in closed forests, though scarcer and less easily accessible, have more bark and hence are the targets of most commercial harvesting."	6980	
har		[U. tomentosa & U. guianensis:] "In open areas, Uncaria grows as a scandent shrub, forming a dense tangle of leaves and thin stems. In old secondary forests, it develops into a thick liana that climbs 20m or more into the canopy before branching into leaf-bearing stems."	6980	
har	PE	"The primary product in trade comes from the stem bark. […] Generally, it is recommended that the vine is cut at 8 inches to a meter above the ground and left to regenerate. Vines are only harvested at 8 or more years old, otherwise the diameter of the vine is not sufficient for bark removal. As a regular practice, the cut vine is stripped of its bark in the field"	3030	Hughes, K. & Worth, T. (1999)
sus		"The stems are only large enough to harvest when they are 8 years or more old. Generally, it is recommended that the vine is cut at 20 - 100cm above the ground and left to regenerate."	1123	Plants for a Future - www.pfaf.
sus		[U. tomentosa & U. guianensis:] "Commercial harvesting […] is almost always destructive and frequently involves 'natural' populations from closed forests. The plant is usually cut at the base, pulling down as much of the vine as possible."	6980	Shanley, P., Pierce, A.R., Lairc
sus		[U. tomentosa & U. guianensis:] "The plant's aggressive growth, its ability to sprout from stem sections and to recover after cutting and burning, and its close association with anthropogenic landscapes all indicate a high potential for management."	6980	
sus		[U. tomentosa & U. guianensis:] "There are no data on growth rates for bark, though different field estimates suggest periods ranging between five and ten years before harvestable stalk bark is produced […]. The required growth period for root bark may be longer, while that for leaves is obviously much shorter."	6980	

sus		[U. tomentosa & U. guianensis:] "Uncaria has a very high, and unfortunately rather unrealized, potential for management in secondary forests. Firstly, secondary vegetation does not present the technical challenges of closed mature forest as far as propagating Uncaria is concerned. Secondly, productivity is much higher than in closed forests. Thirdly, many local farmers already have sophisticated and flexible management systems for fallows, into which Uncaria could easily be integrated. The growth period of six to ten years for Uncaria is quite compatible with the fallow periods used by farmers in many regions. Cultivation of Uncaria in secondary forests and the integration of such practices into traditional swidden fallow management practices seem to be the most promising options for the medium- to long-term management of this medicinal."	6980	
tra		"In 1996, there was in fact a drop in the exports, especially in the USA (with imports dropping from 608.507 Kg/year in 1995 to 105.399 in 1996 and imports to European countries dropping from 20.000 Kg/year in 1995 to 6.600 Kg in 1996), only partially compensated by the increase in exports to Latin American countries (in particular Chile which between 1995 and 1996 went from 10 Kg to 77.000)."	5687	Bianchi, A., Iadicicco, P. & Loa
tra	PE	"In 1995 a boom in cat's claw sales took place, when it was exported from Peru to more than 30 countries. This boom was followed by a drastic reduction in exports in later years. Even so, cat's claw still holds significant interest for the pharmaceutical sector, which continues to develop new products for national and international markets."	3054	Alexiades, M.N. & Shanley, P.
tra	PE	"U. tomentosa has been traded from Peru since 1994 until it reached a peak export of 726 t in 1996."	3031	de Jong, W., Melnyk, M., Alfar
tra	PE	Exports: 1994 21 t, 1995 727 t, 1996 348 t, 1997 276 t, 1998 282 t 1999 64 t	3030	Hughes, K. & Worth, T. (1999)
tra	US	"sold in this country"	6369	McGuffin, M., Kartesz, J.T., Le

Legislation

Regulation

ICC	Regulation	Ref	
PE	"In Peru, INRENA, the natural resource department of the government of Peru, passed legislation in March of 1999 which banned the export of the raw material without the approval of management plans. This halted official trade of the raw material of cat's claw from Peru for several months until management plans began to achieve approval."	3030	Hughes, K. & Worth, T. (1999):
PE	[U. tomentosa & U. guianensis:] "In Peru, commercial extraction is subject to certain legal restrictions and procedures. In theory, harvesters require a permit (contrato de extracción), which allows the extraction of a predetermined amount of Uncaria from a delimited area over a specific period of time, ranging from one to ten years […]. In practice, such permits are obtained by middlemen who sub-contract to a number of different harvesters. As a result, Uncaria is often harvested from areas not included in the permit."	6980	Shanley, P., Pierce, A.R., Laird

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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
man	management
price	price
rem	remark
socu	socio-cultural significance
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
nzd	naturalized
nna	not native
dpn	status doubtful, possibly native
abs	absent but reported in error

Common names: Type

Ecology: TypeEcol

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

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