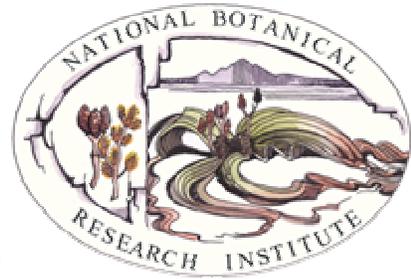


Kew

PLANTS PEOPLE
POSSIBILITIES



This report was generated from the SEPASAL database (www.kew.org/ceb/sepasal) in August 2007. This database is freely available to members of the public.

SEPASAL is a database and enquiry service about useful "wild" and semi-domesticated plants of tropical and subtropical drylands, developed and maintained at the Royal Botanic Gardens, Kew. "Useful" includes plants which humans eat, use as medicine, feed to animals, make things from, use as fuel, and many other uses.

Since 2004, there has been a Namibian SEPASAL team, based at the National Botanical Research Institute of the Ministry of Agriculture which has been updating the information on Namibian species from Namibian and southern African literature and unpublished sources. By August 2007, over 700 Namibian species had been updated.

Work on updating species information, and adding new species to the database, is ongoing. It may be worth visiting the web site and querying the database to obtain the latest information for this species.

Internet SEPASAL

New query

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 *Display help*In names list include: synonyms vernacular names and display: All names per page*Your query found 1 taxon***Dichrostachys cinerea (L.) Wight & Arn. [1355]**

Family: LEGUMINOSAE-MIMOSOIDEAE

Synonyms

Dichrostachys glomerata (Forssk.) Chiov.
 Dichrostachys nutans (Pers.) Benth.
 Dichrostachys platycarpa Welw.
 Mimosa cinerea L.
 Mimosa glomerata Forssk.
 Cailliea glomerata (Forssk.) J.F. Macbr.
 Mimosa nutans Pers.

Vernacular names

Unspecified language	sickle brush [1279]
(India, Rajasthan)	kolvan [2162]
Afrikaans (Namibia)	omatjette [5083] [5087], papwielbos [5087] [5121], sekelbos [5083] [5087] [5097] [5098] [5121]
Afrikaans (South Africa)	sekelbos [5096]
Afrikaans (Southern Africa)	koedoepeul [5323], sekelbos [1674] [2795] [3045] [5082] [5097] [5323], soetpeul [5323]
Arabic	kadada [623], hegam [623], hwgam [623], huraaan [623], umkedad [623]
Arabic (Sudan)	hegam [2837], hurgam [2837], hurgan [2837], kadad [2837], kadada [2837]
Barakwengo-Bushmen (Namibia)	lgoe [5087]
Damara>Nama (Namibia)	lgoe [5095], lgoes [5095] [5098], lhoeb [5095], lgopes [5095], lgowes [5095] [5098]
English (Botswana)	hairy sickle bush [5093], large-leaved sickle bush [5093], sickle bush [5092] [5093], velvet sickle bush [5093], Kalahari Christmas tree [5092] [5093]
English (Namibia)	Chinese lantern tree [1304], bastard acacia [1304], sickle bush [5088] [5121], sicklebush [5083] [5087], Kalahari Christmas tree [5087] [5098] [5121]
English (South Africa)	sicklebush [5096]
English (Southern Africa)	Chinese lantern [5323], sickle bush [3045] [5082] [5097], sickle-bush [5082] [5323], sicklebush [1674], Kalahari Christmas-tree [5323]
English (Zimbabwe)	sickle-bush [5082], Chinese-lanterns [5082]
Eunda (Namibia)	ongete [5087]
Gciriku (Namibia)	kete [5087], mweghe [5087] [5098], mweye [5087] [5098]
German (Namibia)	Farbk?tzchenstrauch [5083] [5087] [5098] [5121]
Hausa	dunda [2837]
Heikum Bushmen	lgoib [5087], luiba [5087]

(Namibia)	
Herero (Namibia)	omuranguari [5095], omutjete [5083] [5086] [5087] [5098] [5121]
Himba (Namibia)	omutjete [5087] [5098]
Jul'hoan (Namibia)	!kai [5083], luin [5083], lx'ai [5083]
Khoekhoegowab (Namibia)	lgoes [5083] [5121], lgowes [5083], lhoeb [5083], lnobos [5083], lnobotixara#uuhe [5083], luiba [5083]
Kung Bushmen (Namibia)	!x'ei [5087] [5098]
Kwaluudhi (Namibia)	omwege [5087]
Kwambi (Namibia)	omwege [5087]
Kxoe (Namibia)	lgoe [5083], loe [5083]
Lozi (Namibia)	mishale [5083] [5121], museresere [5083] [5087], mushale [5083]
Mbalantu (Namibia)	ongete [5087]
Mbukushu (Namibia)	mweghe [5087] [5098]
Nama (Namibia)	lgowes [5087], loeb [5087]
Namutoni Bushmen (Namibia)	luiba [5087]
Ngandjera (Namibia)	omwege [5087]
Nharo (Namibia)	luiba [5083]
Nkolonkadhi (Namibia)	ongete [5087]
Nkumbi (Angola)	onkete [5087]
Norekau Bushmen (Namibia)	! gei [5083] [5087]
Northern Sotho (Southern Africa)	mor?ts? [5097]
Oshikwanyama (Namibia)	eengete [5083], ongete [1304] [5083] [5087] [5098]
Oshikwanyama (Namibia)	eengete [1304] [plural]
Oshindonga (Namibia)	omatjette [5083], onyege [5087] [5098]
Oshiwambo (Namibia)	omwege [5083], ongete [5121]
Peul	bourri [2837], patroulahi [2837]
Rukwangali (Namibia)	mwege [5083] [5087] [5098] [5121]
Rumanyo (Namibia)	kete [5083], moye [5083], mweghe [5083], mweye [5083]
SeTswana (Botswana)	mos?!?s?!? [5092], mpangale [5093], muselesele [5093]
Shambyu (Namibia)	moye [5087] [5098], mweghe [5087] [5098]
Shona (Southern Africa)	mupangara [5082]
Thimbukushu (Namibia)	mweghe [5083] [5098]
Tjimba (Namibia)	ongete [5087]
Tsonga (South Africa)	ncenga [5139], ndhenga [5139], ndzhenga [5139]
Tsonga (Southern Africa)	ndzenga [5323]
Tswana (Namibia)	muselesele [5083]
Zulu (Southern Africa)	uGagane [5097] [5323], uSegwane [5323]

Partial distribution

Plant origin	Continent	Region	Botanical country
Native	Africa	East Tropical Africa	Kenya [1355] [2837], Tanzania [1355] [2837],

			Uganda [1355] [2837]
	Macaronesia		Cape Verde [1355]
	Northeast Tropical Africa		Chad [1355] [2837], Ethiopia [1355] [2391] [2837], Somalia [1355] [2391] [2837], Sudan [1355] [2391] [2837]
	South Tropical Africa		Angola [1355] [2837], Malawi [1355] [2837], Mozambique [1355] [2837] [5480], Zambia [1355] [2837] [5481], Zimbabwe [1355] [2837] [5419]
	Southern Africa		Botswana [1127] [1355] [5700], Cape Province [5104], Caprivi Strip [5121], Namibia [1304] [1355] [2837] [5121], Natal [5104], Swaziland [1355] [5452], Transvaal [2391] [5104]
	West Tropical Africa		Benin [1355] [2837], Burkina [1127], Ghana [1355] [2391] [2837], Guinea-Bissau [1355] [2837], Ivory Coast [2837], Liberia [1355] [2837], Mali [2837], Niger [1355] [2837], Nigeria [1355] [2391] [2837], Senegal [1355] [2391] [2837], Sierre Leone [1355] [2837], The Gambia [1355] [2837], Togo [1355] [2391] [2837]
	West-Central Tropical Africa		Burundi [1355], Cameroon [1355] [2391] [2837], Central African Republic [1355], Congo [3], Rwanda [1355], Zaire [1355] [2837]
	Asia-Temperate	Arabian Peninsula	North Yemen [2215], Saudi Arabia [2215], Yemen [2391]
	Asia-Tropical	Indian Subcontinent	Rajasthan [2162]
Introduced	Africa	Northern Africa	Egypt [1355]

ISO countries: South Africa [[1355](#)] [[2837](#)]

Descriptors

Category	Descriptors and states
DESCRIPTION	Deciduous [5093] [5096] [5097] [5121]; Multistemmed [5088] [5092] [5096]; Moderate Growth Rate [5097]; Shrub [3] [623] [1362] [1674] [2837] [5082] [5101]; Semi-evergreen/Semi-deciduous [5097]; Climber/Scrambler/Scandent [3] [1362]; Slow Growth Rate

	[5096] [5097]; Tree [3] [623] [1362] [1674] [2837] [5082] [5121]; Taproot Present [5097]; Thicket Forming [3] [1674] [5082] [5093] [5096] [5121]; Thorny/Spiny - stems [3] [623] [1674] [5093] [5121]; Plant Height 1-15 m [2837] [5104]; d.b.h. 25-35 cm [5323]
CLIMATE	Not Frost Tolerant [5097] [5121]; Frost Tolerant [940]; Annual Rainfall >= 200 mm [5121]
SOILS	Deep [5154]; Limestone Parent Material [5121]; Well Drained [5096]; Boulders/Rocky [5121]; Saline [5092] [5096]; Gravels/Stony [5121]; Sandy [2391] [5121] [5154]; Loamy [2391] [5121]; Clayey [2391] [5121]
HABITAT	Lowland [5082]; Forest [1362] [1674] [2837] [5097]; Forms Monospecific Stands [5092] [5121]; Pioneer Species [1362] [5082] [5121] [5323]; Woodland [1362] [1674] [2837] [5092] [5097] [5154]; Shrubland/Bushland/Scrub [1362] [1674] [2837] [3045] [5097]; Grassland/Forb-Land [1674] [5097]; Wooded Grassland [1362] [5082] [5154]; Invasive Species [1674] [3045] [5082] [5121] [5323]; Hillsides/Slopes [5121]; Outcrops/Kopjes/Inselbergs [5121]; Dunes [5121]; Watercourses [2391]; Non-Permanent Watercourses [5121]; Rural Anthropogenic Landscapes [5121]; Croplands [2837]; Rangelands/Pastures [1362] [2837]; Pans [5121]; Plains [5121]
PHYSIOLOGY	Root Nodules Present [144]; Fire Resistant/Regenerates After Fire [2391] [5092] [5093]; Drought Tolerant [5092] [5097]
WOOD PROPERTIES	Small Sizes of Wood Available Only [1279] [2391] [5082] [5092]; Heartwood Brown/Shades of Brown [2391] [5096] [5097]; Finish - Good [5092]; Wood Resistant to Termites [1674] [2391] [5092] [5093] [5097] [5323]; Heartwood Red/Shades of Red [5097]; Durable [1279] [1674] [3045] [5082] [5088] [5092] [5093]; High Density [623] [5092] [5097]; Sapwood White/Yellow [2391] [5096] [5097]; Workability - Difficult [144] [1304] [5092] [5096]; Sawing - Difficult [5096]; Wood Susceptible to Termites [5323]
PRODUCTION AND VALUE	Potential Fuel Uses [1576]; Recommended for Cultivation [5097]
CONSTRAINTS	Weed [2391] [2837]
SOURCES OF PLANTING MATERIAL	RBG Kew Seed Bank
FURTHER DATA SOURCES	Botanical Illustration [3] [1674] [5082] [5093] [5121] [5323]; Additional References [5196] [5203] [5421]; Regional Distribution Map [3045] [5082]; Botanical Photograph [2795] [3045] [5082] [5088] [5092] [5093] [5096] [5097]; Databases [5123] [5327]; Habit Illustration/Photograph [5082] [5092] [5093] [5096] [5097]; Use Related Illustration/Photograph [5088]; Grid Map [5093] [5121] [5123]
SEPASAL DATASHEET STATUS	All Data Transferred from SEPASAL Paper Files; Nomenclature Checked
CHEMICAL ANALYSES	Poisonous Compounds - other parts [5121]; Nutritional Analyses - stems [940]; Nutritional Analyses - leaves [940]; Proteins - aerial parts [5250]; Proteins - stems [388] [940] [1519] [2837]; Proteins - leaves [388] [940] [1519] [2837]; Proteins - infructescences [2837] [5121]; Proteins - unspecified parts [1519] [2837]

Uses

Major use	Use group	Specific uses
FOOD	Infructescences	fruits [644] [2391]
	Seeds	
	Exudates	gum [5095]
ANIMAL FOOD	Unspecified Parts	game mammals [5092] [5094]; browse [940]; cattle [2837]
	Fertile Plant Parts	seeds, forage [612]; infructescences, forage [612] [1257]; fruits, cattle [1279] [5082] [5097]; fruits, game mammals [1279] [3045] [5082] [5092] [5093] [5096] [5097] [5323]; fruits, goats, fodder [5095]; fruits, primates [5092]; fruits,

		mammals [3045] [5092] [5093] [5096] [5323]; fruits, mammals, fodder [5118] [5121]; fruits, fodder [2837]; fruits, sheep [2837]; fruits, cattle [2837]; fruits, game mammals, forage [5097]
	Aerial Parts	camels, browse [2162]; stems, browse [612] [940]; leaves, browse [612] [940]; leaves, game mammals, browse [5092] [5093] [5096] [5097]; stems, game mammals, browse [388] [1519] [5097]; fodder [1519]; leaves, forage [2391]; leafy stems/branches, forage [2391]; mammals, browse [5121]; game mammals, browse [5121]; stems, cattle, browse [5097]; leaves, cattle, browse [5097]; leaves, mammals, browse [5092] [5093]; leaves, mammals [5096]; leafy stems/branches, game mammals [5096] [5097]; young leaves, game mammals, browse [388] [1519] [2391]; leafy stems/branches, cattle, browse [5097]; leaves [2837]; leafy stems/branches [2837]; leaves, camels, browse [2837]; leaves, primates, forage [5092]; leafy stems/branches, game mammals, browse [5096] [5097]
BEE PLANTS		
[1127] [2391]		
MATERIALS [479]	Unspecified Materials	bags [479]; sacks [479]
	Fibres	roots, plaiting, baskets [2391]; bark [2391]; headgear [1576]; inner bark, ropes [5092] [5097]; inner bark, cord/string/twine, ropes [5092] [5093] [5096] [5323]; inner bark [5092]
	Cane etc.	
	Wood	wood, tool handles [143] [1279] [2391] [5082] [5092] [5097]; timber, buildings [1334]; timber, fences [1334] [2391]; wood, spears [2391]; poles (from wood) [1279] [5082]; poles (from wood), grain stores [144]; wood, digging sticks [5088] [5121]; wood, bows (weapons) [1304] [5121]; wood, arrows [5121]; wood, weapons [5121]; stems, pipes (smokers') [5095]; wood, poles (from wood), fences [1674] [3045] [5093] [5096] [5097] [5323]; wood, timber, fences [5323]
	Gums/Resins	resins [1188]
FUELS [1257]	Fuelwood	
[1279] [1304] [1674]		
[2391] [3045] [5092]		
[5093] [5096] [5097]		
[5101] [5121] [5139]		
[5323]		
	Charcoal	wood [1674] [5097] [5323]
SOCIAL USES	Antifertility Agents	roots, contraceptives [5088]
	'Religious' Uses	wood, ritual/religion/magic [5092] [5101]; unspecified aerial parts, ritual/religion/magic [5092]
NON-VERTEBRATE POISONS	Mollusca	leaves, death, disease vector control [644]
MEDICINES [1279]	Unspecified Medicinal Disorders	bark, humans [3039]; leaves [1257] [5121]; roots [1257] [5121]; bark [1257]; leafy stems/branches [1257]
	Digestive System Disorders	humans, laxative [2391]; humans, purgative [2391]; leafy stems/branches, humans [1042]; bark, humans, stomach [5097]; leaves, humans, intestine, diarrhoea, oral ingestion [2795] [5098]; roots, humans, stomach, oral ingestion [5098]; leaves, humans, colic, oral ingestion [5098]; leaves, humans, indigestion, oral ingestion [5098]; roots, humans, purgative

	[5098]; humans, intestine, diarrhoea [5154]; roots, humans, constipation, oral ingestion [5086]; inner bark, humans, teeth [5097]; roots, humans, external applications [5154]
Genitourinary System Disorders	humans, urination, diuretic [2391]; 'roots', humans, vagina [1042]; leaves, humans, vagina, douches [5098]; leaves, humans, ureter [5098]; roots, humans, diuretic [5098]; roots, humans, aphrodisiac, oral ingestion [5092]; humans, urinary tract [5092] [5093]
Infections/Infestations	humans, leprosy [2391]; humans, syphilis [2391]; humans, anthelmintic [2391]; bark, humans, filariasis [2391]; leaves, humans, gonorrhoea [2391] [5092] [5093]; 'roots', humans, leprosy [1042]; leaves, humans, helminth worm infections [5098]; leaves, humans, venereal diseases (non-specified) [5098]; roots, humans, syphilis [5098]; roots, humans, digestive system [5092] [5093]; bark, humans, nematode infections [5098]; roots, humans, colds, inhalers [2795] [5098]; roots, humans, colds, other medicinal applications; leaves, humans, colds [2795] [5098]; leaves, humans, colds, other medicinal applications; leaves, humans, tuberculosis [2795] [5096] [5098]; roots, humans, tuberculosis, inhalers [2795] [5098]
Injuries	bark, humans, wounds, external applications [2795] [5098]; roots, humans, wounds, external applications [2795]; leaves, humans, wounds, external applications [2795] [5098]
Muscular-Skeletal System Disorders	leaves, mammals, bones, fractures [2391]; leafy stems/branches, humans, joints [1042]
Nervous System Disorders	leafy stems/branches, humans [1042]; humans, epilepsy [2795]
Pain	bark, humans, teeth [2391]; leaves, humans, anaesthetic, external applications [5092]; leaves, humans, head, anodyne [5096]; leaves, humans, ears, anodyne [2795]; leaves, humans, teeth, anodyne [2795]; leaves, humans, teeth, anodyne, vapour baths [5092]; roots, humans, teeth, anodyne, vapour baths [5092]; roots, humans, abdomen, anodyne [2795]; roots, humans, anodyne [5098]
Poisonings	humans, snake bites [2391]; leaves, humans, snake bites, external applications [2795] [5082]; leaves, humans, scorpion stings, external applications [5082]
Pregnancy/Birth/Puerperium Disorders	fruits, goats, lactation stimulant, oral ingestion [5095]; roots, humans [5098]
Respiratory System Disorders	humans, coughs [2391]; leaves, humans, nose, inhalers [5092] [5093]; roots, humans, nose, inhalers [5092] [5093]; roots, humans, coughs, oral ingestion [5154]; roots, humans, pneumonia [2795]; roots, humans, coughs [2795]
Sensory System Disorders	leaves, humans, eyes [5098]; fruits, humans, eyes, washes [5092] [5093]; leaves, humans, eyes, washes [5092] [5093]
Skin/Subcutaneous Cellular Tissue Disorders	leaves, humans, boils [2391]; bark, humans, skin, external applications [5097] [5098]; leaves, humans, boils, external applications [5095]; stems, humans, boils, external applications [5095]
ENVIRONMENTAL Erosion Control USES	dugout canoes, dunes [144]
Indicators	
Soil Improvers	live plant in situ [2391]; live plant in situ, nitrogen fixers [5323]

Ornamentals

live plant in situ, gardens [5097]; live plant in situ, potted plants [5097]

Picture

None recorded

Notes

NOMENCLATURE/TAXONOMY

Name derivation:

"Dichrostachys" is derived from the Greek words "dis" meaning twice, "chroa" meaning colour, and "stachys" meaning a spike [1674] .

Name derivative:

"Dichrostachys" means two-coloured spike, and "cinerea" refers to the greyish hairs of the typical subspecies, which is confined to India [5097] .

VERNACULAR NAMES

(Mozambique):

Da Silva et al. (2004) give vernacular names for the different subspecies and varieties [5480] .

Shona (Southern Africa) [flowers], mupangara:

Means 'tassels for the chief's hat', and is a picturesque reference to the flowers [5082] .

Some common names are listed in Hedberg and Staug?rd (1989) [5154] .

DISTRIBUTION

Africa:

From Ethiopia in the north to KwaZulu-Natal in the south [5097] .

In Arabia and tropical Asia and introduced to America [2837] .

Botswana:

Subspecies africana (varieties africana, pubescens and setulosa) and subsp. nyassana occur. Subspecies argillicola var. hirtipes possibly occurs [5700] .

Kruger National Park, South Africa:

Subspecies africana var. pubescens has, with few exceptions, only been found in the Combretum veld in the northern part. It is fairly common around Punda Milia. Var. africana is plentiful all over, but nowhere to the same extent as along the Lower Sabi road. Subsp. nyassana is found only on the better-drained granitic and sandy soils in the western half of the Park from the Crocodile to the Levuvhu rivers [5096] .

Mozambique:

Five subspecies occur: subsp. africana with four varieties (i.e. africana, lugardiae, plurijuga, pubescens), subsp. argillicola, subsp. cinerea, subsp. forbesii and subsp. nyassana [5480] .

Namibia:

Subspecies africana, with two varieties, occurs. The species is generally common to abundant [5121] .

Southern Africa:

Two subspecies occur: subsp. africana with three varieties, namely, var. africana in Namibia, Botswana, Swaziland, Limpopo, North West, Gauteng, Free State and KwaZulu-Natal; var. pubescens in Swaziland, Limpopo, Mpumalanga; var. setulosa in Namibia, Botswana, Limpopo, North West, Gauteng, Mpumalanga and Northern Cape, subsp. nyassana occurs in Botswana, Swaziland, Limpopo, Gauteng, Mpumalanga, Swaziland, KwaZulu-Natal and Eastern Cape [5104] .

Subspecies nyassana:

Zambia, Zimbabwe, Malawi, Mozambique, Congo (Katanga), Rwanda, Tanzania, Angola, Transvaal, Natal and Swaziland [3] .

Swaziland:

Two subspecies occur: subsp. africana with two varieties (var. africana and var. pubescens) and subsp. nyassana [5452] .

Widespread in Africa and Asia, reaching Australia [3] .

Zambia:

Three subspecies occur. Subspecies *africana* occurs in the North Western, Eastern, Southern, Western and Lusaka Provinces; subsp. *argillicola* occurs only in the Southern Province; subsp. *nyassana* occurs in Copperbelt, Northern, Eastern, Lusaka and Southern Provinces [5481] .

Zimbabwe:

Three subspecies occur: subsp. *africana* is widespread; subsp. *argillicola* occurs in the west and central; subsp. *nyassana* occurs in the north, west, central and eastern parts [5419] .

India:

Reported from southern Pali District, Rajasthan [2162] .

RARITY/CONSERVATION

Namibia:

Subsp. *africana* var. *africana* was assessed under IUCN categories (1994) as LRLc [5400] .

DESCRIPTION

Armature:

Bears extraordinarily long and pointed spines [5088] .

Armature:

Spines not paired [3045] [5096] .

Height:

12 m [2837] .

Bark:

Yellowish to dark brown or blackish, usually rough, sometimes fissured [1674] .

Branches:

Lateral branches sturby, spinescent , up to 4.0 cm long, with sharp, dark brown tip [5121] .

Flowers:

Combination of pink and yellow sections [5088] .

Fruits:

A pod, hanging in cluster, dark brown, sickle-shaped to contorted, indehiscent [5121] .

Height:

1-12 m [623] [1362] .

Height:

1-8(12) m [3] .

Height:

3-7 m [5323] .

Height:

Subsp. *africana* var. *africana* 1-15 m, var. *pubescens* 1.5-3 m, var. *setulosa* 0.6-4.5 m [5104] .

Height:

Subsp. *nyassana* 0.5-6 m [5104] .

Height:

Up to 6 m [5082] [5098] .

Height:

Up to 8 m [5121] .

Inflorescences:

A hanging cluster of two types of flower: sterile, pink, basal flowers and bisexual, yellow, apical flowers [5121] .

Roots:

Self generating by root suckers [144] [2391] .

Leaves:

Bipinnate, dark green, glossy above but dull below; rachis with little, stalked glands between some pairs of pinnae; petiole without a gland [5082] .

Leaves:

With very small leaflets [5121] .

Seeds:

Almost compressed, ovoid to ellipsoid, smooth [1674] .

Stems:
Usually multistemmed with branches spreading in all directions [5088] .

Stems:
Usually crooked [144] .

Habit:
Under conditions of optimum growth, the species often forms thickets (after introduction to West Indies) [144] .

Height:
3-4.5 m [623] .

Stems:
Branchlets have sharp woody spines, which terminate the lateral branchlets and often bear leaves [623] .

Leaves:
Pinnae 7-15 pairs, leaflets 15-30 pairs [623] .

Flowers:
Pendulous [623] .

Fruits:
Pod 10 cm long, 4-seeded [623] .

Height:
Up to 7 m [1304] [1674] [5097] .

Armature:
Thorns long [1304] .

Flowers:
In dense spikes [1304] .

Fruits:
Flat pods up to 14 cm long [1304] .

Habit:
An encroaching plant [1127] .

Height:
1-12 m [1362] .

IDENTIFICATION

Some or all leaflets 2 mm or more wide; leaves often large and up to 180 mm long, with pinnae up to 75 mm long; peduncles usually fascicled in subsp. nyassana [1674] .

FOOD - EXUDATES

Gum:
Gum is eaten by the !Gwi, !Gana and Dobe-area !Kung San (Tanaka 1976, Lee 1979) and the resin is eaten by Tswana-speaking Tlokwa of southeast Botswana (Grivetti 1979) [5095] .

ANIMAL FOOD - UNSPECIFIED PARTS

Game mammals:
A favourite food plant for duiker [5094] .

Browse:
One of the browse species of the Kalahari included in the nutritional survey [940] .

ANIMAL FOOD - FERTILE PLANT PARTS

Fruits:
In West Africa the importance of the pods as fodder is emphasized [2837] .

Fruits, cattle, game mammals, forage:
Cattle and game (giraffe, buffalo, kudu, Lichtenstein's hartebeest, nyala, impala, klipspringer, red duiker and Damara dik-dik) relish the palatable pods that drop to the ground [5097] .

Fruits, cattle, game mammals:
Cattle and game relish the fruits [5082] [5097] .

Fruits, goats, fodder:

The pods are an important fodder. If goats eat the pods they produce a lot of milk [\[5095\]](#) .

Fruits, mammals, fodder:

The pods have a high protein content, and are used as livestock fodder [\[5121\]](#) .

ANIMAL FOOD - AERIAL PARTS

Cattle:

In northern Uganda it is only sometimes eaten by cattle [\[2837\]](#) .

Leaves, branches:

Leaves and young shoots are eaten [\[2837\]](#) .

Game mammals, mammals, browse:

Good browse for livestock and game such as antelope, giraffe and rhino [\[5121\]](#) .

Leafy stems/branches, cattle, game mammals, browse:

Cattle and game (giraffe, buffalo, kudu, Lichtenstein's hartebeest, nyala, impala, klipspringer, red duiker and Damara dik-dik) eat young twigs and leaves [\[5097\]](#) .

Leafy stems/branches, game mammals, browse:

Young twigs and leaves are eaten by giraffe, elephant, kudu, impala, sable antelope and zebra which are actually grazers. Eaten by duiker, klipspringer, steenbuck and waterbuck [\[5096\]](#) .

Leaves, game mammals, mammals, browse:

The leaves are eagerly eaten by stock, antelope, giraffe, rhino and bushpigs [\[5092\]](#) [\[5093\]](#) .

Leaves, primates, forage:

The leaves are eagerly eaten by monkeys and baboons [\[5092\]](#) .

Stems, young leaves, game mammals, browse:

Soft shoots and emerging leaves are browsed by giraffe [\[388\]](#) [\[1519\]](#) [\[2391\]](#) .

BEE PLANTS

Good for bees [\[1127\]](#) .

Flowers are a valuable honey source [\[2391\]](#) .

MATERIALS

Wood properties:

Hard, compact, density 0.620 and yellow ochre colour [\[623\]](#) .

Wood properties:

The bark of subsp. africana is thinner than that of subsp. nyassana [\[5096\]](#) .

Wood properties:

The sapwood is susceptible to termites and borer attack, but the heartwood is termite proof [\[5323\]](#) .

Wood properties:

The timber from subsp. nyassana is difficult to saw, even green [\[5096\]](#) .

Wood properties:

The wood is durable and was once used instead of iron posts [\[5092\]](#) [\[5093\]](#) .

Wood properties:

The wood is exceptionally hard and heavy (air-dry 960 kg/cub m) [\[5092\]](#) [\[5097\]](#) .

Wood properties:

The wood is very hard and durable [\[1674\]](#) [\[3045\]](#) [\[5082\]](#) [\[5088\]](#) .

Wood properties:

Yellowish sapwood and a deep red-brown, very dense, hard, closely grained heartwood [\[5097\]](#) .

Gum properties:

Low quality [\[2391\]](#) .

MATERIALS - FIBRES

Inner bark:

The inner bark is used as a tourniquet [\[5092\]](#) .

Ropes, inner bark:

The inner bark is very tough and used for making ropes [\[5092\]](#) [\[5097\]](#) .

Headgear:

In Burkina Faso, the Bobo people make masks from the fibres [1576] .

MATERIALS - WOOD

Digging sticks, weapons:

The wood is preferred for making digging sticks and knobkieries [5121] .

Fences, poles (from wood):

Fencing posts are durable and termite-resistant, lasting up to 50 years [5097] .

Pipe (smokers'), stems:

The hard stems are used by the Damara in Namibia to make smoking pipes [5095] .

Tool handles:

It is an excellent wood for tool handles due to its strength and hardness [5092] [5097] .

Tool handles:

Poles and tool handles have been made from the wood, but its use is limited by the small size of the tree [1279] [5082] [5092] .

Bow (weapons), stems:

Used for archery bows [1304] .

Grain stores, (poles from wood):

Used for making granary poles [144] .

MATERIALS - GUMS/RESINS

Resins:

Used by the Moshaweng Tlokwa of Botswana [1188] .

FUELS - FUELWOOD

The wood is excellent as firewood [1674] [5121] .

The wood makes an excellent fuel, producing very hot coals that last for a long time [5097] .

Firewood burns well but not too rapidly [1279] .

FUELS - CHARCOAL

Wood:

The wood produces good-quality charcoal [1674] [5097] .

Potential for charcoal production; pilot scheme in Botswana [1576] .

SOCIAL USES - ANTIFERTILITY AGENTS

Roots, contraceptives:

A root decoction is used by the Jul'hoansi women as a contraceptive [5088] .

SOCIAL USES - 'RELIGIOUS' USES

Magic:

In Liberia, members of a "secret snake" society carry a medicine horn containing parts of this plant as a charm against snake bites [5092] .

Wood, ritual/religion/magic:

Although the wood is used as firewood, it is believed by the Jul'hoansi Bushmen that if a pregnant women expecting a boy comes near its fire, the unborn child would have enlarged testicles [5101] .

NON-VERTEBRATE POISONS - MOLLUSCA

Leaves, death, disease vector control:

100% effective against *Bulinus globosus* at 100 ppm [644] .

MEDICINES - DIGESTIVE SYSTEM DISORDERS

Humans, intestine, diarrhoea:

Used for diarrhoea in Thailand [5154] .

Inner bark, humans, teeth:

The inner bark is a remedy for toothache [5097] .

Leaves, humans, colic, indigestion, oral ingestion:

The leaf can be chewed for colic and heartburn [5098] .

Leaves, humans, intestine, diarrhoea, oral ingestion:

The fresh leaves are chewed by the Heikum Bushmen in Namibia for diarrhoea [2795] [5098] .

Roots, humans, constipation, oral ingestion:

The Herero in Namibia put the root in milk and drink it for constipation [5086] .

Roots, humans, external applications:

Fluttering fontanelle causes baby to vomit and have diarrhoea. In Botswana the roots are fried with pig fat, applied to top of head to stop fluttering [5154] .

Roots, humans, stomach, oral ingestion:

The Bushmen in Namibia take a root decoction for stomach upset [5098] .

MEDICINES - GENITOURINARY SYSTEM DISORDERS

Humans, urinary tract:

A good remedy for maladies of the urinary tract [5092] [5093] .

Leaves, humans, vagina, ureter, douches:

Central African tribes used a leaf decoction for vaginal douches and conditions of the ureter [5098] .

Roots, humans, aphrodisiac, oral ingestion:

In some areas the root is taken as an aphrodisiac [5092] .

MEDICINES - INFECTIONS/INFESTATIONS

Bark, humans, nematode infections:

A bark decoction is a remedy for elephantiasis [5098] .

Leaves, roots, humans, colds, tuberculosis, inhalers:

In Zimbabwe the leaves and roots are smoked for head-colds and tuberculosis [2795] [5098] .

MEDICINES - INJURIES

Bark, leaves, humans, wounds, external applications:

Extracts of the leaves and bark, and powdered bark, are used to heal wounds [2795] [5098] .

Root bark, humans, wounds, external applications:

Powdered root bark is applied to wounds [5096] .

Roots, humans, nose, snuff:

In Zimbabwe, the powdered root is sniffed for nose bleeds [2795] .

MEDICINES - MUSCULAR-SKELETAL SYSTEM DISORDERS

Leaves, humans, bones, fractures:

Powder from leaves used in the massage of fractures [2391] .

MEDICINES - NERVOUS SYSTEM DISORDERS

Humans, epilepsy:

The plant is used for epilepsy [2795] .

MEDICINES - PAIN

Inner bark, humans, anodyne, teeth:

The inner bark is a remedy for toothache [5097] .

Leaves, humans, anaesthetic, external applications, teas:

The leaves are taken orally as a tea and externally as an application. They act as an anaesthetic and are considered a natural painkiller [5092] .

Leaves, humans, ears, teeth, anodyne:

The leaves are used for toothache and earache [2795] .

Leaves, humans, head, anodyne:

Leaf infusions are used for headaches [5096] .

Leaves, roots, humans, teeth, anodyne, vapour baths:

An excellent cure for toothache. The roots and leaves are boiled and the head put under a blanket with the mouth wide open, thus the steam treats the affected area [5092] .

Roots, humans, abdomen, anodyne:

In Zimbabwe, the root infusions are used for abdominal pain [2795] .

Roots, humans, anodyne:

The roots are used postnatally to relieve pain [5098] .

MEDICINES - POISONINGS

Leaves, humans, snake bites, external applications:

The leaves are chewed and directly applied to snake bites [2795] [5093] .

Leaves, roots, humans, snakebites, scorpion stings, antidote, external applications:

The roots are chewed and placed on the sites of snakebites and scorpion stings. The leaves are believed to produce a local anaesthesia and are used for the same purpose [5082] .

MEDICINES - PREGNANCY/BIRTH/PUERPERIUM DISORDERS

Fruits, goats, lactation stimulant, oral ingestion:

If goats eat the pods they produce a lot of milk [5095] .

Roots, humans, anodyne:

The root is used postnatally to relieve pain [5098] .

MEDICINES - RESPIRATORY SYSTEM DISORDERS

Leaves, roots, humans, chest, nose, inhalers:

By inhaling the smoke of dried leaves and root, chest complaints and blocked nose can be relieved [5092] [5093] .

Roots, humans, coughs, oral ingestion:

Dried or fresh roots are boiled with water and one cup taken three times a day [5154] .

Roots, humans, coughs, pneumonia:

In Zimbabwe, root infusions are used for cough and pneumonia [2795] .

MEDICINES - SENSORY SYSTEM DISORDERS

Fruits, leaves, humans, eyes, washes:

Dried seed-pods soaked in hot water make a soothing eyewash. An extract of the leaves mixed with salt is more effective for this purpose [5092] [5093] .

Leaves, humans, eyes:

The leaves are used for eye afflictions [5098] .

MEDICINES - SKIN/SUBCUTANEOUS CELLULAR TISSUE DISORDERS

Bark, humans, skin, external applications:

The powdered bark is used as an application for all kinds of skin conditions [5097] [5098] .

Leaves, stems, humans, boils, external applications:

The Damara in Namibia cook the small stems and leaves and pound them into a powder to put onto boils [5095] .

ENVIRONMENTAL USES - INDICATORS

Indicator of overgrazing in low rainfall areas [1362] [5092] .

ENVIRONMENTAL USES - SOIL IMPROVERS

Live plant in situ, nitrogen fixers:

The species accumulates nitrogen and organic matter, is thus a good soil improver [5323] .

Live plant in situ:

Improves poor soils [2391] .

ENVIRONMENTAL USES - ORNAMENTALS

Live plant in situ, gardens:

The trees can be planted as scattered single specimens in camps. It can be planted in the garden as a specimen plant showing off the beautiful pink and yellow lantern flowers during early summer and the interesting branching pattern during winter [5097] .

Live plant in situ, potted plants:

A favourite plant to train as a bonsai [5097] .

NUTRITIONAL VALUE

Stems, nutritional analyses (in vitro dry matter digestibility (IVDMP):

30.7% (Feb. 1978), 30.7% (July 1978) [940] .

Leaves (% dry weight):

Crude protein 16.2 (February 1978), 13.0 (February 1979); phosphorus 0.12 (February 1978), 0.09 (February 1979); calcium 0.88 (February 1978), 0.81 (February 1979) [940] .

Stems (% dry weight):

Crude protein 8.2 (February 1978), 8.2 (July 1978); phosphorus 0.09 (February 1978), 0.08 (July 1978); calcium 0.68 (February 1978), 0.86 (July 1978) [940] .

Fruits, nutritional analyses (Nigeria):

Crude protein (11.4), EE (1.2), crude fibre (25.6), NFE (56.4), ash (6.5) [2837] .

Green leaves, nutritional analyses (Upper Volta):

Crude protein (17.0), EE (5.5), crude fibre (23.9), NFE (48.6), ash (6.9), SFA (6.3), calcium (1.4), phosphorous (0.11) [2837] .

Unspecified parts, nutritional analyses (Kenya):

Crude protein (17.00), EE (1.61), crude fibre (27.65), NFE (45.76), ash (7.98), SFA (7.68), calcium (0.87, phosphorous (0.17) [2837] .

Unspecified parts, nutritional analyses (Uganda):

Crude protein (15.33), EE (1.23), crude fibre (28.09), NFE (50.46), ash (4.89), SFA (4.62) [2837] .

Young shoots, nutritional analyses (Upper Volta):

Crude protein (18.6), EE (3.6), crude fibre (11.6), NFE (60.3), ash (6.0), SFA (5.5), calcium (1.1), phosphorous (0.20) [2837] .

The whole plant has a high nutrition value [5092] [5093] .

Leaves (in vitro dry matter digestibility (IVDMD)):

24.3% (February 1978), 28.3% (February 1979) [940] .

Leaves, shoots:

Ash (7.98), crude protein (17.00), ether extract (1.61), crude fibre (27.65), nitrogen free extract (45.76), silica (0.30), silica free ash (7.68), calcium (0.87), phosphorous (0.167), sodium (0.021), potassium (0.83) [388] [1519] .

Fodder, protein:

About 14% crude protein content in fodder [1519] .

TOXICITY/POISONOUS COMPOUNDS

There were reports of severe blood-poisoning caused by stepping onto the thorns of this species [5121] .

CHEMICAL ANALYSES - MISCELLANEOUS

Aerial parts:

Crude protein, Ca, P, OM, DM, crude fibre, ADF, NDF, ADL, fat, in vitro digestibility, metabolizable energy: In Namibia a sample taken, which imitated sheep, was analysed and the following results were obtained. Crude protein 14.68%, P 0.10%, Ca 3.00%, OM 94.24%, DM 95.04%, crude fibre 26.44%, ADF 42.26%, NDF 59.05%, fat 1.50%, in vitro digestibility 35.50%, metabolizable energy 4.60 MJ/kg [5250] .

WEED PROBLEMS CAUSED

An invasive species [1576] .

If not wanted it is difficult to eradicate because of its abundant root suckers [2837] .

Usually regarded as a weed [2837] .

Encroaches rapidly on overgrazed, trampled ground and on old lands where the grass cover has been removed. It is difficult to eradicate as it shoots again from portions of roots [5097] .

Very difficult to control, aggressive, weedy character [2391] .

Southern Africa:

Rapidly encroaches into disturbed areas, particularly where the grass cover has been depleted by overgrazing. Once established in thickets, it is difficult to eradicate by mechanical means because even when the mail stems are removed, many young plants usually regenerate from the rootlets remaining in the ground [1674] .

This species invades disturbed areas, especially where mechanical clearing has taken place [5121] .

CONSTRAINTS - MISCELLANEOUS

Its encroaching nature often results in impenetrable thickets that prevent animals from reaching the valuable fodder [5092] .

Namibia:

An aggressively invasive species, dominating large areas and forming impenetrable thickets [5121] .

Southern Africa:

Rapidly encroaches into disturbed areas, particularly where the grass cover has been depleted by overgrazing. Once established in thickets, it is difficult to eradicate by mechanical means because even when the mail stems are removed, many young plants usually regenerate from the rootlets remaining in the ground [1674] .

Tool handles:

Poles and tool handles have been made from the wood, but its use is limited by the small size of the tree [1279] [5082] [5092] .

The use of *Dichrostachys* as live fence or ornamental plant is limited, because of its root competition. It has an aggressive, weedy character and very difficult to control [2391] .

RAINFALL

Botswana:

250-400 mm [1127] .

Namibia:

From 200 to >600 mm [5121] .

Kalahari:

Erratic, 300-350 mm, November-April [940] .

TEMPERATURE

Botswana:

Wet summer 23-44C, dry winter -7C to 20C [1127] .

Maximum 20C-25C, minimum 0C-10C [940] .

ALTITUDE

South Africa, subsp. nyassana:

Confined to the warm, low-lying regions [5096] .

Southern Africa, subsp. africana:

Var. *africana* 0-1550 m; var. *pubescens* 150-500 m; var. *setulosa* 400-1600 m [5104] .

Southern Africa, subsp. nyassana:

0-1400 m [5104] .
2000 m a.s.l. [2391] .
Botswana:
1000 m a.s.l. [940] .

TOPOGRAPHY/SITES

A pioneer on sites previously occupied by the Masai and their cattle (Greenway) [1362] .
It is said often to colonize abandoned cultivation and to appear in overgrazed places [2837] .

Namibia:

Most often on plains. Along dry river courses in the northwest, northeast and south; hill slopes in the Karstveld, north central plateau and central highlands; dunes in the northeast and southeast [5121] .

SOILS

Botswana:

Normally prefers brackish soil, but abundant on all soil types [5092] .

Botswana:

On deep, orange Kalahari sand [5154] .

Kruger National Park, South Africa:

Occurs on all types of soil but far more abundant on brackish flats and basalt plains of the Lebombo than on well-drained soils [5096] .

Namibia:

On sandy or calcareous substrates, but also stony or rocky substrates, sandy, loam or clay [5121] .

Southern Africa:

Grows on all types of soil [5097] .

Southern Africa:

Fine ground sand (retains moisture and contains essential minerals) in Botswana [2391] .

VEGETATION

A plant of wide distribution, occurring from dry forest belt through most woodland and shrubland types, reaching its limits in the zone of transition between Sahel and the Sahara [2837] .

Botswana, Okavango Delta:

Common in camelthorn woodland [5092] .

Namibia:

An aggressively invasive species, dominating large areas and forming impenetrable thickets [5121] .

Southern Africa:

Forms impenetrable thickets in overgrazing areas [2795] [5096] .

Southern Africa:

Rapidly encroaches into disturbed areas, particularly where the grass cover has been depleted by overgrazing. Once established in thickets, it is difficult to eradicate by mechanical means because even when the main stems are removed, many young plants usually regenerate from the rootlets remaining in the ground. Subsp. africana var. africana occurs in woodland, forest margins, dry thornveld, bushveld, grassland and scrub. Subsp. nyassana occurs most commonly in woodlands [1674] .

Deciduous bushland, scrub, wooded grassland, deciduous woodland, even occurring near forest and in the more open parts of swamp-forest; forming secondary bush in native cultivation areas [1362] .

ENVIRONMENTAL FACTORS - MISCELLANEOUS

Fire:

It withstands veld fire [5092] [5093] .

FLOWERING/FRUITING/SEED SET

Flowering, Kruger National Park, South Africa:

Flowering is greatly influenced by rainfall and can last from November to February [5096] .

Flowering, Namibia:

October or earlier [5088] .

Flowering, Namibia:

October to April, with a peak in December and January. Plants may flower more than once in a flowering season [5121] .

Flowering, South Africa:

October to February [5097] .

Flowering, southern Africa:

October to January [5082] .

Fruiting, Namibia:

May to September [5118] .

Fruiting, Namibia:

Peak production from February to June [5121] .

Fruiting, South Africa:

May to September [5097] .

Fruiting, southern Africa:

May to September [5082] .

Flowering:

February to May (June), prior to or beginning with foliation [2391] .

VEGETATIVE GROWTH

Growth form:

Sometimes suckering and forming thickets [1674] .

Growth rate:

Medium to slow grower, with a growth rate of 600-800 mm per year [5097] .

Roots:

Self generating by root suckers [144] [2391] .

CYTOLOGY

Chromosome number:

Subsp. cinerea $2n = 56$; subsp. nyassana $2n = 50$ [5323] .

For the genus, $x = 14$ (can be 7) (polyploidy) [5150] .

NITROGEN FIXATION/NODULATION

Nodulation recorded in:

Ssp. africana var africana (Zimbabwe 1974, South Africa 1975), var. lugardiae (NE. Br.) Brenan & Brummit (Zimbabwe 1974, South Africa), var. plurijuga Brenan & Brummit (Zimbabwe 1974); ssp. argillicola Brenan & Brummit var. hirtipes Brenan & Brummit (Zimbabwe 1974); ssp. cinerea (South Africa 1967); ssp. nyassana (Taub.) Brenan (South Africa 1975); ssp. platycarpa (Welw. ex Bull) Brenan & Brummit var. platycarpa (South Africa 1974) [144] .

PHYSIOLOGICAL TOLERANCES

Frost:

Often damaged by frost [5121] .

This species is not too sensitive to cold [5096] .

Tolerates ground frost in Kalahari [940] .

ASSOCIATED MAMMALS

It is over-utilized by elephants in Moremi (Botswana) causing stunted growth, thus making it difficult to identify [5092] .

ASSOCIATED INSECTS

Lepidoptera:

Larvae of the satyr charaxes butterfly (*Charaxes ethalion ethalion*) feed on this species [5097] .

Lepidoptera:

The larvae of the topaz blue butterfly (*Azonus jesous jesous*), feed on the flowers and buds [5092] .

SEED WEIGHT

About 39,000 seeds per Kg [2837] .

PROPAGATION FROM SEED

Seeds are hard and would probably germinate more quickly and evenly if scarified by chemical or mechanical means. Research on this species, has, however, generally been more concerned with its eradication than its perpetuation [2837] .

Easily grown from seed and root cuttings. Seed can be soaked in hot water, left overnight and planted directly into the nursery bags the next morning. Seedlings soon develop a long taproot. Transplant the young plants into open ground. Make root cuttings 100 mm long and plant them in pure river sand and keep moist [5097] .

PROPAGATION - VEGETATIVE

Cuttings:

Easily established from root and stem cuttings [2837] .

FIELD TRIALS

India (Rajasthan):

Attempts being made to establish the species to stabilize shifting sand dunes in Rajasthan desert [144] .

PRODUCTION POTENTIAL

Forms which produce no root suckers, and those which have few or no spines, and which grow quickly, could be sought. The species is extremely variable and ten subspecies (3 from outside Africa) and numerous varieties have been described and discussed in some detail. At least some taxa occupy distinct habitats [2837] .

ACKNOWLEDGEMENTS AND DATASHEET PROGRESS

Updated for southern Africa by M.Sinkela; checked by A.Jarvis; SEPASAL Namibia, National Botanical Research Institute, September 2005 .

All data transferred from SEPASAL Paper Files by Ruth Adeka, KENRIK, National Museums of Kenya, February 2003 .

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SEPASAL's development has been funded by The Clothworkers' Foundation and its Internet development is funded by The Charles Wolfson Charitable Trust. Nutritional information on African wild foods is funded by Nestlé Charitable Trust.

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