

Data base of medicinal plants for Sickle Cell disease
“SickleMedDB”

Prepared by

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Year 2016

Professor In-charge

Dr. S. Sanyal (Dean R & C)

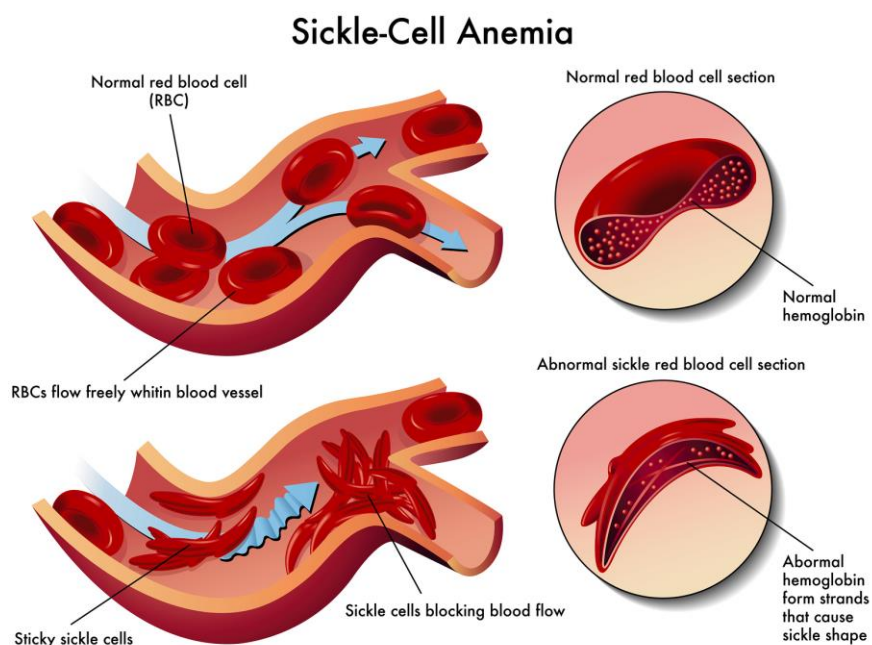
Sub-DIC Bioinformatics Centre
National Institute of Technology Raipur
Raipur (CG)

Preface

Sickle cell disease is incurable in nature and it can be controlled by proper medications. The prevalence of this disease in Chhattisgarh is about 23%, highest in India. In this database various information has been incorporated related to the medicinal plants and their parts used for treatment of sickle cell disease (SCD). This database has been designed for the researchers, scholars, medical personals for utilization of these information's in their researches. The information collected and represented in the data base will be fruitful for patients also.

Introduction

Sickle cell is a disease passed down through families. The red blood cells that are normally shaped like a disc take on a sickle or crescent shape. Red blood cells carry oxygen throughout the body.



According to the findings of an ongoing project at Pt Jawaharlal Nehru Medical College (JNMC), around 10% of the state's (Chhattisgarh) population has prevalence of sickle cell anaemia- a genetic disorder peculiar to this region. The state's population, according to 2011 census stands at 2.56 crore, which means that around 25 lakh are affected from the disorder. Majority of these are carriers.

Sickle cell disease is genetic disease and there is no permanent cure, only medications are available for the control. Our vision behind preparation of this database to provide the proper knowledge about the flora and fauna used for the control of this disease.

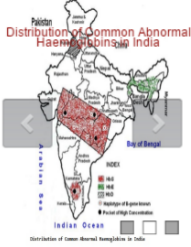
SickleMedDB is database of medicinal plants used for the treatment of Sickle cell disease. The database consists the information of medicinal plant like their common name, scientific name, habitat, plant parts used for treatment, active compounds and image of plants.

SickleMedDB

A Database of Medicinal Plant for Sickle cell Disease

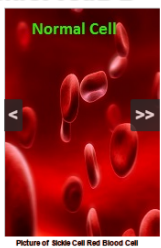
- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

- » Introduction
- » Pathology of SCD
- » Sign and symptoms
- » Diagnosis of SCD
- » Treatment of SCD
- » Prevalence of SCD
- » Reference



Welcome to SickleMedDB

SickleMedDB is a database of medicinal plants used for the treatment of sickle cell disease (SCD). SCD is fatal in nature. In SCD shape of RBC changes from spherical to sickle shape as a result of polymerization of mutant hemoglobin (Hbs) within red cells. Due to this, physiological complication like joint pain, anaemia, infection jaundice etc. arises. Incidence of sickle cell disease is high in different parts of world especially in India and Africa. Thousands of children are dying off due to this health problem throughout the world and there is no permanent cure for this disease. SCD affects large number of population in tribal region of Chhattisgarh and central India. According to a study conducted by Pt. Jawahar Lal Nehru Medical College Raipur Chhattisgarh, 10% of state's population has prevalence of sickle cell disease. a genetic disorder peculiar to this region. In Chhattisgarh, the sickle haemoglobin is common in Central and Southern region of state. There are 12 districts in Chhattisgarh which fall in main sickle cell belt of the state. These districts are: Dantewada, Bastar, Kanker, Korba, Mahasumund, Rajnandgaon, Dhamtari, Kawardha, Bilaspur, Durg, Raipur and Jangir- Champa. To reduce the clinical morbidity of patients; a potential anti-sickling agent from natural sources or synthetic molecule is required. Medicinal plants are most important source for life saving drugs for majority of world's population. Chhattisgarh is rich in floral diversity and major tribal population is dependent on traditional medicine from plant sources. Database consists of useful information of 80 medicinal plants which would be helpful for researcher to develop new drug for management



- Center Working on SCD
- Chh
 - Guj
 - Tamil
 - West
 - West
 - Calif
 - Hawaii

Note: SickleMedDB does not provide medical advice, diagnosis or treatment. The contents of the SickleMedDB are for informational and scientific research purposes only and it is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your physician.

SickleMedDB

A Database of Medicinal Plant for Sickle cell Disease

- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

Scientific Name	Family
Chenopodium ambrosioides L.	Chenopodiaceae
Cissus populnea Guill. & Perr	Vitaceae
Citrus sinensis L.	Rutaceae
Coleus kilimandschari Gurke ex Engl.	Lamiaceae
Cymbopogon citratus (DC ex Nees) Stapf.	Poaceae
Cymbopogon densiflorus Stapf.	Poaceae
Cyperus esculentus L.	Cyperaceae
Dacryodes edulis G. Don	Burseraceae
Detarium microcarpum	Fabaceae
Enanthia Chlorantha Olive	Annonaceae

... 8 9 10 11 12 13 14 15 16 17

[Back](#)

Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Chenopodium%20ambrosioides%20L.

SickleMedDB

A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Chenopodium ambrosioides L.
Epazote, erva-de-santa maria, wormseed, apasote, chenopode, feuilles a vers, herbe a vers, meksika cayi, paico, pazote, semen contra, semin contra, simon contegras, mexican tea, american wormseed, jesuit's tea, payco, paiku, paico, amush, camatal, cashua, amasamas, anserina, mastruco, mastruz, sie-sie, jerusalem tea, spanish tea, ambrosie du mexique, wurmsamen, hierba hormiguera

Common Name :

Family: Chenopodiaceae

Parts Used : Leaf


Mode of Action: Antisickling

Habitat: Mainly found on dry wasteland and cultivated ground

Active Constituent : [Ascaridole p-cymene](#)

References: [Sahu et al. \(2012\)](#), [Mpiana et al. \(2007\)](#), [Adesanya et al. \(1988\)](#), [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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Back

Search the web and Windows

12:15 PM 11/8/2016

Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Citrus%20sinensis%20L.

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A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Citrus sinensis L.

Common Name : Not Found

Family: Rutaceae

Parts Used : Fruit


Mode of Action: Antisickling

Habitat:

Active Constituent : [Vitamin C carotenoids.](#)

References: [Moody et al. \(2003a\)](#), [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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Back

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12:16 PM 11/8/2016

SickleMedDB A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Coleus kilimandschari Gurke ex Engl.
Borforsin, Coleus, Coleus barbatus, Coleus
Common Name : Forskohlii, Colforsin, Colforsine, Forskohlii, Forskollina, Forskolline, Country borage, Indian borage
Family: Lamiaceae
Parts Used : Leaf
Mode of Action: Antisickling
Habitat: Commonly cultivated in gardens
Active Constituent : [coleon U](#)
References: [Sahu et al. \(2012\)](#), [Mpiana et al. \(2007\)](#) [Adesanya et al. \(1988\)](#)
[Kunle Olujemisi and Egharevba Henry \(2013\)](#)



SickleMedDB A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Cymbopogon citratus (DC ex Nees) Stapf.
Brazil: Capim-cidrao, Capim-santo Egypt: Lemon grass English: Lemongrass, Citronella, Squinant Ethiopia: Tej-sar Hindi: Sera, Verveine Indonesian: Sereh Italian: Cimbopogone Malaysia: Sakumau Mexico: Zacate limon Swedish: Citrongrass Thailand: Ta-khrai Turkish: Limon out USA: Citronella
Family: Poaceae
Parts Used : Leaf
Mode of Action: Reversal of sickled erythrocytes
Habitat: Tropical grassland.
Active Constituent : [Essential oil \(citral and terpenes\)](#)
References: [Sahu et al. \(2012\)](#), [Adesanya et al. \(1988\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)



Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Cymbopogon%20densiflorus%20Stapf.


SickleMedDB

A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Cymbopogon densiflorus Stapf.
Common Name : lemongrass, barbed wire grass, silky heads, citronella grass, cha de Dartigalongue, fever grass, tanglad, hierba Luisa, or gavati chaha.
Family: Poaceae
Parts Used : Leaf
Mode of Action: Reversal of sickled erythrocyte
Habitat: Asian, African, Australian, and tropical island
Active Constituent : [Essential oil](#)
References: [Sahu et al. \(2012\)](#), [Mpiana et al. \(2007\)](#), [Adesanya et al. \(1988\)](#), [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

Plant Image:



[Back](#)

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Search the web and Windows 12:17 PM 11/8/2016

Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Cyperus%20esculentus%20L.


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A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Cyperus esculentus L.
Common Name : Not Found
Family: Cyperaceae
Parts Used : Seed
Mode of Action: Antisickling, Antigellation of sickled cells, improved oxidant status of erythrocytes
Habitat:
Active Constituent : [Arginine serine, lysine](#)
References: [Nwaoguikpe \(2010\)](#), [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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 localhost:49164/SickleMedDB/Medicinal.aspx?ID=Dacryodes%20edulis%20G.%20Don

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A Database of Medicinal Plant for Sickle cell Disease

Home
Medicinal Plant
Plant Picture
Feedback
Contact

Scientific Name: Dacryodes edulis G. Don
Common Name : native pear,bush butter tree,African plum,African pear,African palm
Family: Burseraceae
Parts Used : Fruit and seed
Mode of Action: Antisickling
Habitat: shady, humid tropical forest
Active Constituent : [Not Found](#)

References:
[Sahu et al. \(2012\)](#), [Mpiiana et al. \(2007\)](#), [Adesanya et al. \(1988\)](#), [Kunle Olujemisi and Egharevba Henry \(2018\)](#)

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[Back](#)

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12:18 PM
11/8/2016

Medicinal Plant Database x
 localhost:49164/SickleMedDB/Medicinal.aspx?ID=Detarium%20microcarpum

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A Database of Medicinal Plant for Sickle cell Disease

Home
Medicinal Plant
Plant Picture
Feedback
Contact


Scientific Name: Detarium microcarpum
Common Name : sweet detar, sweet dattock or tallow tree, Petit Detar,
Family: Fabaceae
Parts Used : Bark
Mode of Action: Anti-anemic
 Detarium microcarpum grows on dry soil in wooded savanna and open woodland, and is locally very common. It is most common in regions with an annual rainfall of 600–1000 mm. It is mainly found on shallow, stony and lateritic soils, and on hills.

Habitat:

Active Constituent : [Not Found](#)

References:
[Gbadamosi et al. \(2013\)](#), [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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12:18 PM
11/8/2016

Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Enanthia%20Chlorantha%20Olive

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A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Enanthia Chlorantha Olive
Common Name : Not Found
Family: Annonaceae
Parts Used : Leaf
Mode of Action: Antisickling
Habitat: Not Found
Active Constituent : [Co-enzyme Q10](#)

References: [Kunle Oluvemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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localhost:49164/SickleMedDB/Medicinal.aspx?ID=Bridelia%20ferruginea%20Benth

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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Bridelia ferruginea Benth
Common Name : Not available
Family: Euphorbiaceae
Parts Used : Leaf, stem
Mode of Action: Antisickling
Habitat: Grassy or wooded savannah; grassy plain; laterite in savannah, tropical Africa, Africa, Australia, southern Asia, and various islands of the Indian and Pacific Oceans
Active Constituent : [Triterpenes flavonoids lignans.](#)

References: [Sahu et al. \(2012\)](#) [Mpiana et al. \(2007\)](#) [Kunle Oluvemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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Search the web and Windows 12:19 PM 11/8/2016

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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Cajanus cajan (L) Millsp
Common Name : arhar dal, harada dali, orhor dal, rohor dail, toor dal, togari bele, thuvaram paruppu, tubarikA, thuvara parippu
Family: Fabaceae
Parts Used : Seed
Mode of Action: Sickling reversal, inhibition of sickling, delayed gelation and increase oxygen affinity of HbS, membrane stability
Habitat: eastern part of peninsular India, East Africa and West Africa, Egypt
Active Constituent : [p-hydroxybenzoic acid](#) [cajanin](#) [vitexin](#) [isovitexin](#)
References: [G. I. Ekeke et al \(2007\)](#) [Kunle Olujemisi and Egharevba Henry \(2015\)](#)

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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Entandrophragma utile
Common Name : Not Found
Family: Meliaceae
Parts Used : Bark
Mode of Action: Antisickling
Habitat: Not Found
Active Constituent : [Not Found](#)
References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

Plant Image:

Entandrophragma utile - Meliaceae



[Back](#)

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Search the web and Windows 12:20 PM 11/8/2016

Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Eugenia%20caryophyllata

SickleMedDB


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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Eugenia caryophyllata
Common Name : Cloves, Eugenia aromatica
Family: Myrtaceae
Parts Used : Fruit, Leaf, stalk
Mode of Action: Antisickling
Habitat: tree is endemic in the North Moluccas (Indonesia).
Active Constituent : [Eugenol](#) [eugenyl acetate](#) [β-caryophyllene](#) [galotannic acid](#).

References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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Search the web and Windows 12:20 PM 11/8/2016

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SickleMedDB


A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Garcinia kola Heckel
Common Name : bitter kola, false kola and male kola (English), orogbo (Yoruba-Western Nigeria), cida goro (Hausa-Northern Nigeria), Aku ilu or Ugugolu (Igbo-Eastern Nigeria), Efiari (Efik), and Igoalgo (Idoma-Middle Belt)
Family: Clusiaceae
Parts Used : Seed
Mode of Action: Membrane stability
Habitat: Its natural habitat is subtropical or tropical moist lowland forests.
Active Constituent : [Kolaviron](#) [biflavanone](#) [tannins](#)

References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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Search the web and Windows 12:21 PM 11/8/2016

Medicinal Plant Database x
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SickleMedDB

A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Persia Americana Mill.
Common Name : Not Found
Family: Lauraceae
Parts Used : Fruit juice
Mode of Action: Antisickling
Habitat: Not Found
Active Constituent : [Isothamnetin](#) [luteolin](#) [apigenin](#), [quercetin](#) [rutin](#)
References: [Sahu et al. \(2012\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

Plant Image:



[Back](#)

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Search the web and Windows 12:22 PM 11/8/2016

Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Petiveria%20alliacea%20L.


SickleMedDB

A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Petiveria alliacea L.
Common Name : Not Found
Family: Phytolaccaceae
Parts Used : Leaf, stem, root, whole plant.
Mode of Action: Antisickling
Habitat: Not Found
Active Constituent : [C. sulfoxides](#), [benzaldehyde](#), [benzoic acid](#).
References: [Sahu et al. \(2012\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

Plant Image:



[Back](#)

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Search the web and Windows 12:22 PM 11/8/2016

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- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

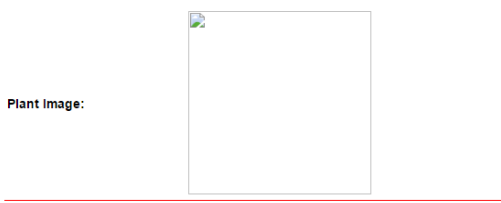
Scientific Name: Pfaffia paniculata Pedersen.
Common Name : Not Found
Family: Amaranthaceae
Parts Used : Root
Mode of Action: Anti-anaemia antisickling,
Habitat: Not Found
Active Constituent : [Zinc, iron, germanium, allantoin, ecdysteroids, pfaffic acid, pfaffic acid glycosides, saponins, stigmasterol, sitosterol.](#)
References: [Mpiana et al. \(2007\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)



SickleMedDB A Database of Medicinal Plant for Sickle cell Disease

- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

Scientific Name: Phyllanthus amarus Schum.
Common Name : Not Found
Family: Euphorbiaceae
Parts Used : Leaf, seed
Mode of Action: Antisickling
Habitat: Not Found
Active Constituent : [Not Found](#)
References: [Mpiana et al. \(2007\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)



Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Plumbago%20zeylanica%20L.

SickleMedDB


A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Plumbago zeylanica L.
Common Name : Agnisikha
Family: Plumbaginaceae
Parts Used : Root, whole plant
Mode of Action: Antisickling
Habitat: Bachel, Basur
Active Constituent : [Plumbagin \(5-hydroxy-2-methyl-1,4-naphthoquinone\)](#)

References: [Adejumo et al. \(2010\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

Plant Image:



[Back](#)

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Search the web and Windows 12:24 PM 11/8/2016

Medicinal Plant Database x
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A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Pterocarpus osun Craib.
Common Name : mukwa or narra
Family: Papilionaceae
Parts Used : Stem
Mode of Action: Antisickling
Habitat: African or Asian origin
Active Constituent : [Tannins, saponins](#)

References: [Wambebe et al. \(2001\)](#), [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

Plant Image:



[Back](#)

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Search the web and Windows 12:24 PM 11/8/2016

Medicinal Plant Database x
 localhost:49164/SickleMedDB/Medicinal.aspx?ID=Pterocarpus%20santolinoides%20DC.


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A Database of Medicinal Plant for Sickle cell Disease

[Home](#) [Medicinal Plant](#) [Plant Picture](#) [Feedback](#) [Contact](#)

Scientific Name: Pterocarpus santolinoides DC.
Common Name : mututi
Family: Fabaceae
Parts Used : Leaf
Mode of Action: Antisickling and increase in gelation time of sickle cell blood
Habitat: Mixed deciduous forest and flooded savannah on lake and lagoon sides, riverbanks usually on sandy and moist soils, at elevations up to 500 metres
Active Constituent : [Steroids](#)
References: [Gbadamosi et al. \(2012\)](#) [Anowi et al. \(2012\)](#) [Okpuzor et al. \(2008\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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Search the web and Windows 12:25 PM 11/8/2016

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[Home](#) [Medicinal Plant](#) [Plant Picture](#) [Feedback](#) [Contact](#)

Scientific Name	Plant Picture
Acacia catechu Willd	
Acacia leucophloea Roxb	
Acacia nilotica (L.) Willd. ex Del	

1 2 3 4 5 6 7 8 9 10 ...

Search the web and Windows 12:10 PM 11/8/2016

SickleMedDB A Database of Medicinal Plant for Sickle cell Disease

- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

Scientific Name: Raphia hookeri Mann and Wendl
Common Name : Not Found
Family: Palmaceae
Parts Used : Stem, Palm sap
Mode of Action: Inhibits polymerization
Habitat: Not Found
Active Constituent : [4- HBA, flavonoids, thiocyanates, phenylalanine, leucine, arginine, valine](#)
References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

Plant Image:



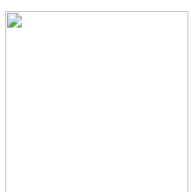
[Back](#)

SickleMedDB A Database of Medicinal Plant for Sickle cell Disease

- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

Scientific Name: Senna podocarpa (Guill. et Perr.)
Common Name : Not Found
Family: Fabaceae
Parts Used : Leaf
Mode of Action: Membrane stability
Habitat: Not Found
Active Constituent : [Not Found](#)
References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

Plant Image:



[Back](#)

SickleMedDB A Database of Medicinal Plant for Sickle cell Disease

- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

Scientific Name: Solenostemon monostachyus P. Beauv
Common Name : Not Found
Family: Lamiaceae
Parts Used : Leaf
Mode of Action: Antisickling
Habitat: Not Found
Active Constituent : [Not Found](#)

References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

Plant Image:



[Back](#)

SickleMedDB A Database of Medicinal Plant for Sickle cell Disease

- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

Scientific Name: Sideroxylon puberulum A. DC
Common Name : Not Found
Family: Sapotaceae
Parts Used : not found
Mode of Action: Sickling reversal
Habitat: Not Found
Active Constituent : [Not Found](#)

References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

Plant Image:



[Back](#)

Medicinal Plant Database x
 localhost:49164/SickleMedDB/Medicinal.aspx?ID=Sorghum%20bicolor%20L.%20Moench

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A Database of Medicinal Plant for Sickle cell Disease

[Home](#) [Medicinal Plant](#) [Plant Picture](#) [Feedback](#) [Contact](#)

Scientific Name: Sorghum bicolor L. Moench
Common Name : durra, jowari, or milo
Family: Poaceae
Parts Used : Leaf, seed
Mode of Action: Antisickling
Habitat: Not Found
Active Constituent : [p-hydroxybenz-aldehyde](#) [phenylalanine](#) [tryptophan](#)

References: [Wambebe et al. \(2001\)](#) [Plus T. Mpiana et al \(2013\)](#)
[Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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12:27 PM
11/8/2016

Medicinal Plant Database x
 localhost:49164/SickleMedDB/Medicinal.aspx?ID=Sphenocentrum%20jollyanun%20Pierre

SickleMedDB

A Database of Medicinal Plant for Sickle cell Disease

[Home](#) [Medicinal Plant](#) [Plant Picture](#) [Feedback](#) [Contact](#)


Scientific Name: Sphenocentrum jollyanun Pierre
 IVORY COAST: ANYI atoanglé (A&AA) atuangré (A&AA)GAGU béagué (K&B) buguilago (K&B) KRUBETE niodrussu (K&B) ussé ébé (auct.) GUERE (Chiehn) didali pwakbé (B&D) niédruqbéi (K&B) obrinukpe (B&D) uédigué (B&D)KWENI sinpa (K&B) GHANA: AKAN-

Common Name :

Family: Menispermaceae
Parts Used : Leaf
Mode of Action: Antisickling
Habitat: Not Found
Active Constituent : [Furanoditerpene](#)

References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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12:28 PM
11/8/2016

Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Stephania%20cepharantha%20Hayata


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Scientific Name: Stephania cepharantha Hayata
Common Name : Not Found
Family: Menispermaceae
Parts Used :
Mode of Action: Sickling reversal, antisickling, delay gelation of HbS
Habitat: Not Found
Active Constituent : [Cepharantine](#)

References: [Kunle Oluvemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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localhost:49164/SickleMedDB/Medicinal.aspx?ID=Tetracera%20alnifolia%20L.


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Scientific Name: Tetracera alnifolia L.
Common Name : Not Found
Family: Dilleniaceae
Parts Used : Bark
Mode of Action: Anti-anemic
Habitat: Not Found
Active Constituent : [Saponin, cardiac glycoside](#)

References: [Gbadamosi et al. \(2012\)](#) [Kunle Oluvemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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Search the web and Windows 12:31 PM 11/8/2016

Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Tetracera%20potatoria%20L.

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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Tetracera potatoria L.
Common Name : Not Found
Family: Dilleniaceae
Parts Used : Leaf
Mode of Action: Not Found
Habitat: Not Found
Active Constituent : [Flavonoids, cardiac glycoside saponins](#)

References: [Gbadamosi et al. \(2012\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Theobroma%20cacao%20L.

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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Theobroma cacao L.
Common Name : Not Found
Family: Malvaceae
Parts Used : Stem bark
Mode of Action: Not Found
Habitat: Not Found
Active Constituent : [anthocyanins](#) [Catechins](#) [proanthocyanidins](#)

References: [Gbadamosi et al. \(2012\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Waltheria%20indica%20L.

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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Waltheria indica L.
Common Name : Not Found
Family: Sterculiaceae
Parts Used : Leaf
Mode of Action: Antianemic
Habitat: Not Found
Active Constituent : [Not Found](#)

References: [Gbadamosi et al. \(2012\) Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Zanthoxylum%20macrophylla

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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Zanthoxylum macrophylla
Common Name : Not Found
Family: Rutaceae
Parts Used : Root
Mode of Action: Antisickling
Habitat: Not Found
Active Constituent : [2-Hydroxybenzoic acid](#) [vanillic acid](#) [Fagaramide](#) [p-fluorobenzoic acid](#)

References: [Flekwa et al. \(2005\) Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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Search the web and Windows 12:33 PM 11/8/2016

Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Zanthoxylum%20zanthoxyloides


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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Zanthoxylum zanthoxyloides
Common Name : Rapeko (Moore), Guene gui deg (Wolof), Wo, Gozo ngua (Bambara), Barkeley, Bulabarkele (Peuhl), Fasahuari (Hausa), Dori (Toucouleur), wouho (Djoula)
Family: Rutaceae
Parts Used : Root, root bark
Mode of Action: Antisickling, reversal of sickling
Habitat: Savannah, thickets, dry and transitional forests
Active Constituent : [p-Hydroxybenzoic acid zanthoxylol divanilloyl quinic acid pellitorine](#)
References: [Elekwa et al. \(2005\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Trema%20orientalis%20L.%20(Willd.)


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A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Trema orientalis L. (Willd.)
Common Name : Not Found
Family: Ulmaceae
Parts Used : Stem bark, root bark
Mode of Action: Anti-anemic
Habitat: Not Found
Active Constituent :
References: [Gbadamosi et al. \(2012\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Vanilla%20planifolia%20(Jacks)%20Andrews

SickleMedDB


A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Vanilla planifolia (Jacks) Andrews
Common Name : Not Found
Family: Orchidaceae
Parts Used : Fruit
Mode of Action: Inhibit gelation of HbS, increase oxygen affinity
Habitat: Not Found
Active Constituent : [O-vanillin](#)

References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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Medicinal Plant Database x
localhost:49164/SickleMedDB/Medicinal.aspx?ID=Vernonia%20amygdalina%20Del

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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Vernonia amygdalina Del
Common Name : Not Found
Family: Asteraceae
Parts Used : Leaf
Mode of Action: Antisickling
Habitat: Not Found
Active Constituent : [Saponins, alkaloids, terpenes, steroids, coumarins, phenolic acids, lignans, xanthones](#)

References: [Gbadamosi et al. \(2012\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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localhost:49164/SickleMedDB/Medicinal.aspx?ID=Vigna%20subterranean%20L%20Verde

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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Vigna subterranean L. Verde
Common Name : Not Found
Family: Fabaceae
Parts Used : Seed
Mode of Action: Sickling inhibition, sickling reversal, and delay polymerization
Habitat: Not Found
Active Constituent : [Not Found](#)

References:
[Simeone et al. \(2012\) Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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localhost:49164/SickleMedDB/Medicinal.aspx?ID=Vigna%20unguiculata%20L%20Walp

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Scientific Name: Vigna unguiculata L. Walp
Common Name : cowpea, caupi, southern pea, tua dam, kunde, niébè, blackeye pea, alacín, pericillo, caritas, cabecita negra, macassar bean, rope bean, frijol (Venezuela), Augenbohne or Kuhbohne (Germany).
Family: Fabaceae
Parts Used : Seed
Mode of Action: Sickling inhibition, sickling reversal, and delay polymerization
Habitat: Wild types grow well in savannah vegetation, in disturbed localities or as a weed at up to 1,500m altitude. It can also be found in sandy areas, coastlines, woodland, forest edges or swampy areas.
Active Constituent : [Not Found](#)

References:
[Simeone et al. \(2012\) Sahu et al. \(2012\) Mplana et al \(2007\) Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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localhost:49164/SickleMedDB/Medicinal.aspx?ID=Vinca%20minor%20L.

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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Vinca minor L.
Common Name : Not Found
Family: Apocynaceae
Parts Used :
Mode of Action: Sicking reversal, antisickling
Habitat: Not Found
Active Constituent : [Vincamine cromesilic acid](#)

References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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localhost:49164/SickleMedDB/Medicinal.aspx?ID=Morinda%20lucida%20Benth

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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Morinda lucida Benth
Common Name : Brimstone tree (En). Arbre à soufre, oruwo (Fr). Moindo (Po).
Family: Rubiaceae
Parts Used : Leaf
Mode of Action: Antisickling
Habitat: Grassland, exposed hillsides, thickets, forests, often on termite mounds, sometimes in areas which are regularly flooded.
Active Constituent : [Alkaloids, anthraquinones and anthraquinol phenolics](#)

References: [Mpiana et al. \(2007\)](#), [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

Scientific Name: Harungana madagascariensis
Common Name : Not Found
Family: Hypericaceae
Parts Used : Bark
Mode of Action: Antisickling
Habitat:
Active Constituent : [Harunganin \[\(3,8,9-trihydroxy-6-methyl-4,4,5-tris\(3-methylbut-2-enyl\)anthracen-1\(4H\)-one\)\]](#)
References: [Gbadamosi et al. \(2012\)](#) [Kunle Oluvemisi and Egharevba Henry \(2013\)](#)



[Back](#)

SickleMedDB A Database of Medicinal Plant for Sickle cell Disease

- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

Scientific Name: Parquetina nigrescens L.
Common Name : Not Found
Family: Asclepiadaceae
Parts Used : Leaf and stem
Mode of Action: Anti-anemic
Habitat: Not Found
Active Constituent : [amino acids](#)
References: [Gbadamosi et al. \(2012\)](#) [Kunle Oluvemisi and Egharevba Henry \(2013\)](#)



[Back](#)

Medicinal Plant Database x

localhost:49164/SickleMedDB/Medicinal.aspx?ID=Pelargonium%20xasperum%20Enrh.%20Ex%20Willd.

SickleMedDB

A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Pelargonium xasperum Enrh. Ex Willd.
Common Name : Not Found
Family: Geraniaceae
Parts Used : Aerial part
Mode of Action: Sickling reversal, inhibit platelet aggregation
Habitat: Not Found
Active Constituent : [Quercetin kaempferol](#)

References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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[Back](#)

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12:38 PM 11/8/2016

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localhost:49164/SickleMedDB/Medicinal.aspx?ID=Hymenocardia%20acida%20Tul


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Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Hymenocardia acida Tul
Common Name : Bemba (kapempe); French (digbe,coeurs-volants); Luganda (nabaluka)
Family: Euphorbiaceae
Parts Used : Leaf
Mode of Action: Sickling reversal
Habitat: Angola, Cameroon, Chad, Congo, Cote d'Ivoire, Gambia, Ghana, Guinea-Bissau, Kenya, Mali, Mozambique, Niger, Nigeria, Senegal, Tanzania, Togo, Uganda, Zambia, Zimbabwe
Active Constituent : [Not Found](#)
References: [Sahu et al. \(2012\)](#), [Mpiana et al. \(2007\)](#), [Adesanya et al. \(1988\)](#), [Kunle Olujemisi and Egharevba Henry \(2021\)](#)

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Medicinal Plant Database x
 localhost:49164/SickleMedDB/Medicinal.aspx?ID=Ipomoea%20involucrate,%20P.Beauv

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A Database of Medicinal Plant for Sickle cell Disease

[Home](#) [Medicinal Plant](#) [Plant Picture](#) [Feedback](#) [Contact](#)

Scientific Name: Ipomoea involucrate, P. Beauv
Common Name : Not Found
Family: Convolvulaceae
Parts Used : Leaf
Mode of Action: Antisickling
Habitat: Not Found
Active Constituent : [Not Found](#)

References: [Sahu et al. \(2012\)](#), [Mpiana et al. \(2007\)](#), [Adesanya et al. \(1988\)](#), [Kunle Olujemisi and Egharevba Henry \(2022\)](#)

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[Back](#)

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Medicinal Plant Database x
 localhost:49164/SickleMedDB/Medicinal.aspx?ID=Justicia%20secunda%20Vahl

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[Home](#) [Medicinal Plant](#) [Plant Picture](#) [Feedback](#) [Contact](#)

Scientific Name: Justicia secunda Vahl
Common Name : Not Found
Family: Acanthaceae
Parts Used : Leaf and Whole plant
Mode of Action: Anti-sickling, Stability of red blood cell membrane and inhibition of polymerization of haemoglobin S.
Habitat: Not Found
Active Constituent : [Anthocyanins](#)

References: [Mpiana et al. \(2010\)](#), [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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Scientific Name: Khaya senegalensis
Common Name : African mahogany, dry zone mahogany, Gambia mahogany, khaya wood, Senegal mahogany, calcedrat, acajou, djalla, and bois rouge.
Family: Meliaceae
Parts Used : Stem bark, root
Mode of Action: antiskickling activity
Habitat: Savannas to humid forests. Heliophyte, may grow in isolation
Active Constituent : [Senegalensins A B & C](#)
References: [Sahu et al. \(2012\)](#), [Mpiana et al \(2007\)](#) [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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Scientific Name: Lawsonia inermis L.
Common Name : Henna, In India viz., Mehndi in Hindi, Mendika, Rakigarbha in Sanskrit, Mailanchi in Malayalam, Muruthani in Tamil, Benjati in Oriya, Mayilanchi in Kannada and Mehedi in Bengali.
Family: Lythraceae
Parts Used : Leaf
Mode of Action: Antiskickling, Increase the oxygen affinity of HbSS blood
Habitat: Not Found
Active Constituent : [2-hydroxy-1,4-naphthoquinone](#), [isoplumbagin](#)
References: [Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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localhost:49164/SickleMedDB/Medicinal.aspx?ID=Mangifera%20indica%20Linn.


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A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

Scientific Name: Mangifera indica Linn.
Common Name : Not Found
Family: Anacardiaceae
Parts Used : Bark
Mode of Action: Anti-anemic
Habitat: Not Found
Active Constituent : [Limonoid](#)

References: [Gbadamosi et al. \(2012\) Kunle Olujemisi and Egharevba Henry \(2013\)](#)

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Name
Organization/Institute
Stream
Email Id
Contact No
Query

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- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

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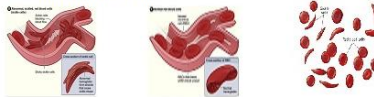
SickleMedDB A Database of Medicinal Plant for Sickle cell Disease

- Home
- Medicinal Plant
- Plant Picture
- Feedback
- Contact

- » Introduction
- » Pathology of SCD
- » Sign and symptoms
- » Diagnosis of SCD
- » Treatment of SCD
- » Reference

INTRODUCTION GENETIC OF SICKLE CELL DISEASE

Sickle cell disease (SCD) is inherited blood disorder characterized by crescent moon shaped red blood cell (RBC). This abnormal RBC don't easily move through the blood. They are stiff, sticky and tend to form clump and block the blood vessels. This leads to serious infection pain and organ damage. This symptom not just occurs once or twice but several time in a year.



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Home Medicinal Plant Plant Picture Feedback Contact

- » Introduction
- » Pathology of SCD
- » Sign and symptoms
- » Diagnosis of SCD
- » Treatment of SCD
- » Prevalence of SCD
- » Reference

PATHOLOGY OF SCD

- Haemoglobin of red blood cells plays important role in transportation of oxygen in blood.
- SCD is caused by mutation in beta globin chain of haemoglobin, which results in replacement of hydrophobic amino acid glutamic acid to hydrophilic amino acid valine at sixth position of beta globin chain. This leads to formation of abnormal haemoglobin (HbSS).
- This genetic alteration changes the shape and physical properties of red blood cell.
- Sickle-red blood cells don't move easily through blood. They're stiff and sticky and tend to form clumps and get stuck in blood vessels. This leads to various complication.



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- » Introduction
- » Pathology of SCD
- » Sign and symptoms
- » Diagnosis of SCD
- » Treatment of SCD
- » Prevalence of SCD
- » Reference

SIGNS AND SYMPTOMS

Most individuals will begin to develop symptoms in early childhood, such as:

- Anaemia
- Frequent infections
- Pain episodes
- Hand-Foot Syndrome
- Joint Complications
- Priapism
- Jaundice
- Gallstones
- Delayed growth and puberty in children
- Pulmonary Arterial Hypertension
- Splenic Crisis

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Home Medicinal Plant Plant Picture Feedback Contact

- » Introduction
- » Pathology of SCD
- » [Sign and symptoms](#)
- » **Diagnosis of SCD**
- » Treatment of SCD
- » Prevalence of SCD
- » Reference

DIAGNOSIS

- Prenatal testing
- Infant screening
- Adult screening

Medicinal Plant Database x
localhost:49164/SickleMedDB/Treatment.aspx

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Home Medicinal Plant Plant Picture Feedback Contact

- » Introduction
- » Pathology of SCD
- » Sign and symptoms
- » Diagnosis of SCD
- » Treatment of SCD
- » Prevalence of SCD
- » Reference

TREATMENT OF SCD

Treatment of sickle cell crisis includes:

- Pain medicine to relieve pain
- Antibiotics for infection
- Heating pads
- Hydroxy Urea, Folic acid
- Blood Transfusion for severe anemia, to prevent strokes, and before surgery.
- New Treatments and Medicines:
 - Bone marrow transplants
 - Gene therapy
- **New medicine:**
 - **Butyric acid.** This is a food additive that may increase normal hemoglobin in the blood.
 - **Clotrimazole.** This is used now to treat fungus infections. This medicine helps prevent the loss of water from a red blood cell and can keep the cell from turning into a sickle cell.
 - **Nitric oxide.** This may make sickle cells less sticky and keep blood vessels open. People with sickle cell anemia have low levels of nitric acid in their blood.

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Home Medicinal Plant Plant Picture Feedback Contact

- » Introduction
- » Pathology of SCD
- » Sign and symptoms
- » Diagnosis of SCD
- » Treatment of SCD
- » Prevalence of SCD
- » Reference

PREVALENCE OF SCD IN CHHATTISGARH SCD IN DIFFERENT CASTES OF CHHATTISGARH

- India has the largest concentration of tribal populations globally. The sickle gene is widespread among many tribal population groups in India with prevalence of heterozygotes varying from 1-40 per cent.
- According to the Census of India 2011, the tribal population of India is 8.6 per cent of the total population which is about 67.8 million people.
- Chhattisgarh is a new state, formed in November 2000 from the south-eastern part of Madhya Pradesh, with a population of approximately 21 million of whom 32% are tribal in origin.
- Sickle haemoglobin is common in central and Southern parts of Chhattisgarh. Raigarh, Jashpur, Surguja, and Koriya are non-sickle haemoglobin district where Oraon, Kanwar, Hill Korba, Korba and Bhiror are main tribes.
- Halba, Muria and Hill Maria tribes of Chhattisgarh shows high prevalence rates of sickle haemoglobin. Prevalence of sickle haemoglobin in Gond, Bhumia and Baiga group of tribes in Chhattisgarh generally varies from 15-25 percent.
- According to one study, Scheduled Castes and some of the OBC groups like Sahu, Chandrakar, Kurmi and Yadav of Southern and Central Western Chhattisgarh also have sickle haemoglobin which is almost in the same proportion as that of tribals of this area.

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Home Medicinal Plant Plant Picture Feedback Contact

- » Introduction
- » Pathology of SCD
- » Sign and symptoms
- » Diagnosis of SCD
- » Treatment of SCD
- » Prevalence of SCD
- » Reference

PREVALENCE OF SCD IN CHHATTISGARH SCD IN DIFFERENT CASTES OF CHHATTISGARH

Distribution of Sickle Cell Disease in different castes

Caste	SCA	SCT
Sahu	57(29.2%)	36 (26.7%)
Kurmi	39(20%)	21(%)
Panka	33(16.9%)	24 (17.8%)
Mahar	21 (10.8%)	15 (11.1%)
Satnami	12(6.1%)	15 (11.1%)
Gond	03(1.5%)	06(4.4%)
Kumar	06(3.0%)	0(0.0%)
Kolta	03(1.5%)	03(2.2%)
Brahmin	03(1.5%)	03(2.2%)
Kolta	03(1.5%)	03(2.2%)
Sindhi	0(0.0%)	0.3(2.2%)
Oriya	03(1.5%)	06(4.4%)
Muslim	03(3.0%)	0(0.0%)
Cristian	03(1.5%)	0(0.0%)

SCA: sickle cell anemia, SCT: sickle cell Trait

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SickleMedDB A Database of Medicinal Plant for Sickle cell Disease

Home Medicinal Plant Plant Picture Feedback Contact

- » Introduction
- » Pathology of SCD
- » Sign and symptoms
- » Diagnosis of SCD
- » Treatment of SCD
- » Prevalence of SCD
- » Reference

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