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REVIEW ARTICLE

MONOGRAPHIC STUDY OF PLANT SPECIES MOST USED FOR TREATMENT OF COMMON DISEASES OF SOMBA CATTLE IN BENIN

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ABSTRACT
To face the common ailments of Somba cattle in it natural area, some breeders use endogenous methods based herbal. The present study is a monography of the most used plants in order to appropriate all the literature that exists on these plants before eventually begin experimental studies for scientific validation of their therapeutic effects. For each plant species, the study examined the following data: the botanical description, geographical and ecological distribution, chemical composition, pharmacological uses, and other uses. It basically shows that the study of medicinal uses mentioned by the Somba cattle plants are widely reported by many other authors in various African, Asian and Latin American countries, but much more in human medicine than in veterinary medicine. The predominance of compounds pharmacological properties reported in the chemical compositions by different studies also confirmed the therapeutic capabilities of these plants. By cons, very few of the pharmacological and therapeutic properties have been described scientifically proven.

Keywords: monography-plants-diseases-somba cattle

INTRODUCTION

The Somba cattle breed is a pure breed (Adanléhoussi et al., 2003) whose range is very small. This breed only found in the region between the north-west of Benin and the north-eastern Togo (Dossa, 2000). The Somba cattle breed is now endangered due to a drastic and continuous decrease of it herds (Dossa, 2000; PAMRAD, 2006; Sokouri et al., 2010).

These authors whose have worked on this race index absorption by the zebu as the basis for the regression. But in a recent study on zootechnical parameters of Somba cattle, China Chabi et al. (2013) reveal a very high mortality of 16% on average in herds with a large contribution of calves and calfs at this rate, and that this mortality is following to the absence of health monitoring cattle. What would be the basis of the regression. The influence of zebu is currently marginal because 96.22% of cattle at the farm level respondents are Somba breed (PAMRAD 2006; Chabi China et al, 2013).

The high cost of veterinary care and lack of veterinary agents are the main reasons given by farmers to justify the bad health management of their livestock. However, many of them expressed an awareness and use of alternative methods including endogenous practices of bovine diseases treatment based on plants.

In order to enhance these endogenous methods to contribute to significant reduction of mortality we have undertaken in a previous study to identify all these methods and medicinal recipes through an ethnobotanical survey (Chabi China et al., 2014). At the end of this study, we identified 11 plant species from all plants listed as the most widely used for the treatment of common ailments of Somba cattle.

These 11 plant species will be tested experimentally in future studies to scientifically verify their effectiveness in the indicated conditions. This is a prelude to the future work that we decided to make the monographic study of each of these plants to know them better and find out what has already been achieved as work on these plants including animal health.

Botanical description and distribution	Phytochemistry	Pharmacological uses	Other uses
1. Adansonia digitata			
The baobab is a massive deciduous tree easily distinguishable by its huge trunk. It is regarded as the largest succulentplant in the world with a diameter of 10–12 m and a height of 23 m or more (Wickens, 1982; Chadare et al., 2009). The baobab is found in many African countries. Eight baobab species have been identified globally and six species found on the island of Madagascar are endemic to that region (Wickens and Lowe, 2008). It is postulated that the centre of evolutionary origin of the genus Adansonia is Madagascar (Drake, 2006). The African species A. digitata is indigenous to, and widely distributed throughout the savannas and savanna woodlands of sub-Saharan Africa (Wickens and Lowe, 2008). Baobab is restricted to hot, semi-arid regions, dry woodland and stony places with low rainfall (less than 1500 mm annually) (Gebauer et al., 2002) and grows on a wide range of well-drained soils, from clays to sands, but not on deep unconsolidated sands, where it is unable to obtain sufficient moisture or anchorage (Wickens and Lowe, 2008). In Africa, the plant grows at a latitude of 16° N and 26° S in areas not receiving more than one day of	Several classes of compounds have been identified from various parts of baobab (fruit pulp, seed oil, leaves, roots) including terpenoids, flavonoids, sterols, vitamins, amino acids, carbohydrates and lipids (Chauhan et al., 1987; Shukla et al., 2001). Ten aromatic compounds including isopropyl myristate and nonanal were identified in the fruit pulp using GC–MS (Cisse et al., 2009). Several compounds have been isolated from the pericarp using column chromatography and include: (–)-epicatechin, epicatechin-(4β→8)-epicatechin (B2), epicatechin-(4β→6)-epicatechin (B5), epicatechin- (2β→O→7, 4β→8)-epicatechin (A2), and epicatechin-(4β→8)- epicatechin-(4β→8)-epicatechin (C1) (Shahat, 2006). Other compounds such as 3,7-dihydroxy-flavan-4-one-5- O-β-D-galactopyranosyl (1→4)-β-D-glucapyroside and a flavonone 3,3′,4′-trihydroxy flavan-4-one-7-O-α-L-rhamnopyranoside and quercetin-7-O-β-D-xylopyranoside were isolated from the roots (Chauhan et al., 1987; Shukla et al., 2001). Compounds such as campesterol, cholesterol, isofucosterol, β-sitosterol, stigmasterol and tocopherol (α, β, γ, and δ) have been detected in the seed oil. Bianchini et al. (1982) investigated the lipid composition of the seed oil using GC–MS. Several amino acids such as alanine,	- Leaves, bark and seeds are used in the treatement of malaria, tuberculosis, fever, microbial infections, diarrhoea, anaemia, dysentery, toothache, etc. (Van Wyk and Gericke, 2000; Brendler et al., 2003; Tapsoba and Deschamps, 2006; Wickens and Lowe, 2008; De Caluwé et al., 2009; Nguta et al., 2010). - The fruit pulp is used in the treatment of diarrhoea and dysentery, painful swellings, internal pains, urinary deases, otitis, as a tonic and for insect bites and Guineaworms (young leaves) (Sidibe and Williams, 2002). - The leaves are used as insect repellent (Denloye et al.,2006). - Substitute for quinine to relievefever (bark) (Shukla et al., 2001). - Against diarrhoea and hiccough (oil extrated from the seeds) (De Caluwé et al.,2009).	- For rope-making (bark) (De Caluwé et al., 2009). - To store water (trunk) (Royal Botanic Gardens, Kew, 1999). - For several purposes including: fruit for food; oil from the seeds; rope, cordage and cloth from the bark fibre; tannin for curing leather from the tree bark; glue from the pollen grain of the flowers; pulp for making paper from the harvested tree (although of low quality), seasoning and as an appetiser (Wickens, 1982; Sidibe and Williams, 2002; Nhukarume et al., 2008). - For the production of vegetable oil (Bianchini et al., 1982). - For cooked and ingredient in sauces, porridges and beverages (leaves, fruit pulp and seeds) (Chadare et al., 2009; De Caluwé et al., 2009; Yusha'u et al., 2010). - To treat skin ailments, thus it may have some cosmetic applications (oil extrated from seeds) (Sidibe and Williams, 2002). - Ingredients in cosmetic products and amongst these is baobab seed oil. It is suitable for use on the skin as it is non-irritating and non-allergenic (fixed oil) (Wren and Stucki, 2003). Other properties of pharmaceutical/cosmetic importance include that it is excellent for restoring and remoisturising the skin due to its high penetrability and nourishing properties. It can also be used to treat eczema and psoriasis (PhytoTrade Africa). - As a protecting, nourishing, moisturising, soothing and regenerating agent (oil of seeds)

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frost per year. The tree grows very slowly probably due to low amount of rainfall received (Venter and Venter, 1996).	arginine, glycine, lysine, methionine, proline, serine, valine (from fruit pulp) (Glew et al., 1997), vitamins (B1, B2, B3, A, C) (from fruit pulp and/or leaves) (Sidibe et al., 2002; UNCTAD, 2005) and minerals (Cu, Fe, K, Mg, Mn, Na, P, Zn) (from fruit pulp) (Glew et al., 1997) have also been identified.		(Nkafamiya et al., 2007).
2. Afzelia africana			
Afzelia african is an evergreen, small to fairly large tree up to 40 m tall. Bole branchless for up to 20 m, usually straight and cylindrical, up to 150(–200) cm in diameter, often with unequal, thick buttresses up to 1.5 m high. The bark surface greyish to reddish brown, scaly with roundish scales, inner bark pale brown to pinkish brown, with yellowish brown exudate, very aromatic (Oteng-Amoako, 2006 ; Hawthorne and Jongkind, 2006). *Afzelia africana* is characteristic for the transition zone between wooded savanna and dense dry forest, and for dense semi-deciduous forest in more humid regions. *Afzelia africana* shows a wide adaptation to climatological conditions, but is most common in areas with an annual rainfall of more than 900 mm. In drier regions it is limited to localities with deep, well-drained but moist soils and to termite mounds. It occurs up to 1400 m altitude. *Afzelia africana* is found on a wide variety of soil types, often on	- The seeds have high carbohydrate, crude oil and protein contents and are therefore rich sources of energy, dietary lipid and protein (Ejikeme et al., 2010) The seeds contain about 27% protein, 33% carbohydrate and 32% lipid. They contain 18–37% of oil. Linoleic acid is the predominant fatty acid. Toxicological studies of the oil showed no detectable toxins. The presence of a cyanogenic compound may explain the reputed toxicity of the seed (Bationo et al., 2001 ; Kock et al., 2006; Sakande, 2007). - The seeds oil was found to contain no less than 0.60 mg/100 g of oxalate, 0.70 mg/kg of phytate and neither tannins or cyanogenic glycosides (Ejikeme et al., 2010). - The leaves was found to contain high level of crude protein, nitrogen, gross energy, calcium, phosphorus, potatium, and sodium (Ikhimioya and Imasuen, 2007).	- Root decoctions or macerations are used to treat stomach complaints, convulsions, trypanosomiasis and hernia, and as antidote. Root powder is applied externally to treat rheumatism (Burkill, 1995 ; Neuwinger, 2000 ; Oteng-Amoako, 2006). - Bark decoctions and macerations are administered in the treatment of constipation, fever, vomiting, oedema, tachycardia, hypertension, bronchitis, lung complaints and bleedings during pregnancy, and as anodyne, diuretic, galactagogue and aphrodisiac. Bark ash is applied externally to treat lumbago and bark powder to wounds and swellings. The stem bark is used against trypanosomiasis, and bacteria (Neuwinger, 2000 ; Atawodi et al., 2002 ; Magassouba et al., 2007). - Leaves decoctions and macerations are taken or applied externally against dysmenorrhoea, epilepsy, oedema, migraine, stomach-ache, asthenia, trypanosomiasis and as anodyne (Burkill, 1995 ; Neuwinger, 2000 ; Magassouba et al., 2007). - Fruit preparations are taken to treat	- The wood is also valued for joinery and panelling, both interior and exterior, parquet floors, doors, frames, stairs, furniture and sporting goods. It has been used traditionally for canoes. It is commonly used for domestic articles such as boxes, bowls, spoons, mortars and masks, and is locally popular for making drums. The wood is also used as firewood and for charcoal production. - The foliage is commonly used as forage and the tree is particularly important as a source of fodder for livestock in the dry season. The leaves are sometimes eaten cooked as a vegetable (Aye and Adeyey, 2002). - The fruits have been used as castanets, seeds for necklaces and for other ornamental purposes. Fruit preparations are taken as aphrodisiac. Fruit ash is uses as soap substitute. - The flowers are used as condiment in sauces. - The bark is used as fish poison. - The roots have been used in mixtures to prepare arrow poison. - Twigs are used as chewing sticks. (Normand and Paquis, 1976 ; Burkill, 1995 ; Loupe, 2000 ; Arbonier, 2004 ; Hawthorne and Jongkind, 2006 ; Sakande, 2007 ; Orwa

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hardpans of calcareous, sandy or ferralitic soils, on steep slopes, as well as in depressions and in regularly inundated sites (Neuwinger, 2000 ; Arbonier, 2004 ; Oteng-Amoako, 2006 ; Orwa et al., 2009).		lung complaints. Fruit ash is applied against leprosy (Neuwinger, 2000).	2009).
3. Bridelia ferrugina			
Bridelia ferruginea Benth. Euphorbiaceae is a shrub commonly growing up to a height of 45 feet in the Savannah or in open spaces of coastal districts (Ngueyem et al., 2009). The genus *Bridelia* includes approximately 60–70 species, from Africa to Asia. (Kathriarachchi et al., 2005; Ngueyem et al., 2009).	Chemical analysis found the bark to contain potassium, sodium, calcium, magnesium, zinc, manganese, iron and copper. Phytochemical tests revealed the bark to contain tannins, phlobatannins, saponins, alkaloids, and steroids (Kolawole al., 2007). The phytochemical screening of *B. ferruginea* leaves showed the presence of coumarins, anthracenic derivates, flavonoids, essential oil, naphtoquinones, pigments, triterpenoids and tannins (Lagnika et al.,2012). The flavonoids gallocatechin-(4-*O*-7 epigallocatechin), quercetin-3,3 methylether, 3,5-dicaffeoylquinic acid, quercetin 3,7,3,4-tetramethylether, myricetin and quercetin 3-*O*-glucoside have been isolated from extracts of *Bridelia ferruginea* (Cimanga et 2001; De-Bruyne et al., 1998).	- The stem bark is used to treat epilepsy, oedemas, irritability of the infant, gastralgias, anaemia, dysenteria and rheumatisms (Adjanohoun et al., 1989) and as anti inflamatory (Fujii et al., 2000; Wada et al., 2000 ; Olajide et al., 2003 ; Olumayokun et al., 2003). - The poultice of the leaves are applied to wounds, open cuts, and sores (Adetutu et al., 2011) - The leaves are also used as nematicide (Fabiyi et al., 2012), and as antibacterial (Magassouba et al., 2007). - The leaves, bark and fruits are used for the treatment of dysentery, diabetes, rheumatism pains, intestine disorders, epilepsy, infectious diseases, including sexually transmitted diseases, skin diseases and eruption, skin cancer, cystitis, roundworm (anthelmintic) Akinpelu and Olorunmola, 2000 ; Cimanga et al., 2001). It's also used as anti-arthritic, antipyretic, analgesicas and as antidote for arrow poison, (Olajide et al., 2000 ; Ngueyen et al., 2009) and as antitumor (Rhashid et al., 2000). - The root decoction is also used for the treatment of gonorrhoea (Irobi et al., 1994 ; akinpelu and Olorunmola).	- The leaves of Bridelia ferrugina are use as forage for sheep and cattle (Alade et al., 2010). - The bark extract of the plant has been used for the coagulation of milk and also lime juice for the formulation of a traditional gargle (Orafidiya et al., 1990). - The roots of the plant are used as chewing sticks (De-Bruyne et al., 1998).

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4. Carica papaya			
Carica papaya Linn. (Caricaceae) is a fast-growing, semiwoody tropical tree reaching 3-10 m in height. The fleshy stem is single, straight and hollow and contains prominent leaf scars. Papaya exhibits strong apical dominance rarely branching unless the apical meristem is removed, or damaged. (Zunjar et al., 2011 ; Milind and Gurditta, 2012).	- The phytochemical screning of extractof the Carica papaya fruit pulp was and found to contain alkaloids (carpaine, pseudocarpaine, carpesamine), saponins, phenolic compounds, ferulic acid, chlorogenic acid, vanillic acid), tannins, phlobatannins, flavonoids (kaempferol, quercetin, rutin) and terpenoids (Krishna et al., 2008 ; Gurung and Shalko, 2009 ; Kabebew and Shibeshi, 2013 ; Varisha et al., 2013). About the content of total carotenoids in papaya fruit pulp the studies revealed that the major carotenoids found in papaya were lycopene, β-cryptoxanthin, and β-carotene, with lycopene representing 65% of the total. (Marelli de Souza et al., 2008 ; Andersson et al., 2009 ; Rivera-Pastrana et al., 2010 ; Yahia and Ornelas-Paz, 2010 ; Gayosso-García Sancho et al., 2011 ; Varisha et al., 2013). The mineral composition of fruit pulp revealed a high level of calcium, phosporus, sodium and potatium. About vitamin contents, the fruit pulp screening shown the presence of thiamine, vitamin C, niacin and riboflavin (Nwofia and Okwu, 2012 ; Varisha et al., 2013). The phytochemical screning of the others parts of papya are : - The seeds : carpaine, benzyl-isothiocyanate, benzyl-glucosonialate, benzyl-thiourea, glucotropacollin, hentriacontane, ß-sytosterol, caricin and enzyme myrocin. - The leaves : alkaloids carpain, pseudocarpin and dehydrocarpaine I and II, choline, carposide, vitamin C and E. - The root : carposide and enzyme myrocin. - The bark : ß-sytosterol, glucose fructose, sucrose, galactose, and xylitol. - The latex : proteolytic enzymes, papain and chemopapain, glutamine cyclotransferase, chymopapain A, B and C, peptidase A and B, and lysozymes. (Krishna et al., 2008 ; Gurung and Shalko, 2009 ; Zunjar et al., 2011 ; Kabebew and Shibeshi, 2013).	Different parts of Carica papaya have been used traditionally to treat various ailments in humans and animals across the world : - The seeds are used as contraceptive (Lohiya et al., 2000; Goyal et al., 2010) and can produces marked uterine contractions (Anuar et al., 2008; Abdulazeez et al., 2009). The seeds are also used as anthelmintic, anti-tumor, antimicrobial, antimalarial, and antioxidant (Stepek et al., 2005; Gurung and Skalko, 2009; Otsuki et al., 2010). - The pulp is used as sedative and anxiolitic (Wang et al., 2007 ; Krishna et al., 2008 ; Blainski et al., 2010 ; Hajhashemi et al., 2010 ; Tovilović et al., 2011 ; Kabebew and Shibeshi, 2013). - The green unripe fruit is used as remedy for ulcer, impotence as an antiseptic, as diuretic, as hepatoprotective, as laxative, and as antidote to snake bite. The milky juice of the green unripe fruit is used as remedy in dyspepsia, kindred deases, and in the treatment of gangerous wounds (Hewitt et al., 2000 ; Bouanga-Kalou et al., 2011 ; Nwofia and Okwu, 2012). - The ripe fruit has been used as digestive, anti-diarrhoeal, expectorent, sedative, anti-obesity and psoriasis (Cherian, 2000 ; Adeneye and Olagunju, 2009 ; Varisha et al., 2013).	- The ripe papaya is a favourite breakfast and dessert fruit that is available year-round. It can be used to make fruits salads, refreshing drinks, jam, jelly, marmalade, candies and crystallized fruit. Green fruit is pickled or cooked as vegetable or as a substitute for apple sauce (Latham, 2004 ; Janick and Paull, 2006). - The green unripe fruit juice is the main source of papain (a proteolytic enzyme) extraction. Papain has varied uses in beverage, food, in chill-proofing beer, tenderizing meat. It is also used in bathing hides, degumming silk and softening wool. (Bouanga-Kalou et al., 2011 ; Varisha et al., 2013). - Carica papaya has also been used as animal food or feed. The leaves have been used for minerals, vitamins (Janick and Paull, 2006).

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5. Entada africana Guill. & Perr.			
Entada africana is a small tree up to 4-10 m in height and 90 cm in girth. The branching low down, with a wide crown. The bark brown-grey to black, very rough, transversely striped, scaly, peeling in long fibrous strips, slash fibrous, red or yellow-brown. E. africana grows in high rainfall savannah areas. Trees are found in the Sudan zone, only exceptionally penetrating into the southern Sahel. It occurs on the lower slopes or banks of swamps, on ground water sites. It is very sensitive to bush fires, often mutilated by it (Arbonnier, 2000 ; Taïta, 2000 ; Diallo et al., 2001 ; Pousset, 2004). **Biophysical limits** - Mean annual rainfall: 600-1 200 mm ; - Mean annual temperature: 20-32° C ; - Altitude: 200-1 500m ; - Deep sandy soils; rocky soils. (Arbonnier, 2000 ; Neuwinger, 2000 ; Pousset, 2004).	The phytochemical analysis revealed the presence of phenolic compounds, tannins, flavonoids, coumarins, and anthocyans, as major principle components of differents part of the plant (Almela et al., 2006 ; Tibiri et al., 2007 ; Mariani et al., 2008 ; Abdel-Hameed, 2009 ; Arcan and Yamenicioglu, 2009 ; Tibiri et al., 2010).. The phyotchemical screnning revealed also that E. africana was rich in terpenic and steroidic components (Sterols, triterpenes, and saponins) (Coffi et al., 2006 ; Tibiri et al., 2010).	The stem, roots, trunk bark, leaves, fruits, and plant gum are used : - Against malaria (Silva et al., 1996 ; Bah, 1998 ;Atindehou et al., 2004 ; Koné et al., 2004). - As antileishmanial (Ahua et al., 2007). - As anti-inflammatory, hepato-protective, wound-healing, and haemostatic (Sanogo et al., 1998 ; Diallo et al., 2001 ; Inngjerdongen et al., 2004). - Against respiratory deases (Silva et al., 1997 ; Neuwinger, 2000 ; Koné et al., 2004 ; Magassouba et al., 2007). - Against diabete, hypertension, and diarrhoea (Nacoulma-Ouédraogo et al., 1996 ; Sanogo et al., 1998 ; Nacoulma-Ouédraogo and Millogo-Rasolodimby, 2002 ; Pousset, 2004). - As fortifuer, diuretic, anti-gonococci, anti-syphilitic, abortifacient, antipyretic, and anti-rheumatism (Burkill, 1995; Neuwinger, 2000 ; Atawodi et al., 2004 ; Tibiri et al., 2007).	- The leaves of E. africana make good fodder. - The bast fibres are used for ropes and bands. - The bark of the root and stem yields a long fibre used for cordage, commonly for roof binding and grass matting. - The wood is used to make hoe handles. - The seeds are used as fishing poison. (Burkill, 1995 ; Nacoulma-Ouédraogo and Millogo-Rasolodimby, 2002 ; Pousset, 2004 ; Tibiri et al., 2007).
6. Khaya senegalensis			
Khaya senegalensis is a deciduous evergreen tree, 15-30 m high, up to 1 m in diameter, with a clean bole to 8-16 m, buttresses not prominent or absent; bark dark grey, with small, thin, reddish-tinged scales; slash dark pink to bright crimson, exuding a red sap (FAO, 1986; Katende et al., 1995; Sosef et al., 1998). K. senegalensis occurs in riverine forests and is scattered within the higher-rainfall savannah woodlands. In moister areas, K. senegalensis is found on uplands, but it is restricted to riparian habitats or stream bottoms that extend into the savannah in the	The phytochemical sceening revealed the presence of limonoids (Caniato and Puricelli, 2003; Zhang et al., 2007), rearranged limonoid (Fall et al., 1999), limonoid 3α,7α-dideacetylkhivorin (Zhang et al., 2007), polyphenols from the bark (Androulakis et al., 2006).	- The bark is used as a vermifuge, taenicide, depurative and for treating syphilis. Bark extract is used for treating jaundice, dermatoses, scorpion bite, allergies, infection of the gums, hookworm, bleeding wounds (disinfectant), and as a laxative. Bark decoctions or macerations are widely taken against fever caused by malaria, and against stomach complaints, diarrhoea, dysentery and anaemia, as anodyne in cases of rheumatism and headache, and as tonic, emmenagogue and anthelmintic. They are also used as purgative, antidote and abortifacient, and to treat syphilis, leprosy,	- The wood is valued for carpentry, joinery, furniture, cabinet work, ship building and decorative veneer. It is suitable for construction, flooring, interior trim, vehicle bodies, toys, novelties, railway sleepers, turnery and pulpwood. Traditionally, the wood is used for dug-out canoes, household implements such as mortars and spoons, and drums. It is also used as fuelwood and for charcoal production. Wood ashes are used for conserving millet seed, as fish poison, as added to stored grain to prevent insect attack. - The bark is used as an additive in local beer brewing and for dyeing cloth brownish. - The foliage is a common source of fodder,

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drier portions of the range. During the 1st year, the seedling develops a strong, deep taproot, which makes it the most drought hardy of all the Khaya species. It is also very resistant to flooding and can be considered for planting on swampy soils. Moderately shade tolerant. Except where selectively removed by logging, dry-zone mahogany remains a dominant species in most of its range. Successful plantations of dry-zone mahogany in other parts of the world have generally been in areas with short dry seasons and high rainfall. ***Biophysical limits*** Altitude: 0-1800 m, Mean annual temperature: 24.5-31.5 deg. C, Mean annual rainfall: 400-1750 mm Soil type: Tolerant to a wide range of soil conditions, from neutral to very strongly acidic and from very well-drained, coarse sandy loam to somewhat poorly drained clay. Prefers neutral, deep, sandy loam soil that is well drained. Such fertile conditions are often found in alluvial soils. (Vogt, 1995; Sosef et al., 1998; Sokpon and Ouinsavi, 2004).		chickenpox and angina. The bark is applied externally as disinfectant in cases of inflammations and to treat skin diseases, rash, scabies, wounds, ulcers, boils, haemorrhoids, swellings and toothache. The bark is commonly used in veterinary medicine, as anthelmintic, tonic and appetizer, and to treat trypanosomiasis, liver flukes, diarrhoea and ulcers. Bark also used in traditional veterinary practice, for example for cattle suffering from liver fluke, for ulcers in camels, donkeys and horses, and in horses for internal ailments associated with mucous diarrhoea. - Seeds and leaves are used for treating fever, headache; roots against sterility, for the treatment of mental illness, against syphilis, leprosy and as an aphrodisiac. Crushed bark and seeds are regarded as emmenagogue. Seed oil is rubbed in to treat rheumatism and influenza, and it is taken to treat syphilis. - Leaves are used in traditional medicine, to treat skin complaints, wounds, jaundice, oedema, headache and depression, and as purgative. - Roots are applied against jaundice, stomach-ache, oedema and amenorrhoea. The roots and/or bark are an ingredient of complex arrow poisons of which Strophanthus roots or seeds are the main ingredients. - Flowers are used in medicines against stomach complaints and syphilis.	but it has a low fodder quality. So, it is uesd in mixtures with better fodders. - The seed oil is used in cosmetics and for cooking. - Khaya senegalensis is commonly planted as a roadside tree and ornamental shade tree, and sometimes for soil stabilization. It has been planted successfully in a taungya system with groundnut as intercrop (FAO, 1986; Katende et al., 1995; Neuwinger, 1996 ; Sosef et al., 1998 ; Neuwinger, 2000 ; Arnold, 2004 ; Sokpon and Ouinsavi, 2004 ; Neya, 2006).

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		(Katende et al., 1995; Neuwinger, 1996 ; Sosef et al., 1998; Neuwinger, 2000 ; Potel, 2002 ; Caniato and Puricelli, 2003 ; Arnold, 2004 ; Sokpon and Ouinsavi, 2004 ; Androulakis et al., 2006; Neya, 2006 ; Lompo et al 2007; Zhang et al., 2007 ; Pérez-Flores et al 2012).	
7. Lanea acida			
Lannea acida is a perennial tree about 8 to 12m height with scaly bark, blackish-tranche red and yellow striped fiber and is widely distributed in the sudanian and guinean savanna (Arbonnier, 2000; Mahamane et al., 2007).	Lannea acida has not been investigated for its chemical composition. Only a preliminary screening revealed the presence of alkaloids and tannins in the bark (Etuk et al., 2009). Other studies, reported also a high levels of phenolic compounds, and flavonoids in the bark of L. acida (Karou et al., 2005 ; Ouattara et al., 2011).	- Lannea acida bark, leaves, and roots, are traditionnaly used combined or sole for the treatment of conjunctivitis, sores, diarrhoea, stomach aches, gonorrhoea, rheumatism, fever, malaria, skin deases, coughs, and dysentery (Koné et al., 2004 ; Ouattara et al., 2011). - The anti-bacterial and immune-stimulating properties from the bark of L. acida were scientifically proved and reported (Koné et al., 2004 ; Etuk et al., 2009). - The anti-mycobacterium of L. acida bark was also successfull tested by Ouattara et al., 2011. - In an other study of Ouattara et al., 2011, Lannea acida bark demontrated a high antioxydant activity.	- The young leaves are eaten as vegetable. - The bark was pounded to make red dye for cloth. - In some areas of West Africa a fermented drink is made of the fruits. The fruit is also used to resinous taste. - The wood much used for making benches, utensils and bows. It is also an excellent combustible. - Aerial parts, were browsed by livestock as fodder. (Burkill, 2000 ; Neuwinger, 2000 ; Taïta, 2000 ; Arbonnier, 2002).
8. Lanea microcarpa			
TLannea microcarpa Engl & K. Krauss (Anacardiaceae) is a wild fruit tree found in the Sudano-Sahelian regions of Africa. The tree grows up to 16m.The bark is gray white with a spiral twist ; it is smooth when the tree is young, becoming splintery withage.The slash is red.	Several studies have shown the presence of anthocyanins and tannins in extracts of the fruit epicarp of *Lannea microcarpa*, fractionation and analysis of *Lannea microcarpa*'s polar extract allowed the identification of 4'-methoxy-myricetin 3-O-"-lrhamnopyranoside, myricetin 3-O-"-l-rhamnopyranoside, myricetin 3-O-$-d-	- *Lannea microcarpa* leaves are used for the treatment of diarrhoea, gastroenteritis, malaria, bacterial infections, toothaches, swellings, and wound care (Nacoulma, 1996; Arbonnier, 2002; Tapsoba and Deschamps, 2006). - The fruits are utilised to treat	- *Lannea microcarpa* young leaves are eaten as a vegetable and cattle browse it as a forage. - The bark is employed to dye cotton textiles a red-brown colour. - The fruits are eaten raw or dried and a fermented drink is prepared from the pulp. - Ropes are made from the very fibrous bark

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The leaves are comprised of 1–3 pairs of asymmetrical leaflets, plus the terminal one. The leaflets are ovate–lanceolate, obtuse and unequal at the base; they are 5.5–13 cm long and2.7–4.5 cm wide. The new growth has short, close and simple hairs.The flowers are small, green yellowish with glabrous sepals.The flowers crowd at the end of the branches. Lannea *microcarpa* occurs in savanna vegetation. It prefers deep friable soil and is often found on cultivated land, where it is not cut down but preserved for its edible fruits. It also occurs on rocky soil in Sahel savanna (Burkill, 2000 ; Arbonnier, 2004 ; Ajiboye et al., 2013).	glucopyranoside, vitexin, isovitexin, gallic acid and epi-catechin (Picerno *et al.*, 2006 ; Bationo et al., 2012). The presence of cyanidin 3-0-(2-0-β-D-xylopyranosyl) β-D-galactopyranoside and cyanidin 3-0-β-D-galactopyranoside was also reporteed in the dry fruit epicarp (Ouattara et al., 2011 ; Ajiboye et al., 2013). Tannins (deriving from gallic acid) are present in the bark (Duponchel, 2004).	scurvy, rickets and cough. - The bark and roots are used to treat stomach pain, rheumatism, gonorrhea, diarrhoea, rachitism, chest pain, gastric ulcer, wounds, skin and respiratiry tract deases. They are also applied to treat mouth blisters, sore throat, dysentery, as a cathartic and as a dressing on boils (Burkill, 2000 ; Kamanzi et al., 2004 ; Koné et al., 2004). - The bark is used as antibacterial and anti-hypertensive (Lamien-Meda *et al*., 2008; Ouattara *et al*., 2011 ; Ouedraogo *et al*., 2010 ; Bationo et al., 2012). - Wood ash is applied to maturate abscesses.	of *Lannea microcarpa.* (Palé et al., 1998 ; Burkill, 2000 ; Tapsoba and Deschamps, 2006 ; Bationo et al., 2012 ; Ajiboye et al., 2013).
9. Momordica charantia			
M. charantia, a climber belonging to family Cucurbitaceae, is commonly known as bitter gourd or bitter melon in English. *Momordica* means, "to bite"—referring to the jagged edges of the leaf, which appear as if bitten. All parts of the plant, including the fruit, taste bitter. It is a monoecious annual climbing or trailing herb with stems up to 5 m long. The fruit is oblong and resembles a small cucumber, young fruit is emerald green that turns to orange yellow when ripe. The plant grows in tropical areas of Asia, Amazon, Africa, and the Caribbean.	M. charantia contains biologically active chemicals that include glycosides, saponins, alkaloids, fixed oils, triterpenes, proteins and steroids (Raman and Lau, 1996). Several phytochemicals such as momorcharins, momordenol, momordicilin, momordicins, momordicinin, momordin, momordolol, charantin, charine, cryptoxanthin, cucurbitins, cucurbitacins, cucurbitanes, cycloartenols, diosgenin, elaeostearic acids, erythrodiol, galacturonic acids, gentisic acid, goyaglycosides, goyasaponins, multiflorenol, have been isolated (Husain et al., 1994; Xie et al., 1998; Yuan et al., 1999; Parkash et al., 2002).	- Antidiabetic (fruit pulp, seed, leaves and whole plant) (Ahmed et al., 1998; Sitasawad et al., 2000; Ahmed et al., 2001; Miura et al., 2001; Grover et al., 2002; Rathi et al., 2002a,b). - Antibacterial (leaves, fruit extract, whole plant) (Khan et al., 1998 ; (Omoregbe et al., 1996; Khan et al., 1998 ; Yesilada et al., 1999 ; Frame et al., 1998). - Anti – HIV (whole plant) (Zheng et al., 1999; Au et al., 2000 ; Wang and Ng, 2001a; Jiratchariyakul et al., 2001). - Anti-cancer (whole plant) (Battelli et al., 1996; Kusamran et al., 1998 ; Ganguly et al., 2000; Sun et al., 2001;	- The seeds, leaves, fruits, vines, are used as foods. - Tender fruits of the plant are eaten as vegetable in stew or are pickled; they are use also for flavoring food dishes. - The leaves and fruit are both been used occasionally to make teas and beer, or to season soups. - The leaves and stem are used as camel fodder (Assubai and El-Garawany, 2004 ; Grover and Yadav, 2004 ; Ahmad et al., 2012 ;). - The brigh red seeds of some fruits of M. charantia are used as natural colorant.

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The plant is adapted to a wide variations of climates although production is best in hot areas (Grover and Yadav, 2004).	These are reported in all parts of the plant (Murakami et al., 2001). HIV inhibitory proteins like MRK29 (MW: 28.6 kDa), MAP30 (MW: 30,000 kDa) and lectin are documented (Putnam and Tainer, 2000; Jiratchariyakul et al., 2001; Wang and Ng, 2001a). The presence of trypsin inhibitors (Hamato et al., 1995; Chakraborty et al., 2000), elastase inhibitors (Hamato et al., 1995), guanylate cyclase inhibitors (Takemoto et al., 1980) and alpha-glucosidase inhibitor like D-(+)-trehalose are reported (Matsuur et al., 2002).	Basch et al., 2003;). - Abortifacient and antifertility (whole plant) (Naseem et al., 1998 ; Schreiber et al., 1999 ; Matsuda et al., 1999 ; Yesilada et al., 1999; Gurbuz et al., 2000). - Anti-anthelmintic (whole plant) (Lal et al., 1976). -Anti-malarial (whole plant) (Munoz et al.; 2000 ; Kohler et al., 2002). - Analgesic and antinflammatory activity (whole plant) (Biswas et al., 1991; Choi et al., 2002).	
10. Pterocarpus erinaceus			
Pterocarpus erinaceus Poir. (Leguminosae, subfamily Papilionoideae) is a small to medium-sized tree 12–15 m tall with a diameter of 1.2–1.8 m. In the drier part of its range it has an open, spreading form and is low-branching, but under favorable rainfall and soil conditions, much larger specimens with clean straight boles 6–8 m long or more can be found. Exceptionally tall trees reaching 35 m height have been reported (von Maydell 1983; ICRAF 1998, Touré, 2001; Arbonnier, 2004). *Pterocarpus erinaceus* is found throughout West and Central Africa, ranging from Senegal in the west to the Central African Republic in the east. It is distributed up to 14ºN but is a stunted, small tree at this latitude. Southward, the range extends to the limit of the humid forest in Cote	The pytochemical screening of stem bark revealed the presence of tannins, flavonoids such as epicatechin, phenolic compounds, and triterpenoids such as friedelin and lupeol (Ouédraogo et al., 2012). Note that the reddish bark exudate contains 30–80% kinotannic acid (Ouedraogo-Koné et al., 2008).	- The reddish bark exudate (kino) is commonly used in traditional medicine, internally to treat diarrhoea, dysentery, fever, gonorrhoea and intestinal worm infections, and externally to treat eye complaints, ulcers and sores. Kino was also used against chronic diarrhoea (Burkill, 1995 ; Abreu et al., 1999 ; Potel, 2002 ; Karou et al., 2005 ; Koné et al., 2006). - Decoctions or infusions of bark or roots serve for treating bronchial infections, toothache, dysentery, menstruation complaints, anaemia, gonorrhoea, post-partum haemorrhage, ringworm infections, leprosy, wounds, tumours and ulcers, and as an anti-emetic, purgative and tonic (Abreu et al., 1999 ; Neuwinger, 2000 ; Diallo et al., 2002; Karou et al., 2005 ; Nadembega et al., 2011). - The bark is also used against tooth	- The reddish bark exudate (kino) is beaten onto cloth with a mallet to give it a glaze. The kino, is used for dyeing cloth to produce a dark purple color**.** The bark is occasionally used for tanning (Burkill, 1995). - The wood is used for heavy construction including waterworks, parquet flooring, stairs, implements, turning, sculpturing and sliced veneer. It is also suitable for joinery, interior trim, mortars, pestles, house posts, mine props, ship and boat building, vehicle bodies, sporting goods, toys, novelties, musical instruments (e.g. balafons) and precision equipment. The wood is also suitable for fuel and charcoal production. The heartwood is a source of a red dye, which is used for dying cloth, the body or hair (von Maydell 1983; Roussel, 1995 ; Roussel, 1996 ; Touré, 2001 ; CAB, 2005). - Leaves decoction is used as an aphrodisiac and insect repellent (Burkill, 1995). - Leafy branches are browsed by livestock, and are especially important towards the end

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d'Ivoire and the humid coastal savannas in Guinea, Togo, and Benin. *Pterocarpus erinaceus* is found in open dry forests of semiarid and subhumid lands with mean annual rainfall of 600–1200 mm and a moderately to very long dry season that can last 8–9 months. Mean annual temperature in the tree's natural range is 15–32ºC, but it tolerates high temperatures reaching over 40ºC. The tree grows at low altitudes (0–600 m) and thrives even on shallow soils. It is drought tolerant and once established it survives yearly dry seasons. It also survives the yearly savanna bush fires and readily colonizes fallow lands (ICRAF 1997, Touré, 2001; Arbonnier, 2004).		and mouth troubles (von Maydell 1983). - Roots preparations are administered as an enema to treat venereal diseases. The grated root is mixed with tobacco and smoked in a pipe as a cough remedy (von Maydell 1983; Touré, 2001). - Leaves decoctions are applied to treat fever, syphilis, and as febrifuge (Burkill, 1995 ; Potel, 2002).	of the dry season when not much else is available (Roussel, 1996 ; Akaplu, 1998 ; Bonkoungou et al. 1998; Touré, 2001 ; Ouedraogo-Koné et al., 2008).
11. Tamarindus indica			
Tamarindus is amonospecific genus that was formerly placed in the Caesalpiniaceae family, now drawn up in Fabaceae sensu lato. Tamarindus indica is a pantropical species and is commonly used all over the world (Morton, 1987). For fruit development a dry season is required. Its African range runs along the dryland zone from Senegal in the west through Sudan and Ethiopia in the east, extending southward to Mozambique and Madagascar (World Agroforestry Centre, 2007). In West Africa, it is characteristic of the dry Sahel and northern Soudan2	Differences in values found in the literature are likely to be due to differences in genetic strains, stages of maturity at which the plant parts were harvested, growing conditions (Glew *et al.*, 2005), harvesting and handling techniques as well as to differences in analytical methodologies (De Caluwé et al., 2009). Tamarind pulp typically contains 20.6% water, 3.1% protein, 0.4% fat, 70.8% carbohydrates, 3.0%fibre and 2.1% ash (El-Siddig *et al.*, 1999), thus the pulp has a low water content and a high level of protein, carbohydrates and minerals. The fruit pulp contains very little linoleic acid (3.42 mg/g dry weight) and even lower amounts of α-	Medicinal uses of tamarind are uncountable (Morton, 1987). We expose here someone of theses. - Fortifiant (fruit pulp, bark and leaves) (Doughari, 2006). - Treatement of jaundice (bark and leaves) (Doughari, 2006). - Treatment of heart deases (fruit) (Fandohan, 2007). - Treament of hypertension (leaves) (Norscia and Borgognini-Tarli, 2006). - Against abdomian pain (bark, fruit, leaves, roots) (Geissler et al., 2002 ; Kristensen and Balslev, 2003; Doughari , 2006; Norscia and Borgognini-Tarli, 2006; Fandohan,	- Tamarind fruit pulp is used for seasoning, as a food component, to flavour confections, curries and sauces, and is a main component in juices and certain beverages. Tamarind fruit pulp is eaten fresh and often made into a juice, infusion or brine (El-Siddig *et al.*, 1999; El-Siddig *et al.*, 2006) - Sometimes pulp is fermented into an alcoholic beverage (FAO (1988) cited in El-Siddig *et al.*, 2006). - The bark is rich in tannins reaching up to 70%, and as such has found a place for use in the tanning industry. The bark is used for tanning hides and in dyeing (Morton, 1987; El-Siddig *et al.*, 2006). - The seeds is also use in industry. The major

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climatic zones, but becomes less common toward the more humid Guinea savanna (Havinga et al., 2010).	linolenic acid (0.21 mg/g dry weight) ; it is also have high content of vitaminB, vitaminC, maganese, zinc, calcium and phosphorus (El-Siddig *et al.*, 1999 ; Glew *et al.*, 2005). The seeds have high content of protein, mineral especially magnesium and potatium, and many fatty acid such as linoleic acid (Ajayi et al., 2006). The seeds also contain small amounts of anti-nutritional factors such as tannins, phytic acid, hydrogen cyanide, trypsin inhibitor activity and phytohaemaglutination activity (El-Siddig *et al.*, 2006). The leaves and roots of tamarind contain a number of glycosides such as vitexin, isovitexin, orientin and isoorientin (Morton, 1987). The bark is rich in tannins reaching up to 70% (Morton, 1987; El-Siddig *et al.*, 2006).	2007). - Treatment of diabete (leaves) (Maitin *et al.*, 2004 cited in El-Siddig *et al.*, 2006; Baldé et al., 2006) - Contraceptive (roots) (Ahua et al., 2007). - Treatment of infertility (all arial parts) (Alawa et al., 2002). - Against cold (fruit pulp) (Fandohan, 2007). - Against malaria (bark, leaves, fruits) (Asase et al., 2005 ; Makundi et al., 2006; Fandohan, 2007 ; Tabuti, 2008). - Against parasitic worms (bark, fruit, leaves, roots, seeds) (Hewlett and Cline, 2001; Inngjerdingen et al., 2004 ; Bah et al., 2006;). - Against microbial infections (fruit) (Magassouba et al., 2007) - Against blackged (roots, bark) (Abdu et al., 2000 ; Useh et al., 2006). - Treament of sleeping sickness (leaves, fruit) (Atawodi et al., 2002). - Syphilis (roots) (Tabuti et al., 2003). - Yellow fever (bark and leaves) (Doughari, 2006). - Treatment of epilepsy (roots) (Moshi et al., 2005). - Lactation (fruit) (Lockett and Grivetti, 2000).	industrial product of tamarind seed is the tamarind kernel powder (TKP) which is an important sizing material used in the textile, paper, and jute industries (Kumar & Bhattacharya, 2008). - Tamarind leaves and flowers are eaten as vegetables and are prepared in a variety of dishes (ICRAF, 2007). They are used to make curries, salads, stews and soups in many countries, especially in times of scarcity. Before consumption, leaves are sometimes boiled in water and prepared as tamarind fruits (Nordeide *et al.*, 1996).

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CONCLUSION

The monographic study of these plants most commonly used for the treatment of common ailments Somba cattle has been successful in the premise of these plants as medicinal plants. Indeed, in many work already done, the medicinal uses of each of these plants are reported in many works by several authors around the world, particularly in Africa, Asia, and Latin America. Any time these uses are found mostly in human medicine. Uses in veterinary medicine are still significantly lower.

Phytochemical screening of extracts or parts of these plants made in various studies have put in evidence compounds such as tannins, flavonïdes, triterpenes, alkaloids, steroids, etc. anthracene derivatives. All these compounds are known to have pharmacological properties and their abundant presence or not in the plants tested confirm the therapeutic potential of these plants.

Note however that there is very little literature on the experimental works of these plants on the diseases supposed treated. Thus, among the many pharmacological and therapeutic properties of these plants reported by different peoples from around the world, very few have been studied and scientifically proven in both human and veterinary medicine. It therefore remains a whole area to explore, and our future studies will explore this.

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