Vitellaria paradoxa C.F.Gaertn. 1598 Sapotaceae

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	The native distribution of this species ranges in an almost unbroken belt approximately 5,000 km long and 500 km wide from Senegal and Guinea in western tropical Africa to Uganda and Ethipia in East Africa.
Abundance	Vitellaria paradoxa is a major component of the woody flora of the savannah vegetation zones of sub-Saharan Africa. It can form pure stands but is often associated with other trees. It constitutes up to 70-80 % of the woody vegetation in some areas of Benin and northern Ghana.
Habitat	Characteristic of West African dry savannah and woodland, but also occurs in the southern Sahel zone. Light-demanding species of open sites and parkland savannah vegetation.
Regeneration	Slow growing.
Reproduction	Hermaphroditic flowers are usually cross-pollinated, but can be self-fertile; pollinated by insects (bees) or wind. Fruits dispersed by a wide range of animals (birds, flying foxes, ungulates, primates).
Plant Parts	The main plant part used is the fruit which consists of a nutritious pulp that surrounds an oil-rich seed. Also leaves, bark, roots, timber and latex are used to a lesser degree.
Lifeform	Deciduous tree of 7-15(-25) m height.
Systematics	The genus Vitellaria has only one species: Vitellaria paradoxa.

Extrinsic Traits

Threat Status	The species has been assessed globally as Vulnerable by IUCN. This assessment stems from 1998 and needs updating. On a regional level, it has been assessed as Vulnerable in Benin (2011), the Democratic Republic of Congo (1997), in Sudan (1997), Nigeria (2014), Uganda (2016), and Least Concern in Burkina Faso (2017).
Threats	Shea fruits are commonly harvested from the wild. Farmers eliminate unwanted woody species on farmland but leave productive sheanut trees. Tree populations remain essentially unmanaged with the kernels being collected from what are, in effect, wild trees. Natural regeneration and sustainability of seed production are threatened by agricultural intensification in the area. The severe reduction of saplings in farmed lands is likely to negatively impact the long-term viability of the tree population. The Sudanian savanna zone had the highest density of shea trees in the 1940s, with a population of 230 trees per ha. This density has been seriously reduced nowadays to a minimum of 11 trees per ha. Main threat causes are: overexploitation for timber, firewood and charcoal production, agricultural encroachment and increasing population pressure. Climate change could negatively affect the trees' productivity.
Purpose	Shea is a multipurpose tree which has a wide range of food and medicinal uses as well as supplying soap, oil, latex, timber and charcoal. The kernel is a source for shea butter rich in vitamin E, used in food, cosmetics & aromatherapy. In the importing countries it is mostly (90%) used for food and less (10%) for cosmetics. In Africa it is used extensively for food and for medicinal purposes.
Use Fields	Food; food additive; traditional herbal medicine; dye; timber; fuel; environmental use; cosmetics; bee plant, animal poison.
Trade Trend	It is likely that the overall demand for shea butter will continue to rise in the world market as a result of progress made in better knowledge of its various properties. It has a niche in the international markets as a cocoa butter substitute in the food, cosmetic and pharmaceutical industries. Africa has a potential of exporting about 263,000 metric tons of shea products annually however, only about 150,000 metric tons of dry shea kernels are currently exported. Shea butter products are increasingly becoming popular globally and it is envisaged that as the demands grows there will be need for sustainable management of the shea butter tree.
Legislation	The species is not protected by CITES.

Taxonomy and Identification

Taxonomy	Reference
"Includes 1 Accepted Species"	1192 Plants of the World Online (POWO). Royal Bo
"Two subspecies of V. paradoxa are documented: subspecies paradoxa (distributed mainly in West Africa, extending from Cameroon to Senegal) and subspecies nilotica (distributed mainly in eastern Africa), extending from Central African Republic to south-western Ethiopia in the east and Uganda in the south."	3497 Acema, D., Byakagaba, P., Banana, A.Y. & Tu

Synonyms

Synonym	Eval	Ref	
Butyrospermum paradoxum (C.F.Gaertn.) Hepper		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	
Butyrospermum paradoxum (Gaertn.f.) Hepper		2095	Iwu, M.M. (1993): Handbook of African medicinal plants. CRC Press, Boca Raton.
Vitellaria paradoxa		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.
Vitellaria paradoxa		3751	van Wyk, B.-E. & Wink, M. (2017): Medicinal plants of the world. 2nd edition. CABI, Wallingford & Boston.
Vitellaria paradoxa		7279	van Wyk, B.-E. & Wink, M. (2004): Medicinal plants of the world. Timber Press, Portland.
Vitellaria paradoxa C.F.Gaertn.		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
Vitellaria paradoxa C.F.Gaertn.		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.
Vitellaria paradoxa C.F.Gaertn.		3561	Quattrocchi, U. (2012): World dictionary of medicinal and poisonous plants. Common names, scientific names, eponyms, synonyms, and etymology. CRC Press, Boca Raton.

Common Names

Common Name	Typ	Language	Country	Ref	
árbol montequero	ver	Spanish		1180	GRIN (17.3.2015): Download World Econo
arbre à beurre	ver	French		1180	
bambouk-buttertree	ver	English		1180	
butirospermo	ver	Spanish		1180	
cárei	ver	Portuguese		1180	
carité	ver	Portuguese		1180	
galam-buttertree	ver	English		1180	
karité	ver	French		1180	
karite-nut	ver	English		1180	
Schibutterbaum	ver	German		1180	
shea	ver	English		1180	
shea-buttertree	ver	English		1180	
sheasmörträd	ver	Swedish		1180	
sheatree	ver	English		1180	

Distribution Range

Distribution Range	Ref	
"22 BEN BKN GHA GNB GUI IVO MLI MTN NGA SEN TOG 23 CAF CMN ZAI 24 CHA ETH SUD 25 UGA"	1126	World Checklist of Selected Plant Families,
"endemic to an almost unbroken belt of 6000 km long and 500 km wide that extends from the eastern part of Senegal to the high plateau of Uganda."	3497	Acema, D., Byakagaba, P., Banana, A.Y. &
"grows naturally in the wild in the dry savannah belt of West and South from Senegal in the west to Sudan and South Sudan in the east, and onto the foothills of the Ethiopian highlands. It occurs in 19 countries across the African continent, namely Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Ethiopia, Ghana, Guinea Bissau, Ivory Coast, Mali, Niger, Nigeria, Senegal, Sierra Leone, South Sudan, Sudan, Togo, Uganda, Democratic Republic of the Congo, and Guinea."	1135	Wikipedia. www.wikipedia.org
"indigenous to the Guinea and Sudan savanna zone from Senegal to Sudan, and to western Ethiopia and Uganda, in a belt 500–700 km wide"	1150	Prota4U - https://prota.prota4u.org/
"Native to: Benin, Burkina, Cameroon, Central African Repu, Chad, Ethiopia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Mali, Mauritania, Nigeria, Senegal, Sudan, Togo, Uganda, Zaïre"	1192	Plants of the World Online (POWO). Royal B

"Native: Africa: NORTHEAST TROPICAL AFRICA: Ethiopia, Sudan; EAST TROPICAL AFRICA: Uganda; WEST-CENTRAL TROPICAL AFRICA: Cameroon, Central African Republic, Democratic Republic of the Congo (e.); WEST TROPICAL AFRICA: Benin, Ghana, Guinea-Bissau, Nigeria, Senegal "	1100	GRIN Database (Germplasm Resources Info
"Native: Cameroon; Congo, The Democratic Republic of the; Côte d'Ivoire; Ghana; Guinea; Nigeria; Senegal; South Sudan; Sudan; Uganda"	3409	Makerere University Institute of Environment
"species range forms an almost unbroken belt approximately 5,000 km long by 500 km wide from Senegal to Uganda"	3415	Lovett, P.N. & Haq, N. (2000): Evidence for
"Tropical Africa - Senegal to Sudan, and to western Ethiopia and Uganda."	3410	Useful Tropical Plants - http://tropical.thefern
"W. Trop. Africa to Uganda"	1126	World Checklist of Selected Plant Families,

Distribution

Continent	Region	ICC	Status	Free Text	Ref
2 Africa	22 West Tropical Africa	BF		Burkina	1109
		BF	native		1126
		BJ	native		1100
		BJ	native		1126
		CI	native		1126
		GH	native		1100
		GH	native		1126
		GN	native		1100
		GN	native		1126
		GW	native		1126
		ML	native		1126
		MR	native		1126
		NG	native		1100
		NG	native		1126
		SN	native		1100
		SN	native		1126
		TG	native		1126
	23 West-Central Tropical	CD			1109
		CD	native		1100
		CD	native	E	1126
		CF	native		1100
		CF	native		1126
		CM	native		1100
		CM	native		1126
	24 Northeast Tropical Afri	ET	native		1100
		ET	native		1126
		SD			1109
		SD	native		1100
		SD	native		1126
		SS	native		3409
		TD	native		1126
	25 East Tropical Africa	UG			1109
		UG	native		1100
		UG	native		1126
		UG	native	"Northern Uganda, Lira and Kitgum Districts"	1129

Abundance / Local Population Size

ICC	Abundance	Reference	
	"major component of the woody flora of the Sudan and Guinea savannah vegetation zones of sub-Saharan Africa"	3415	Lovett, P.N. & Haq, N. (2000):
	"forming extensive pure stands in some areas but often also associated with other trees, such as Parkia biglobosa (nere)"	3411	ICRAF Tree Functional Attribut
BJ	"It constitutes up to 70% of the woody vegetation in some areas of Benin"	3412	Agossou Djossa, B., Fahr, J.
GH	"An inventory in the West Gonja District, Northern Region, Ghana, revealed that on intensively farmed land this species constituted 79.7 ± 7.2% [...] of the woody biomass, on low intensity farmland 84.2 ± 10.0% [...] and only 10.2 ± 3.3% [...] in unmanaged woodland, with similar environmental characteristics."	3415	Lovett, P.N. & Haq, N. (2000):
GH	"may reach over 80% [of the woody vegetation] in parts of northern Ghana"	3412	Agossou Djossa, B., Fahr, J.
ML	„density of the economically important shea tree averages 15 mature trees per hectare in Mali"	3412	

Ecology

TypeEc	ICC	Ecology	Ref	
habit		"characteristic of the West African savannah, though it is also present in the southern Sahel"	3410	Useful Tropical Plants - http://tro
habit		"characteristic of West African savanna, but is also present in the southern Sahel"	1150	Prota4U - https://prota.prota4u.c
habit		"light-demanding species of open sites and parkland savannah"	3411	ICRAF Tree Functional Attribute
habit		"Restricted to dry savannah and woodland"	3409	Makerere University Institute of
habit		"Restricted to dry savannah and woodland"	5520	Oldfield, S., Lusty, C. & MacKin
habit		"Shea butter (Vitellaria Paradoxa) habitat is commonly found in the Savanna Woodland Ecosystem and within the boundary of Savanna Grassland and Savanna Wood land"	3658	Salako, G., Sawyerr, H., Bashir,
habit	UG	"Woodland tree"	1129	National Red Lists - www.nation
regen		slow growing	1123	Plants for a Future - www.pfaf.o
regen		slow growth	3413	Haby Sanou, Sie Kambou, Zewę
repro		"Bestäubung geschieht durch Insekten oder den Wind"	1135	Wikipedia. www.wikipedia.org
repro		"flowers are pollinated by bees. The plant is self-fertile"	1123	Plants for a Future - www.pfaf.o
repro		"hermaphroditic flowers are usually cross-pollinated, but can be self-pollinated. Insects, especially bees, are important for pollination."	3411	ICRAF Tree Functional Attribute
repro		"The sugary pulp of the fruit makes it attractive to a wide range of animals. A large variety of birds, ungulates and primates, including humans, eat them, dispersing the seed in the process"	3411	
repro		„As this important tree species is not cultivated by the local population, it depends heavily on natural regeneration, where seed dispersal by flying foxes (Chiroptera) and birds [...] plays a crucial role“	3412	Agossou Djossa, B., Fahr, J. Wi

Life Form

LF_Standard	Duration	Lifeform	Woodiness	Height	Ref	
tree				(min. 7-)10-15(-max. 25) m high	3411	ICRAF Tree Functional Attribut
tree				up to 25m	1123	Plants for a Future - www.pfaf.
tree				7-15(-25) m tall	1135	Wikipedia. www.wikipedia.org
tree					1126	World Checklist of Selected Pl

Threat Situation

ICC	PopulationStatus	Ref	
	"Due to changing agricultural practices there is a danger that with increasing cultivation and lack of protection the natural regeneration will be inhibited. With present aging populations of trees there is a danger of a future reduction of this resource. There is a need to encourage protection and to establish plantations."	2389	Wickens, G.E. (1995): Edible n
	"natural regeneration and sustainability of seed production are threatened by agricultural intensification in the area"	1150	Prota4U - https://prota.prota4u.
	"This species has been overexploited for timber, firewood and charcoal production. Its habitat is also suffering from agricultural encroachment and increasing population pressure."	3409	Makerere University Institute of
	"This species has been overexploited for timber, firewood and charcoal production. Its habitat is also suffering from agricultural encroachment and increasing population pressure."	5520	Oldfield, S., Lusty, C. & MacKi
	„The Sudanian savanna zone [...] had the highest density of shea trees in the 1940s, with a population of 230 trees ha-1 [...]. This density has been seriously reduced nowadays to a minimum of 11 trees ha–1 [...] most likely because of profound changes in farmers' practices.“	3412	Agossou Djossa, B., Fahr, J.
BF	"According to forest villagers and our own observations in the field, V. paradoxa is now in fact a very rare plant found in the savanna area."	3634	Ouédraogo, L., Endl, J., Sombi
BF	"climate change could negatively affect the species at the 2050 and 2070 horizons by significantly reducing its current suitable habitats. Under the combined action of climate, wildfires, herbivory and human pressures, V. paradoxa may become threatened with an extinction risk in Burkina Faso. This calls for adaptive management approaches of the shea tree and other economically valuable savanna species […], not only in Burkina Faso but also in the other regions of the shea belt across Africa"	3539	Dimobea, K., Ouédraogoa, A.,
BF	"Unsustainable collection of the stem bark of this tree by local drug collectors could lead to the disappearance of this species in the savanna. In addition to the bark collected for preparation of remedies, the nuts of this tree are also intensively collected by local women to obtain oil used for food and for preparation of cosmetics products. This impacts the reproduction of the tree populations from seeds and thus further increases the extinction pressure on this species."	3634	Ouédraogo, L., Endl, J., Sombi
BJ	"Although our analyses indicate that shea trees are rather well preserved, we conclude that the observed severe reduction of saplings in farmed lands is likely to negatively impact the long-term viability of the tree population."	3412	Agossou Djossa, B., Fahr, J.
BJ	"temperature (38.65% of the respondent), rainfall (50.27% of the respondent) and wind (2.43% of the respondent) are climatic factors affecting negatively trees' productivity. Intercropping of shea tree with annual crops and regular maintenance of the trees were the main adaptation strategies to climate change developed by 98.33% and 48.55% of the respondents respectively."	3498	Avaligbé, Y.J.F., Gnanglè, C.P
NG	"Savanna Woodland Ecosystem which constitute Shea butter habitat although cover about 12% of the total land cover yet it is the most threatened ecosystem in terms of bush burning, overgrazing and tree burning for charcoal with dire consequences on biodiversity."	3658	Salako, G., Sawyerr, H., Bashi
NG	"The rate at which this tree was been felled and burn as charcoal in recent times portend a dangerous trend and could result to the extinction of the tree in the next few decades except urgent action is taken."	3658	

SD	"the Sudanian savanna zone had the highest density of karité in the 1940s, with a population of 230 trees ha−1, but this has now reduced to as few as 11 trees ha−1 [...]. The drastic reduction in the population of karité has been attributed to drought, increasing population pressure (which results in shortened fallows on which regeneration of karité relies), parasites such as Tapinanthus spp and xylophagous insects of the family Cerambycideae"	3413	Haby Sanou, Sie Kambou, Ze
UG	"Estimated that at least 30% of the trees in northern Uganda have been cleared for charcoal and agriculture in past 30 years"	1129	National Red Lists - www.natio
UG	„threatened tree species, i.e., it is vulnerable to extinction in the near future. This has mainly been due to over exploitation for timber, firewood, charcoal production and agricultural encroachment due to increasing population pressure.“	3414	Byakagaba, P., Eilu, G., Bosco

Threat Status: Global and Supranational

Glo	Threat Category		Criteria	Ass.	Publ.	Ref	
glo	VU	Vulnerable		1998	2023	1223	2023 IUCN Red List of Threatened Species. Version 2023-1. www.iucnredlist.org. Download of plant data received from IUCN website 16.12.2023.
		Name used in redlist:	Vitellaria paradoxa C.F.Gaertn.	Accepted		Name used in redlist:	Vitellaria paradoxa C.F.Gaertn.
glo	VU	Vulnerable	A1cd	1998-01-01	1998	1206	2020 IUCN Red List of Threatened Species. Version 2020-3. www.iucnredlist.org. Download of plant data received from IUCN 14.1.2021.
		Name used in redlist:	Vitellaria paradoxa C.F.Gaertn.	Accepted		Name used in redlist:	Vitellaria paradoxa C.F.Gaertn.
glo	VU	Vulnerable	A1cd	1998	1998	5520	Oldfield, S., Lusty, C. & MacKinven, A. (1998): The world list of threatened trees. World Conservation Press, Cambridge.
		Name used in redlist:	Vitellaria paradoxa	Accepted		Name used in redlist:	Vitellaria paradoxa
glo	VU	Vulnerable	A1cd	1998	1998	3409	Makerere University Institute of Environment and Natural Resources (1998): Vitellaria paradoxa. The IUCN Red List of threatened species 1998. e.T37083A10029534. Retrieved from http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T37083A10029534.en, viewed: 17.01.2020.
		Name used in redlist:	Vitellaria paradoxa	Accepted		Name used in redlist:	Vitellaria paradoxa
glo	V	Vulnerable			1997	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)
		Name used in redlist:	Vitellaria paradoxa C.E.Gaertner	Accepted		Name used in redlist:	Vitellaria paradoxa C.E.Gaertner

Threat Status: Countries

ICC	Region	Threat Category		Assd.	Publ.	Ref	
BF		LC	Least Concern		2017	3785	Schmidt, M. & al. (2017): Diversity, distribution and p
		Name used in redlist:	Vitellaria paradoxa C.F.Gaertn.	Accepted		Accepted Name:	Vitellaria paradoxa C.F.Gaertn.
BJ		VU	Vulnerable		2011	3256	Adoumou, A.C., Agbani, O.P. & Sinsin, B. (2011): Pl
		Name used in redlist:	Vitellaria paradoxa C.F.Gaertn.	Accepted		Accepted Name:	Vitellaria paradoxa C.F.Gaertn.
CD		V	Vulnerable		1997	1109	UNEP-WCMC Threatened Species Database. Downl
		Name used in redlist:	Vitellaria paradoxa C.E.Gaertner	Accepted		Accepted Name:	Vitellaria paradoxa C.F.Gaertn.
NG		VU	Vulnerable		2014	3346	Borokini, T.I. (2014): A systematic compilation of IU
		Name used in redlist:				Accepted Name:	
SD		V	Vulnerable		1997	1109	UNEP-WCMC Threatened Species Database. Downl
		Name used in redlist:	Vitellaria paradoxa C.E.Gaertner	Accepted		Accepted Name:	Vitellaria paradoxa C.F.Gaertn.
UG		VU	Vulnerable		2016	3303	Prinsloo, S., Plumptre, A.J., Ayebare, S., Kityo, R., B
		Name used in redlist:	Vitellaria paradoxa	Accepted		Accepted Name:	Vitellaria paradoxa C.F.Gaertn.
UG		V	Vulnerable		1997	1109	UNEP-WCMC Threatened Species Database. Downl
		Name used in redlist:	Vitellaria paradoxa C.E.Gaertner	Accepted		Accepted Name:	Vitellaria paradoxa C.F.Gaertn.

Purpose of Use

Purpose		Ref
<multiple>	"A multipurpose tree which has a wide range of food and medicinal uses as well as supplying timber, soap, oil and latex"	3410
	"highly valued because its pulp can be eaten when ripe while the nut can be processed into oil, which on settling forms butter. This is locally consumed in foods and traded in the cosmetics, confectionary and pharmaceutical industries […]. The bark, roots and leaves of the Shea tree are used in traditional medicines to treat various ailments […]. The tree is also valued for its wood and charcoal"	3497
	"In the West it is mostly (90%) used for food and less (10%) for cosmetics as emollient. [...] Throughout Africa it is used extensively for food, is a major source of dietary fat, and for medicinal purposes."	1135
	"pulp ed. (sweet), kernel source of shea butter rich in vitamin E, used in food (form. in chocolate as has high melting-point) & illumination, cosmetics & aromatherapy, r. a chewing-stick in Nigeria"	3753

	"Shea butter is widely utilized for domestic purposes such as cooking and skin moisturizer. It is also processed commercially and used as an ingredient in cosmetic, pharmaceutical and edible products. The fruit when very ripe is eaten raw. The most important traditional uses of Shea butter include dressing of hair, protection against dry weather and sun, ointment to relieve rheumatic and joint pains, healing wounds, swelling and bruising, treatment of skin problems such as dryness and dermatitis and to massage pregnant women and small children. It is also used in treatments of eczema, rashes, burns, ulcers and dermatitis."	3603
	"The fruit pulp can be eaten by both humans and animals while the butter extracted from the seed kernel may be used for local consumption, manufacturing body care products as well as pharmaceutical and confectionery industries"	3414
	"The shea fruit consists of a nutritious pulp that surrounds an oil-rich seed from which shea butter is extracted."	1135
animal food - bee plant	"furnishes the bees with a great quantity of nectar and pollen."	3411
animal food - general	"Shea-nut cake is increasingly used for livestock and poultry feed. Leaves and young sprouts serve as forage."	3411
animal poison	Pesticide (plant pest control)	1180
environmental use - general	"tree is also planted for soil and water conservation purposes as well as for environmental protection"	1123
	erosion control	3411
food - general	"Harvested for fruits to make Shea butter "	1129
	"source of 'shea butter'; used for margarine and ointments; substitute for cacao butter"	3751
	"traditional African food plant"	1135
	"used for cooking, pastries, and confectionery, and as an excellent substitute for cocoa butter"	1123
	Food (fruit)	1180
	Food (oil/fat)	1180
	shea butter	3411
food additive - general	Additive (flavoring)	1180
fuel general	"also for charcoal"	1129
	"excellent fuel wood and can be made into charcoal"	1123
	"Excellent-quality firewood that burns with a fierce heat. The charcoal is not good quality, however"	3411
material - colouring, dye, varnish	"Ashes from burnt wood are commonly used as the dye"	3411
material - general	"latex is heated and mixed with palm oil to make a glue"	3411
	Mater. (latex/rubber)	1180
	Mater. (lipids)	1180
material - timber, wood products	"strong, hard, heavy, durable, resilient, and weathers and wears well"	3411
	"wood is moderately heavy and resistant to termites. It is used for poles, house posts, rafters, flooring, utensils, and furniture"	1123
medicine - general	"Cough, anemia"	7510
	"source of “shea butter”; used for margarine and ointments; substitute for cacao butter"	3751
	"used for topical medicines against rheumatic and joint pains, wounds, swellings, dermatitis, bruises, and other skin conditions."	1123
medicine - traditional herbal medicine	"Stem bark is used to treat cold, sinusitis, wound healing, hemorrhoids."	3634
	"The most frequently investigated conditions [for use in traditional medicine] were scabies, wound healing, and umbilical cord care. Shea butter was most commonly used in combination with other ingredients to produce a medical treatment with the most frequent adjuvant being Elaeis guineensis, African oil palm."	3671
	"The ten most cited species [used by traditional healers to treat tumors and chronic wounds] were Xylopia aethiopica, Aframomum melegueta, Khaya senegalensis, Parkia biglobosa, Piliostigma thonningii, Blighia sapida, Vitellaria paradoxa, Adansonia digitata, Annona muricata, and Parinari curatellifolia. Most of the recipes are prepared as decoction (40%) and administered orally (54.12%)."	3598
	Medic. (folklore)	1180
	traditional African medicine	3751
	Traditional African medicine	3751
social use - cosmetics	"Increasingly, cosmetics, especially those that prevent skin drying and "good-quality lipsticks, use shea butter. As a result, cosmetic industries in the Sahel and elsewhere market this ingredient in many soap, shampoo and skin-cream preparations"	3411
	"skin cosmetics"	7510
	"used in cosmetic products, soap, and candles"	1123

Purpose: Standardized Use Fields

Purpose: Fields of Use	Frequency
<multiple>	7
animal food - bee plant	1
animal food - general	1
animal poison	1
environmental use - general	2
food - general	7
food additive - general	1
fuel general	3
material - colouring, dye, varnish	1
material - general	3
material - timber, wood products	2
medicine - general	3
medicine - traditional herbal medicine	6
social use - cosmetics	3

Purpose: Number of Use Fields

Purpose: Number of use fields

Taxon used in 13 different standardized use categories (max. 27 categories possible).

Plant Parts Used

Plant Part (standardized)	Plant Part (free text)	Remark	Ref	
bark			1123	Plants for a Future - www.pfaf.org
bark	"stem bark"		3634	Ouédraogo, L., Endl, J., Sombié, P.A.E.D., S
bark			7510	van Andel, T.R., & Croft, S., van Loon, E.E.,
bark			1150	Prota4U - https://prota.prota4u.org/
exudate			3411	ICRAF Tree Functional Attributes and Ecolog
exudate			1150	Prota4U - https://prota.prota4u.org/
flower			1150	Prota4U - https://prota.prota4u.org/
fruit			1150	Prota4U - https://prota.prota4u.org/
fruit			1135	Wikipedia. www.wikipedia.org
fruit			1123	Plants for a Future - www.pfaf.org
fruit			3411	ICRAF Tree Functional Attributes and Ecolog
leaf			1123	Plants for a Future - www.pfaf.org
leaf			3411	ICRAF Tree Functional Attributes and Ecolog
leaf			1150	Prota4U - https://prota.prota4u.org/
root			1123	Plants for a Future - www.pfaf.org
seed			3751	van Wyk, B.-E. & Wink, M. (2017): Medicinal
seed			3411	ICRAF Tree Functional Attributes and Ecolog
seed			1150	Prota4U - https://prota.prota4u.org/
seed			1123	Plants for a Future - www.pfaf.org
seed			1135	Wikipedia. www.wikipedia.org
seed			7510	van Andel, T.R., & Croft, S., van Loon, E.E.,
seed			3751	van Wyk, B.-E. & Wink, M. (2017): Medicinal
wood			1123	Plants for a Future - www.pfaf.org
wood			3411	ICRAF Tree Functional Attributes and Ecolog

Scale and Trend of Trade

ICC	Trade Trend	Ref	
	"Africa has a potential of exporting about 263,000 metric tons of shea products annually however, only about 150,000 metric tons of dry shea kernels are currently exported."	3414	Byakagaba, P., Eilu, G., Bosco L. Okullo, J., Tumwebaze, S.B. & Mwavu, E.N. (2011): Population structure and regeneration status of Vitellaria paradoxa (C.F.Gaertn.) under different land management regimes in Uganda. Agricultural Journal 8 (1): 14-22.
	"Shea butter is increasingly popular as an ingredient in cosmetics and soaps, especially in European countries and the United States. [...] It is likely that the overall demand for shea butter will continue to rise in the world market as a result of progress made in better knowledge of its various properties."	1150	Prota4U - https://prota.prota4u.org/
	"Shea butter products are increasingly becoming popular globally and it is envisaged that as the demands grows there will be need for sustainable management of the shea butter tree"	3414	Byakagaba, P., Eilu, G., Bosco L. Okullo, J., Tumwebaze, S.B. & Mwavu, E.N. (2011): Population structure and regeneration status of Vitellaria paradoxa (C.F.Gaertn.) under different land management regimes in Uganda. Agricultural Journal 8 (1): 14-22.
	"Vitellaria paradoxa has a niche in the international markets as a cocoa butter substitute in the food, cosmetic and pharmaceutical industries."	1150	Prota4U - https://prota.prota4u.org/

Utilization: Commodity, Cultivation, Harvest, Sustainability, Trade

Type	ICC	Utilization	Ref	
cul		"Because of its value as a source of oil, Vitellaria has long been an integral component of wooded farmland agriculture. Often, it is the only tree to be spared when woodland is cleared for cultivation. These preserved specimens may be as much as 150-200 years old."	3411	ICRAF Tree Functional Attribut
cul		"Da der Karitébaum [...] nur schwer vermehrt werden kann, neue Pflanzen oft nur Zufallskeimungen sind, er erst ab einem Alter von etwa 20 Jahren blüht und erst mit etwa 50 Jahren seine volle Ertragskraft erreicht, ist seine groß angelegte kommerzielle Verwertung durch die lange Wartezeit auf den Ertrag noch schwierig"	1135	Wikipedia. www.wikipedia.org
cul		"local farmers eliminate unwanted woody species on farmland, leaving only those Sheanut trees that meet criteria based on spacing, size, growth, health, age and yield."	3415	Lovett, P.N. & Haq, N. (2000):
cul		"Natural populations [of shea trees] are often left when land is cleared for cultivation and relatively little attention has been paid to its cultivation"	2389	Wickens, G.E. (1995): Edible r
cul		"Occasionally cultivated in tropical Africa."	1122	Mansfeld's World Database of
cul		"Principal constraints of karité fruit production are: long juvenile phase, slow growth, genetic variability and lack of knowledge regarding the cultivation of the species."	3413	Haby Sanou, Sie Kambou, Ze
cul	BF	Agroforestry; Gonse	3145	Brinckmann, J.A., Kathe, W.,
cul	GH	cultivated	3145	
cul	TG	cultivated: Natural Fostering	3145	
cul	UG	Agroforestry; Amuria District	3145	
cul	UG	Natural Fostering; Amuria District	3145	
exp		"In 1998, Africa exported 56,000 t seeds, valued at US$ 10.5 million, of which 60% came from Ghana. Benin's exports decreased from 15,000 t in 1995 to 5600 t in 1998, Togo had only a slight decrease from 6500 t in 1994 to 5100 t in 1998, whereas exports from Burkina Faso increased from 5000 t in 1994 to 7600 t in 1997 and then to 26,600 in 2003. No export data have been reported for Nigeria since 1995. Processed shea butter exports in 1998 for the whole of Africa totalled 1200 t, worth US$ 571,000. Benin was top exporter (1000 t, valued at US$ 400,000), followed by Côte d'Ivoire (200 t) and Burkina Faso (30 t). African exports of shea butter have increased to 3200 t in year 2000."	1150	Prota4U - https://prota.prota4u
exp		"The bulk of the seed produced is for home consumption and local trading, though increasing quantities are being exported to Europe, Japan etc."	3410	Useful Tropical Plants - http://t
har		"A good tree can bear on average 15–30 kg fruits per year. In a good year this may be as much as 50 kg, but then only about 15 kg in the next two years. Although a clear production cycle is not confirmed, observations show a tendency for Vitellaria paradoxa to give only 1 good harvest per 3–4 years."	1150	Prota4U - https://prota.prota4u
har		"Annual yields in a range of 9-17 tonnes per ha optimistically predicted. [In] Nigeria only one tree in three produces each year. Trees start to fruit at 10-15 years, with full bearing by 20-25 years with individual yields ranging from 20-200kg."	2389	Wickens, G.E. (1995): Edible r
har		"average yield is 15 to 20 kilograms of fresh fruit per tree, with optimum yields up to 45 kilograms. Each kilogram of fruit gives approximately 400 grams of dry seeds."	1135	Wikipedia. www.wikipedia.org
har		"commonly harvested from the wild, but is also sometimes cultivated"	3410	Useful Tropical Plants - http://t
har		"existing tree populations remain essentially unmanaged with the annual crop of kernels being collected from what are, in effect, wild trees"	3411	ICRAF Tree Functional Attribut
har		"Fruits are gathered in the wet season, usually in June–August depending on latitude. Harvesting continues for about 2.5 months, and is done mostly by women and children. Fallen fruits are collected from the ground because it is difficult to distinguish between ripening and fully mature fruit. Harvesting rights depend on tenure. A woman collects 20–45 kg of fruits per day, depending on ethnic group, proximity of trees to the village, and distance between trees."	1150	Prota4U - https://prota.prota4u
har		"Harvest from the ground as soon as fruits fall. One person can gather ca. 45 kg in a day."	2389	Wickens, G.E. (1995): Edible r
imp		"Major seed importers in recent years were Belgium, Denmark, Japan, the Netherlands, Sweden and the United Kingdom."	1150	Prota4U - https://prota.prota4u
socu	GH	"In Northern Ghana, both the state and traditional authorities regulate natural resource use, including shea. The state is formally responsible for distributing resource ownership and traditional authorities hold the land in trust for the people. Formally, the state owns shea trees, while traditional authorities informally regulate access to trees. […] Shea land formalization in this case takes place through the inscription of the traditional rules that are consistent with national laws, within a legally-binding document. Traditional rules consist of punishments and taboos that are informal in the sense that they are not written down or legally backed by the state, but that are part of general knowledge in a given community. […] women are traditionally only marginally involved in political decision-making regarding natural resource management in northern Ghana, and the CREMA and shea [organic] certification in Murugu aimed to counteract gender inequalities."	3592	Gilli, M., Côte, M. & Walters, G
socu	NG	"Germache (Shrine of Crocodylus porosus) SNS [...] located in Zuru Local Government Area of Kebbi State, Nigeria [...] is a large cultural landscape covering an area of about 84 km2 [...] It is associated with biological totem; majorly Crocodylus process as well as sacred plants, including Shea tree (Vitellaria paradoxa) and Baobab tree (Adansonia digitata)."	3599	Obadiah, Caleb D., Bunza, M.
socu	NG	"Kub-perere (Adansonia digitata) and Riga D'koto (Vitellaria paradoxa) are sacred trees found within Germache SNS and other monumental sacred sites located in Zuru community are also identified as totems by the respondents."	3599	

socu	NG	"The findings of the study also show that most of the respondents are mainly females, middle-aged and have been processing for a long period of time. They are not well exposed to extension personnel and largely depend on cooperative society and friends/family for their sustenance and information. They have low access to credit facilities and face high difficulties due to the use of manual tools, while their production is lower than expected. However, the constraints faced by the processors have an influence on the quantity of Shea butter produced."	3603	Osewa, S.O., Alamu, O., Inegb
socu	NG	"The significance(s) or value of such totems. Most of the respondents believed that the totems are spiritual beings that connect them with the gods. Therefore, they believed by offering sacrifices to put-forth their request before them, they will have their request granted. Some of these requests as recounted by the chief priest includes, among others, the following; (1) To provide protection against enemies, (2) To avert plagues and calamities, (3) To break the yoke of barrenness and bring fruitfulness in the home; when this request is granted, the resulting male child is named after "Germache" while the female is named "Dada", (4) To provide rain for their crops to thrive well, (5) To boost business success. "	3599	Obadiah, Caleb D., Bunza, M.
socu	NG	"Thousands of lives especially women in rural areas in West Africa depend on [Vitellaria paradoxa] for their sustenance not only because it is the major source of income but also serves as food and condiments."	3658	Salako, G., Sawyerr, H., Bashi
socu	NG	over half (57.5%) of the processors were between the ages of 46-60 years, while most (93.3%) of the respondents were female, 32.5% have been processing for over 25 years, while only 15% of the respondents had contact with extension personnel. This study revealed that majority (65.8%) of the respondents got capital from the cooperative society, while 51.7% processed between 2,001 and 3,000 kilograms per month. Majority (81.7%) of processors did not produce effectively as a result of inadequate access to credit facilities."	3603	Osewa, S.O., Alamu, O., Inegb
socu	UG	"Due to the increasing economic and socio-cultural value of the Shea tree, a number of rules governing management and utilization of the tree exist across the shea belt communities of Africa [...]. Some of the rules documented include: banning of cutting Shea trees [...]; collecting only shea fruits that have fallen down [...]; only picking dry branches for fire food [...]; and restrictions on setting fires on Shea tree stands. In some jurisdictions, the tree is protected through national legislation. In Uganda, it is listed among the 'reserved' tree species [...]. A reserved tree species in Uganda is considered to be a species of international or national importance that is endangered or rare or threatened [...]. The National Forestry and Tree Planting Regulations, 2016 operationalises this statutory legislation by out-lawing any cutting down of V. paradoxa."	3497	Acema, D., Byakagaba, P., Ba
socu	UG	"recognised as a primary source of income among rural households especially for women and children who are traditionally responsible for the harvesting of products from the tree species [...]. A study [...] in the villages and rural markets in northern Uganda indicated that shea oil provides a major source of income to the households engaged in its trade. On average, a litre of the oil goes for 10,000 Ugandan shillings (2.9 USD). The potential economic worth of Shea tree in Uganda is rated up to 118 Million USD per annum."	3497	
socu	UG	"seven different rules […] were categorised as management, conservation and harvesting rules. […] Involvement in rule crafting, clarity of resource boundary, age, education level and ethnicity of respondents significantly influenced participation in rule enforcement. […] traditional institutions are relevant in the conservation of Shea trees.	3497	
tra		"2017 wurden laut der Ernährungs- und Landwirtschaftsorganisation FAO weltweit 548.244 t Kariténüsse geerntet. Der größte Produzent war mit weitem Abstand Nigeria, das mit 361.017 Tonnen rund zwei Drittel der Welternte einbrachte. Weitere nennenswerte Erntemengen gab es in Mali und Burkina Faso"	1135	Wikipedia. www.wikipedia.org
tra		"Now that the European Union allows the use of 5% cocoa butter substitutes in chocolate, chocolate and confectionery products account for 95% of the shea butter demand, with only 5 percent currently used for cosmetic and pharmaceutic products."	1150	Prota4U - https://prota.prota4u
tra		"The bulk of the seed produced is for home consumption and local trading. Nigeria is the leading producer of seeds: 355,000 t in 1999, 58% of the African production, but 10,000 t lower than in 1996. Mali and Burkina Faso are other leading producers; at the end of the 1990s they produced 85,000 t/year and 70,000 t/year, respectively, followed by Ghana (55,000 t), Côte d'Ivoire (20,000 t), Benin (15,000 t) and Togo (6500 t). Up-to-date statistics on seed production are not available for most countries. Reports on Burkina Faso show a remarkable increase in production to 222,000 t in 2005. Similar trends probably take place in other West African countries."	1150	

Legislation

Regulation

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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

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
grow	growth rate
habit	habitat
morph	morphology
regen	regeneration
repro	reproduction