



# **Appendix and bibliography**

# Plant species in Sudan

Desert zone	Acacia Desert Scrub	Country	Country	country
Acacia flava (Syn. A. ehrenbergiana).	Acacia albida.	Acacia mellifera.	Acacia	Crateva
Capparis decidua.	A. flava.	A. senegal.	campylacantha.	adansonii.
Leptadenia spartium,	A. mellifera.	Albizzia	A. fistula.	Dichrostachis
L. pyrotechnica.	A. radiana.	sericocephala.	A. mellifera.	glumerata (syn
Maeriana crassifolia	A. senegal.	A. aylmeri.	A. nilotica.	D. cinaria).
	A. seyal.	Codaba rotundifolia.	Anogeissus	Lanea humilis.
	A. tortilis.	Commiphora sp.	schimperi (syn. An.	Lonchocarpus
<b>Flood region.</b>	Balanites aegyptiaca.	Hyphaene thebaica.	leocarpus).	loxiflorus.
Hyphaene thebi	Boscia senegalensis.	Sclerocaria bierra.	Balanites	Oxytenanthea
Borassus aethiopum	Capparis decidua.	brownii.	aegyptiaca.	abyssinica.
Acacia sieberana	Commiphora sp.		Boswellia	Stereospermum
Acaia seyal	Grewia tenax.		papyrifera	kunthianum.
Hyparrhenia rufa	Gossypium		<b>Mixed Deciduous</b>	Z. spinachristi.
Cyperus papyrus	anomalum.		<b>Grassless</b>	
Echinochloa stngnina	G. somalense.		<b>Transitional</b>	
e.pyramidalis	Hyphaene thebaica.		<b>Forest</b>	
Phragmites communis	Leptadenia spartium.		Anogeissus	
	Maerua crassifolia.		schimpiri.	
	Salvadora persica.		Mimosops sp.	
	Ziziphus spinachristi.		Ruth sp.	
			Tamarindus indica.	
<b>Mixed Deciduous Fire-swept Forest</b>	<b>Mixed Deciduous Fire-swept Forest</b>	<b>Mixed Deciduous Fire-swept Forest</b>	<b>Closed Lowland Forest,</b>	<b>Mountain or Cloud Forest</b>
Grewia mollis.	Acacia	aethiopicum.	Alsonia congensis.	Acacia
Hymenocarpa acida.	camphylacantha.	Bridelia micrantha.	Canarium	abyssinica.
Irringia smithii.	A. hebecladoides.	Burkea africana.	schweinfurthii.	Acacia mollissima
Isoberlinia doka.	Adenium honghel.	Butryospermum	Ceba pentandra.	(introduced).
I. tomentosa.	Azafia africana.	niloticum.	Chlorophora	Dombeya
Khaya senegalensis.	Albizzia	Chlorophora excelsa.	excelsa.	mukole.
Kigelia aethiopica.	anthelamintica.	Cola cordifolia.	Chrysophyllum sp.	Erythrina
Lanea keristingii.	A. cericocephala.	Cordyla sp.	Cofea robusta.	tomentosa.
Landolphia florida.	A. zygia.	Dalbergia	Entandrophragma	Fagara sp.
Mimosops djurensis.	Amlygono carpus sp.	melanoxylon.	Erythrina sp.	Faurea speciosa.
Mitragyna inermis.	Anogeissus	Daniella oliveri.	Ficus sp.	Hagenia
M. schimperi.	schimpiri.	Detarium	Funtumia elastica.	abyssinica.
M. stipulosa.	Anona senegalensis.	senegalensis.	Khaya	Juniperus procera
Parinari curatellifolia.	Antiaris toxicaria.	Diospyros	grandifoliola.	(introduced).
Parkia oliveri.	Borassus	mespiliformis.	Maesopsis eminii.	Olea
Pilostigma reticulatum.		Entada sudanica.	Mildbraediodendro	chrysophylla.
Prosopis africana.		Erythrophleum	n excelsum.	O. welwischii.
Pseudocedra		guineense.	Mitragyna enermis.	Peteris aquilina.
kotschy.		Gardinia lutea	M. stipulosa.	Podocarpus
Pterocarpus lucens.			Schrebera	milanjanus.
Pycnanthus kombo			macrantha	P. gracilos. <sup>1</sup>
				Protea gaguedi.
				Rubus sp

# Animal species in Sudan

## Note:

While some animals live in more than 1 biome, I represented each in only one of them

All animals highlighted in red are used in that specific exhibit

All birds are roaming free inside the exhibit

All reptiles are represented by stuffed animals scattered throughout the exhibit

	Gazelles	Carnivores	Others	Birds	reptiles
<b>Desert</b>	<ul style="list-style-type: none"> <li>○Sommering's gazelle</li> <li>○Barbary sheep</li> <li>○Grants gazelle</li> <li>○Oryx beisa</li> <li>○Addax</li> <li>○Eastern addax</li> <li>○Dorcas gazelle</li> </ul>	<ul style="list-style-type: none"> <li>○Hyena</li> <li>○Foxes</li> </ul>	<ul style="list-style-type: none"> <li>○Elephants</li> <li>○Zebra</li> <li>○Wild ass</li> <li>○Giraffe</li> </ul>	<ul style="list-style-type: none"> <li>○Houbara bustard</li> <li>○Barbary falcon</li> <li>○Cream- colored courser</li> <li>○Chestnut bellied sandgrouse</li> <li>○Crested lark</li> <li>○Hoopoe lark</li> <li>○Black eared wheatear</li> <li>○Sparrow lark</li> </ul>	<ul style="list-style-type: none"> <li>○Earth snake</li> <li>○Theban sand boa</li> <li>○Flowered snake</li> <li>○Hissing sand snake</li> <li>○Miola snake</li> <li>○Poisonous:</li> <li>○Black necked spitting cobra</li> <li>○Horned viper</li> <li>○Demon night adder</li> </ul>
<b>Semi desert</b>	<ul style="list-style-type: none"> <li>○Sommering's gazelle</li> <li>○Klipspringer</li> <li>○Nabian ibex</li> <li>○Redfronted gazelle</li> <li>○Water buck</li> <li>○Tora Hartebeest</li> <li>○Bush buck</li> <li>○Kudu</li> <li>○Oryx beisa</li> <li>○Eastern addax</li> <li>○Dorcas gazelle</li> <li>○Darfur tiang</li> </ul>	<ul style="list-style-type: none"> <li>○Caracal</li> <li>○Serval</li> <li>○Wild cat</li> <li>○Hyena</li> </ul>	<ul style="list-style-type: none"> <li>○Common wart hog</li> <li>○Elephants</li> <li>○Giraffes</li> <li>○Hippo</li> <li>○Rock dassie</li> </ul>	<ul style="list-style-type: none"> <li>○Crocadiles</li> <li>○Turtles</li> <li>○Secretary birds</li> <li>○Ostrich</li> <li>○Tufted guinea fowl</li> <li>○Black shouldered kite</li> <li>○European roller</li> <li>○Pink headed dove</li> <li>○Nubian wood pecker</li> <li>○Rose ringed parakeet</li> <li>○Yellow white eye</li> <li>○Black bush robin</li> <li>○Red checked cordon blue</li> <li>○Chestnut bellied starling</li> </ul>	<ul style="list-style-type: none"> <li>○African python</li> <li>○Theban sand boa</li> <li>○Smokey house snake</li> <li>○Whip snake</li> <li>○Spotted beaked snake</li> <li>○Miola snake</li> <li>○Brown snake</li> <li>○Blunt nosed cat snake</li> <li>○Blind snake</li> <li>○Eqyptian cobra</li> <li>○Black necked spitting cobra</li> <li>○Carpet viper</li> <li>○Black burrowing viper</li> <li>○Tree snake</li> <li>○Horned viper</li> </ul>
<b>Red sea</b>	<ul style="list-style-type: none"> <li>○Barbary sheep</li> <li>○Klipspringer</li> <li>○Yellow backed dulkar</li> <li>○Dorcas gazelle</li> </ul>	<ul style="list-style-type: none"> <li>○Leopard</li> <li>○Jackal</li> <li>○Red fox</li> <li>○Hyena</li> </ul>	<ul style="list-style-type: none"> <li>○Wart hog</li> <li>○Wild rabbits</li> <li>○عروس البحر</li> </ul>	<ul style="list-style-type: none"> <li>○Ostrich</li> <li>○كوير</li> <li>○Great flamingo</li> <li>○Brown booby</li> <li>○White eyed gull</li> <li>○Osprey</li> <li>○Little tern</li> <li>○Lesser crested tern</li> <li>○Rupple's weaver</li> <li>○Eurasian king fisher</li> <li>○قطا</li> </ul>	<ul style="list-style-type: none"> <li>○Brown house snake</li> <li>○Flowered snake</li> <li>○Whip snake</li> <li>○Hissing sand snake</li> <li>○Variable sand snake</li> <li>○Lined-marked sand snake</li> <li>○Horned viper</li> <li>○Carpet viper</li> </ul>
<b>Mountain</b>	<ul style="list-style-type: none"> <li>○Nabian ibex</li> <li>○Great kudu</li> <li>○Red fronted gazelle</li> <li>○Mountain reedbuck</li> <li>○klipspringer</li> </ul>	<ul style="list-style-type: none"> <li>○Lions</li> <li>○Leopards</li> <li>○Hyena</li> </ul>	<ul style="list-style-type: none"> <li>○Wart hog</li> <li>○Wild ass</li> <li>○Crest porcupine</li> <li>○Green monkey</li> </ul>		<ul style="list-style-type: none"> <li>○Royal pyhon</li> <li>○Wolf snake</li> <li>○Emini's green snake</li> </ul>

# Animal species in Sudan

## Grassland savannah

- |                       |                 |                         |                       |                               |
|-----------------------|-----------------|-------------------------|-----------------------|-------------------------------|
| ○ Buffalo             | ○ Lion          | ○ Zebra                 | ○ Ostrich             | ○ Nile monitor                |
| ○ Eland               | ○ Cheetah       | ○ Giraffe               | ○ Pink backed pelican | ○ Nile crocodile              |
| ○ Greater Kudu        | ○ Spotted hyena | ○ Aardvark              | ○ Grey heron          | ○ African Python              |
| ○ Bush buck           | ○ Jackal        | ○ Giant pangolin        | ○ Black headed        | ○ boa                         |
| ○ Oryx beisa          | ○ African dog   | ○ Crest porcupine       | ○ Cattle egret        | ○ Brown snake                 |
| ○ White eared kob     | ○ Caracal       | ○ Wart hog              | ○ Marabou             | ○ Wolf snake                  |
| ○ Hartebeest          | ○ Leopard       | ○ Rock dassie           | ○ Open billed stork   | ○ Flowered snake              |
| ○ Grants gazelle      | ○ Serval        | ○ Ratel                 | ○ Hadida              | ○ Whip snake                  |
| ○ Mangalla gazelle    | ○ Civet         | ○ Baboon                | ○ Sacred ibis         | ○ East Africa smooth snake    |
| ○ Klipspringer        | ○ Wild cat      | ○ Green monkey          | ○ Mallard             | ○ Spotted beaked snake        |
| ○ Waterbuck           |                 | ○ Red monkey            | ○ Garaney             | ○ Egg eater                   |
| ○ Sudan reedbuck      |                 | ○ Black & white colobus | ○ Egyptian vulture    | ○ Blunt nosed cat snake       |
| ○ Oriibi              |                 | ○ Patas monkey          | ○ Pallid harrier      | ○ Hissing sand snake          |
| ○ Roan antelope       |                 | ○ Vevet monkey          | ○ Harrier hawk        | ○ Variable sand snake         |
| ○ Red fronted gazelle |                 |                         | ○ Black kite          | ○ Earth snake                 |
| ○ Sommerings gazelle  |                 |                         | ○ Fish eagle          | ○ Olive water snake           |
| ○ Bohor reed buck     |                 |                         | ○ Arabian bustard     | ○ <u>Hearld snake</u>         |
| ○ Tiang               |                 |                         | ○ Stone curlew        | ○ Egyptian cobra              |
|                       |                 |                         | ○ Namaqua dove        | ○ Puff ader                   |
|                       |                 |                         | ○ Mourning dove       | ○ <u>Speckled sand snake</u>  |
|                       |                 |                         | ○ Jacana              | ○ Black necked spitting cobra |
|                       |                 |                         | ○ Ringed plover       | ○ Carpet viper                |
|                       |                 |                         | ○ Wood sandpiper      | ○ Tree snake                  |
|                       |                 |                         | ○ Red shank           | ○ Black burrowing viper       |
|                       |                 |                         | ○ Abyssian roller     |                               |
|                       |                 |                         | ○ Green wood hoopoe   |                               |
|                       |                 |                         | ○ Grey hornbell       |                               |
|                       |                 |                         | ○ Laughing dove       |                               |
|                       |                 |                         | ○ Palm swift          |                               |
|                       |                 |                         | ○ Spotted eagle owl   |                               |

## Woodland savannah

- |                        |                   |                    |                              |                                |
|------------------------|-------------------|--------------------|------------------------------|--------------------------------|
| ○ Buffalo              | ○ Lion            | ○ Elephants        | ○ Ostrich                    | ○ African python               |
| ○ Eland                | ○ Cheetah         | ○ Hippo            | ○ Denhams bustard            | ○ Boa                          |
| ○ Bushbuck             | ○ Leopard         | ○ White rhino      | ○ Long crested hawk eagle    | ○ Smokey house snake           |
| ○ Sable antelope       | ○ Serval cat      | ○ Black rhino      | ○ Standard winged nightjar   | ○ Brown snake                  |
| ○ Red flanked dulker   | ○ Golden cat      | ○ Wart hog         | ○ Black woodhoopoe           | ○ Whip snake                   |
| ○ White-eared kob      | ○ Wild cat        | ○ Giant forest hog | ○ Vieillot's barbet          | ○ Spotted bush snake           |
| ○ Sudan reedbuck       | ○ Civet           | ○ Giraffe          | ○ Black throated honey guide | ○ Spotted beaked snake         |
| ○ Waterbuck            | ○ Stripped Hyena  | ○ Crest porcupine  | ○ Blue eared glossy starling | ○ Hearld snake                 |
| ○ Oriibi               | ○ Spotted hyena   | ○ Aardvark         | ○ drongo                     | ○ Miola snake                  |
| ○ Red fronted gazelle  | ○ Jackel pangolin | ○ Cape pangolin    |                              | ○ Eastern sharp nosed snake    |
| ○ Lelwell Hartebeest   | ○ African dog     | ○ Rock dassie      |                              | ○ Hissing sand snake           |
| ○ Dorcas gazelle       | ○ Bat eared fox   | ○ Baboon           |                              | ○ Lined marked sand snake      |
| ○ Great kudu           |                   | ○ Green monkey     |                              | ○ <u>Striped sand snake</u>    |
| ○ Roan antelope        |                   | ○ Red monkey       |                              | ○ <u>Egyptian cobra</u>        |
| ○ Yellow backed dulker |                   |                    |                              | ○ <u>Demon night adder</u>     |
| ○ Salt dik dik         |                   |                    |                              | ○ <u>Green night adder</u>     |
| ○ Tiang                |                   |                    |                              | ○ <u>Carpet viper</u>          |
|                        |                   |                    |                              | ○ <u>Black burrowing viper</u> |

# Animal species in Sudan

## Flood region

- |                     |                |                      |                        |                              |
|---------------------|----------------|----------------------|------------------------|------------------------------|
| ○Buffalo            | ○Lion          | ○Elephants           | ○Long tailed cormorant | ○Earth snake                 |
| ○Eland              | ○Leopard       | ○Zebra               | ○White pelican         | ○Oliver water snake          |
| ○Sitatunga          | ○Serval        | ○Hippo               | ○Shoebill              | ○Brown house snake           |
| ○Bushbuck           | ○Civet cat     | ○Giant forest hog    | ○Maraou stork          | ○Green snake                 |
| ○Water buck         | ○Spotted hyena | ○Giraffe             | ○Pochard               | ○Spotted bush snake          |
| ○Mountain reedbuck  | ○jackal        | ○Black & White rhino | ○Shoveler              | ○Grays snake                 |
| ○White eared kob    |                | ○Crest porcupine     | ○Fish eagle            | ○Egg eater                   |
| ○Nile lechwe        |                | ○Bush pig            | ○Glossy ibis           | ○Hissing sand snake          |
| ○Hartebeest         |                | ○Tree dassie         | ○Whiskered tern        | ○ <u>Stripped sand snake</u> |
| ○Mongalla gazelle   |                | ○Baboon              | ○Crowned crane         | ○Egyptian cobra              |
| ○Long nosed dik dik |                | ○Green monkey        | ○Black winged stilt    | ○Black and white cobra       |
| ○Lesser kudu        |                | Red monkey           | ○Ruff                  | ○Green night adder           |
|                     |                |                      | ○Jacana                |                              |
|                     |                |                      | ○Snipe                 |                              |
|                     |                |                      | ○Reed warbler          |                              |
|                     |                |                      | ○Pied king fisher      |                              |

## Rainforest

- |                      |                |                        |                             |                       |
|----------------------|----------------|------------------------|-----------------------------|-----------------------|
| ○Buffalo             | ○Lion          | ○Elephants             | ○Great blue turaco          | ○Worm snake           |
| ○Bongo               | ○Leopard       | ○Wart hog              | ○Banded snake eagle         | ○Wolf snake           |
| ○Bushbuck            | ○Spotted hyena | ○Giant forest hog      | ○Casgued hormbill           | ○Emini's green snake  |
| ○Yellow backd dulker |                | ○Aardvark              | ○Green pigeon               | ○Spotted beaked snake |
| ○Blue dulker         |                | ○Baboon                | ○Yellow whiskered greenbull | ○ <u>Blind snake</u>  |
| ○Red flaked dulker   |                | ○Green monkey          | ○Paradise fly catcher       | ○ <u>Green mamba</u>  |
| ○Water buck          |                | ○Red monkey            | ○Green backd twin spot      | ○ <u>Black mamba</u>  |
| ○Tora heartbeest     |                | ○Black & white colobus | ○Snowy headed robin         |                       |
|                      |                | ○Red tail monkey       |                             |                       |

# Special requirements

- 1) Digging possibilities.
- 2) Climbing possibilities, according to the species: branches or climbing rocks. The size of the branches should correspond to the grasping organs of the animals.
- 3) Sleeping boxes should correspond to the requirements of the species & be placed on the ground or raised. In the case of group enclosure of species that are temporarily quarrelsome, each animal must have its own box.
- 4) Keeping either individually or in pairs, according to the species; enclosures that can be subdivided. Additional enclosures are necessary for additional animals.
- 5) larger animals that spend time on the ground (doriani, inustus, lumholtzi), need outdoor enclosures.
- 6) Screens, possibilities to withdraw and hide
- 7) Inner rooms / stables subdivided by separating walls.
- 8) For animals that sustain winters will, shelter sufficient (lama, alpaca: 2 m per animal); for other, warmth-loving species: indoor enclosure or stable. For camelids, the measurements are to be multiplied by two for individual stables.
- 9) Possibility to hold fast to structures on the ceiling of the enclosure; open sleeping boxes for cave dwellers.
- 10) Several feeding places that the animals can reach by climbing.
- 11) Dividing and separating possibilities.
- 12) For Barbary ape, Tibetan and Japanese macaques as well as Gelada baboon, no indoor enclosure is necessary (an isolated hut offering protection is sufficient).
- 13) Sleeping boxes that can be subdivided (for groups and individual animals).
- 14) Occupation of the animals by objects, according to species, e.g. swinging ropes, straw, plastic containers,
- 15) Some species need elevated lying places (e.g. tamandua, cats) or lookouts (otters, mongooses)
- 16) Digging and breaking up possibilities.
- 17) Indoor or outdoor enclosure. If an outdoor enclosure is planned for species that are sensitive to cold, then an additional heated indoor enclosure is necessary.
- 18) Bathing possibility. If pools with stipulated minimum measurements are required, re. table 23.
- 19) Fresh wood to be provided on a regular basis for dental hygiene and occupation of the animals.
- 20) Outdoor enclosure with thermal radiator.
- 21) Individual boxes for each animal; ground surface: small predators: 0.5 - 1 m glutton, lynxes, serval, medium-sized cats, cougars, clouded leopard: 1.5 m large cats, cheetah: 2.5 m sun bear, hyenas, aardwolf: 4 m
- 23) Indoor enclosure only for (sub-) species that are sensitive to cold; otherwise, isolated sleeping boxes for every grown animal or indoor enclosure as indicated.
- 24) Bathing or showering opportunities to be used all year round (for elephants and Asian rhinoceroses). For tapirs, hippopotamus and pygmy hippopotamus: indoor and outdoor pools.
- 25) Tree stumps or artificial termites' nests and sand bath or muddy pool for skin care.
- 26) Individual stable. For social species, eye contact between the individual boxes. Provide winter heating.
- 27) According to species, possibility to separate males from females and young.
- 28) Soft ground in outdoor enclosure (lawn, bark shavings).
- 29) Muddy pool. Possibility for pigs to wallow and root.
- 30) Trees for sweeping and branches.
- 31) Surface applies for partially solidified installations. The measurements of enclosures consisting exclusively of natural grounds are to be tripled and it must be possible to divide the enclosures.
- 32) Tree stumps for the occupation of musk oxes.
- 33) An additional veranda or indoor exercise area of 80 m
- 34) Monogamous couple with tolerated offspring

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