



A Review on Some Wound Healing Plants Traditionally Used in Democratic Republic of the Congo

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Abstract: *Plants have been used by humans as a primary source of care in medicine since ancient times. Currently, about 80% of the population in southern Africa uses traditional medicine to meet their primary healthcare needs. The aim of this study was to document the healing plants traditionally used in the Democratic Republic of Congo. A systematic analysis and review of the virtual and physical literature search was conducted on the research literature related to healing medicinal plants used in the Democratic Republic of Congo. The results of the study reveal a total of 53 medicinal plants distributed in 50 genera and 31 families used for healing human wounds. The most represented families are Asteraceae (7 species), Euphorbiaceae (5 species), Rubiaceae (5 species), and Lialliaceae (3 species). Concerning the species abundance, the most represented genera are Allium (2 species), Morinda (2 species), and Vernonia (2 species). Herbaceous (39.6%, 21 species), shrubs (32.1%, 17 species) and trees (20.8%, 11 species), lianas (5.7%, 3 species), shrubs (1.9%, 1 species) are the main morphological types documented. Moreover, leaves and barks are the plant organs most used in healing. Thus, the documented therapeutic use of these plants provides the first baseline data for the city, and unveils further avenues of research into pharmacological and conservation studies.*

Keywords: *traditional medicine; plants; wound healing; Ubangian ecoregion*

I. Introduction

The use of plants for their bounty dates back to prehistoric times (Ali, Z. 2017). Plants have always been an essential source of remedies. Even today a multitude of people worldwide, especially in developing countries, are treated solely with traditional plant-based medicines. Modern pharmaceutical industries rely heavily on the diversity of secondary metabolites from plants to find new molecules or biological properties for the manufacture of medicines. This source seems inexhaustible since only a fraction of the nearly 400,000 known plant species have been studied phytochemically and pharmacologically and others, each of which may contain up to several different constituents (Segeuen, 2014).

According to Sofoware et al. (Sofowora, 2013), the earliest method used to list medicinal plants was to identify the nature and degree of efficacy of their actions, depending on whether they had tranquilizing, antiseptic, or diuretic properties.

However, tactics for prospecting for natural active substances from plants are often based on ethnobotanical approaches, highlighting the use of these plants in traditional medicine by communities (Ali, Z, 2017).

According to the World Health Organization (WHO, 2022), more than 80% of the population in Africa relies on traditional medicine to solve their primary health problem.

However, according to WHO (2022) and Ngbolua et al. (2011), confirm that the use of herbal medicine for health problems is not only a choice but is also due to poverty and the high cost of valid medicines.

Problematics

In the same way as for animals, the maintenance of their health is a primary concern. They use plants indirectly or directly, not only to feed themselves but also to treat themselves. This rule does not escape man. Since time immemorial, plants have been a major source of medicines thanks to their rich secondary metabolisms.

The latter produces a variety of molecules that enable plants to control their animal and plant environment. Among the thousands of molecules produced by this metabolism, humans select those that allow them to defend themselves against the aggressions of other pathogenic living organisms, correct their metabolic disorders, and in general, carry out health care (Mohamed, 2008).

II. Research Methods

To carry out this work, the methodological approach consisted of the documentary technique.

III. Discussion

3.1 Ethnobotanical Data

Table 1 shows the list of listed healing plants used in the Democratic Republic of the Congo.

Table 1. List healing plants used in the Democratic Republic of the Congo

Family	Scientific name	Morphology	Parts used
Acanthaceae	<i>Acanthus montanus</i> (Nees) T. Anderson	Herb	Leaf
Annonaceae	<i>Anonidium manni</i> (Oliv.) Engl. & Diels	Tree	Bark
	<i>Annona reticulata</i> L.	Shrub	Fruit
Apocynaceae	<i>Alstonia congensis</i> Engl.	Tree	Leaf juice
Araceae	<i>Caladium bicolor</i> (Aiton) Vent.	Herb	Leaf
	<i>Cercestis congensis</i> Engl.	Liana	Petiole
Asteraceae	<i>Vernonia amygdalina</i> Delile	Shrub	Leaf
	<i>Ageratum conyzoides</i> L.	Herb	Entire Plant
	<i>Bidens pilosa</i> L.	Herb	Leaf
	<i>Chrysanthellum indicum</i> DC.	Herb	Leaf
	<i>Conyza sumatrensis</i> (Retz.) E. Walker	Herb	Leaf
	<i>Eclipta prostrata</i> (L.) L.	Herb	Leaf
	<i>Vernonia colorata</i> (Willd.) Drake	Shrub	Leaf

Bignoniaceae	<i>Spathodea campanulata</i> P.Beauv.	Tree	Leaf, bark, root
Bombacaceae	<i>Adansonia digitata</i> L.	Tree	Bark, root, stem
	<i>Ceiba pentandra</i> (L.) Gaertn.	Tree	Bark, root, stem
Burseraceae	<i>Dacryodes edulis</i> (G.Don) H.J.Lam	Tree	Leaf
Chenopodiaceae	<i>Chenopodium ambrosioides</i> L.	Herb	Leaf
Combretaceae	<i>Combretum racemosum</i> P.Beauv.	Shrub	Leaf
Convolvulaceae	<i>Ipomoea involucrata</i> P.Beauv.	Herb	Leaf
Euphorbiaceae	<i>Alchornea cordifolia</i> (Schumach. & Thonn.) Müll.Arg.	Shrub	Leaf
	<i>Manniophyton fulvum</i> Müll.Arg.	Liana	Leaf
	<i>Euphorbia</i> sp.	Shrub	Latex
	<i>Phyllanthus niruri</i> L.	Herb	Leaf
	<i>Ricinus communis</i> L.	Herb	Fruit
Hymenocardiaceae	<i>Hymenocardia acida</i> Tul.	Shrub	Bark
Leeaceae	<i>Leea guineensis</i> G.Don	Shrub	Leaf
Lecythidaceae	<i>Petersianthus macrocarpus</i> (P.Beauv.) Liben	Tree	Leaf
Lilliaceae	<i>Aloe schweinfurthii</i> Baker	Herb	Leaf
	<i>Allium cepa</i> L.	Herb	Bulb juice
	<i>Allium sativum</i> L.	Herb	Bulb
Menispermaceae	<i>Cissampelos owariensis</i> P.Beauv. ex DC.	Liana	Leaf
	<i>Penianthus longifolius</i> Miers	Shrub	Bark root
Mimosaceae	<i>Albizia gummifera</i> (J.F.Gmel.) C.A.Sm.	Tree	Leaf
	<i>Pentaclethra macrophylla</i> Benth.	Tree	Fruit
Moraceae	<i>Milicia excelsa</i> (Welw.) C.C.Berg	Tree	Latex
Moringaceae	<i>Moringa oleifera</i> Lam	Shrub	Flower
Musaceae	<i>Musa x paradisiaca</i> L.	Herb	Fruit casing
Papaveraceae	<i>Argemone mexicana</i> L.	Herb	Seed oil
Pentadiplandraceae	<i>Pentadiplandra brazzeana</i> var. <i>brazzeana</i>	Shrub	Root
Phytolaccaceae	<i>Phytolacca dodecandra</i> L'Hér.	Shrub	Entire Plant
Poaceae	<i>Imperata cylindrica</i> (L.) Raeusch.	Herb	Entire Plant
Polygalaceae	<i>Securidaca longepedunculata</i> Fresen.	Shrub	Leaf
Rubiaceae	<i>Psychotria peduncularis</i> (Salisb.) Steyerm.	Herb	Leaf
	<i>Morinda lucida</i> Benth.	Tree	Leaf
	<i>Sarcocephalus latifolius</i> (Sm.) E.A.Bruce	Shrub	Leaf, bark, root
	<i>Crossopteryx febrifuga</i> (Afzel. ex G.Don) Benth.	Shrub	Leaf
	<i>Morinda morindoides</i> (Baker) Milne-Redh.	Shrub	Leaf

Scrophulariaceae	<i>Scoparia dulcis</i> L.	Shrub	Entire Plant
Solanaceae	<i>Nicotiana tabacum</i> L.	Herb	Leaf
	<i>Solanum torvum</i> Sw.	Shrub	Leaf, bark, fruit
Zingiberaceae	<i>Aframomum angustifolium</i> (Sonn.) K.Schum.	Herb	Entire Plant
	<i>Costus lucanusianus</i> J. Braun & K.Schum.	Herb	Stem, Leaf

3.2 Description of the listed healing plants (taxon, image, use, and active principle)

1. *Adansonia digitata* L.

Family: Bombacaceae



- **Description :**

Adansonia digitata is a tree that grows to 15 - 20 m in length. The trunk is broad and thick, about 2 m in diameter, spongy and hard, with zigzagging, spreading, and twisted branches (Gomes, 2013) its bark is greyish-brown and smooth. The flowers are equipped with two bracts that often bloom at night; the fruit capsules called monkey bread, contain several hard black seeds in a white mealy pulp.

- **Use:**

Decoction of the root bark and stem disinfects chronic wounds and dust from the epicarp is applied to the wound (OMS, 2009).

2. *Ageratum conyzoides* L.

Family: Asteraceae



- **Description:**

It is an annual herb. It is erect and branched, slightly hispid, rising to 1 m high; the leaves are opposite, alternately arranged; oval, with crenelated margins, thin petioles, and small, abundant, terminal cymes of blue-violet or whitish flower heads.

- **Use :**

Ageratum conyzoides is used in many parts of Africa, Asia and South America to treat a wide variety of illnesses, as well as mental illness, headaches, colic, skin ulcers, various cuts and wounds, burns and dyspnoea (Gomes, 2013).

3. *Alchornea cordifolia* Schumach. & Thonn.) Müll. Arg.

Family: Euphorbiaceae



- **Description:**

Is a branched, multi-stemmed shrub, reaching 5 - 8 m in height. The stem contains blunt spines; leaves long-stalked; broadly oval, cordate at the base, apex shortly acuminate, entire or slightly toothed.

The flowers are white, greenish set on hanging spikes or clusters of long, permanent style on the fruit; the fruits are two-celled and small.

- **Use:**

The plant is often used by communities and in African pharmacopeia, in combination with other plants. Its roots are used against leprosy while the powdered leaves heal various wounds and ulcers (Gomes, 2013) (OMS, 2009).

4. *Aloe schweinfurthii* Baker

Family: Liliaceae



- **Description:**

A succulent, perennial herb, its stem is short and recumbent; the leaves in rosettes or singly are curved at the apex; they are greyish-green with whitish spots on both surfaces, lanceolate, long and sharp-topped, about 60-80 cm long.

The whitish-toothed margin is directed outwards from the lower parts. The stem is 20-40 cm long; the bracts are small (4-7 mm) and lanceolate (Gomes, 2013).

- **Use :**

The plant is cultivated mainly for ailments such as intestinal and urogenital disorders. It is applied externally to wounds, injuries, and burns (Odeleye, 2004).

5 *Argemone mexicana* L.

Family: Papaveraceae



- **Description:**

Is an annual, erect, branched herb, reaching 1 m in height, with a woody base. Leaves are alternate and sessile, lanceolate with a lobed and serrated margin, terminated by prickly tips, alternate ribs with spines on the underside of the blade; flowers are terminal. The fruits are ovoid, rectangular capsules with several spines. The latex is yellow, while the seed is dark brown and light.

- **Use:**

The oil extracted from the seed is used to heal wounds and in constipation, insomnia, and skin infections (Gomes, 2013).

6. *Phyllanthus niruri* var. *genuinus* Müll. Arg.

Family: Euphorbiaceae



- **Description:**

It is an annual plant that can grow up to 50 cm high. The stem is grooved and slightly winged.

The leaves are simple, alternate, distichous, elliptic-oblong, and rounded at both ends.

The flowers are unisexual, containing six sepals.

The capsulated fruits are about 2 mm in diameter.

- **Use:**

The fruits are used for the treatment of ringworm, scabies and ulcers. While the whole dried plant is administered orally against diabetes and asthma in Ayurvedic medicine (Gomes, 2013).

7. *Phytolacca dodecandra* L'Hér.

Family: Phytolaccaceae



- **Description:**

It is a dioecious, climbing, tangled, semi-succulent shrub or sometimes a creeper with stems that can grow up to 10-20 m long.

The root system is the taproot. The stems are usually hairless; the leaves are alternate, simple, and entire, without stipules. It has an axillary or terminal inflorescence of 5-30 cm long.

- **Use:**

These parts of the plant are used to treat a wide spectrum of diseases, including wounds, scabies, diarrhea, leprosy, and boils (Gomes, 2013).

8. *Sarcocephalus latifolius* (Sm.) E.A. Bruce

Family: Rubiaceae



- **Description:**

It is a smothering evergreen shrub growing in wooded savannahs up to 9 m high with a twisted trunk that can reach up to 30 cm in diameter; it has a rough bark, elliptical or oval rounded, acuminate-topped leaves with red stalks, short, oval and persistent stipules.

- **Use:**

The bark, roots and leaves are used to treat wounds, and various ailments including gonorrhoea, stomach disorders, coughs and fevers (Mawunu, 2022).

9. *Scoparia dulcis* L.

Family: Scrophulariaceae



- **Description:**

Scoparia dulcis is an erect shrub growing up to 70 cm high with hairless stems, leaves are opposite or whorled, narrowly lanceolate, notched in the upper half, narrowed, entire in the lower half and hairless. The flowers are in slender clusters in the upper axils of the leaves with four petals, white or bluish with a hairy background. The fruit is a globose capsule.

- **Use:**

The plant is used against burns, hair loss, and other diseases. The leaves are for dermatological problems and prostate disorders (Gomes, 2013).

10. *Securidaca longepedunculata* Fresen

Family: Polygalaceae



- **Description:**

The tree is a semi-evergreen shrub growing up to 12 m high, very branched, with an open top.

The young branches are drooping and pubescent, the bark is smooth, thick, light yellow and covers a yellow wood fibre.

The root is thick with a characteristic smell of methyl salicylate. The leaves are alternate, entire, simple, oblong-elliptic, growing to 5 - 6 cm long and 13 - 20 mm wide. When young, it has very fine hairs but these disappear at maturity.

The flowers are of the papilionaceous type, about 10 mm long, very fragrant and attached by long slender stalks in terminal axillary racemes; the fruit is a samara 4-5 cm long, more or less a round nut inside. The tree is a semi-evergreen shrub growing up to 12 m high, very branched, with an open top.

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- **Use :**

The crushed leaves are decocted and applied to wounds and boil to drain or clear pus (Gomes, 2013).

11. *Solanum torvum* Sw.

Family: Solanaceae



- **Description:**

Solanum torvum is an erect shrub, growing up to 3.55 m high. The stem is pale green, star-shaped, with scattered flat spines, the leaves are alternate, oval to oblong, lobed pinnate, the lateral inflorescences, racemose, usually extra-axillary, often dichotomous; have flowers, white, about 1 cm long, the corolla tube is short, branches of 5 lobes, 4 stamens, short filaments, anthers united in a cone.

- **Use:**

The leaves are applied externally to relieve pain. Different parts of the plant are used worldwide as antidotes for poison and for wounds and other conditions (Ndebia, 2007) (Kusirisin, 2009) (Yuan-Yuan, 2011).

12. *Spathodea campanulata* Peauv.

Family: Bignoniaceae



- **Description:**

It is a dioecious tree that grows to about 35 m in height, often as a savannah bush, with shallow roots, measuring about 60 cm in diameter, the bark is grey, pale brown, and smooth, becoming dark grey at maturity, rough and scaly with a cylindrical base. The leaves are opposite or in whorls. Stipules are absent; flowers are bisexual and the inflorescence is in a terminal raceme, the fruits are narrowly ellipsoid and 15-27 cm long and its dehiscence opens into 2 valves.

- **Use:**

The bark of the trunk is applied as a paste to heal wounds (Lautenschläger, 2018). The various parts are used in traditional medicine or in African pharmacopeia for the treatment of a variety of diseases.

13. *Vernonia colorata* (Willd.) Drake

Family: Asteraceae



- **Description:**

Vernonia colorata is a highly branched shrub reaching 3 - 5 m high, with pubescent, oval-elliptic leaves 8 - 15 cm long and 5 - 10 cm wide with distinctly wavy margins, a very hairy upper surface and an underside covered with dense woolly hairs.

The petiole is 15-30 mm long; the inflorescences are flattened panicles, composed of small flower heads 5-15 cm long; the flowers are white or bluish; the fruits are hairless achenes (Gomes, 2013) (Ejoh, 2005).

- **Use:**

Fresh leaf extract is applied topically to wounds (Gomes, 2013).

14. *Vernonia amygdalina* Delile

Family: Asteraceae



- **Description :**

A shrub that can grow to 2-5 m tall with ridged, pubescent branches that become hairless at maturity.

The leaves are alternate, obovate - lanceolate, entire or finely toothed, pubescent at the base with florets at the top and about 6 mm in diameter, the inflorescence in corymbs.

- **Use**

Scabies (friction) and ringworms: leaf curling (Masaba, 2000).

15. *Allium cepa* L.

Family: Lilliaceae



- **Description:**

Commonly known as an onion; easily characterized by its morphologies of large, variably colored bulbs (whitish, yellowish, reddish, chocolate, globular) which give rise to a thick, hollow, spindle-shaped stem. The leaves are cylindrical and hollow. The flowers are white or violet, united in a simple, globular umbel.

The plant in cultivation has a cosmopolitan and herbaceous character.

- **Use:**

The juice of the onion is applied after sterilizing the wound.

16. *Allium sativum* L.

Family: Liliaceae



- **Description :**

This plant, like the onion, is morphologically herbaceous perennial with a smaller bulb than that of the onion and a hollow cylindrical stem, bearing an umbel of whitish or reddish flowers at the top. Like the onion, garlic is also a cosmopolitan plant.

- **Use:**

The plant has healing properties, acts as an anti-inflammatory, infused dry bulbs, and externally treats snake bites (OMS, 2009).

17. *Alstonia congensis* Engl.

Family: Apocynaceae



• **Description :**

A large tree that can reach dark, almost smooth, or finely fissured bark that leaks abundant whitish latex.

The leaves are obovate and whorled. The terminal inflorescences are furnished with whitish flowers in pairs. The fruits are in linear follicles, grouped in pairs, and can reach a few dozen centimeters in length and less than 6 mm in width.

• **Use :**

The juices from the leaves are applied locally to disinfect wounds (OMS, 2009).

18. *Annona reticulata* L.

Family: Annonaceae



• **Description:**

This shrub has erect, lenticel-like branches. The leaves are glabrescent and acuminate at the top. The flowers are cream-colored, axillary, with valvular sepals and petals. The fruit is ox-heart shaped, with angular halos forming lines in a network. The pulp is white or reddish, depending on the variety. It is not very palatable and is often eaten cooked, sometimes with sugar added in some regions.

• **Use:**

Considered to heal wounds and injuries: crushed fruit applied topically (OMS, 2009).

19. *Ceiba pentandra* (L.) Gaertn.

Family: Bombacaceae



• **Description :**

Ceiba pentandra is a large tree close to the baobab, up to 40 m high, with spiny bark. The leaves are digitate, lanceolate, and entire or slightly toothed. The flowers are white and pubescent. Several seeds, surrounded by silky padding, escape at maturity before the fruits fall, especially in the presence of wind.

This secondary forest and savannah tree is widespread in all tropical regions of the world.

• **Use :**

The decoction of the plant for washing treats wounds, boil and leprosy macules (OMS, 2009).

20. *Chenopodium ambrosioides* L.

Family: Chenopodiaceae



- **Description :**

The plant is erect, up to 1 m high, and very branched, pyramid-shaped, glabrescent, with a strong odor. The stem is angular with sparse deciduous hairs. Leaves narrowly oblong or elliptical. The plant is widely distributed in humid and warm regions of the world. It grows most often behind houses.

- **Use :**

Leaf piling as a dressing heals the wound (OMS, 2009).

21. *Costus lucanusianus* J. Braun & K. Schum

Family: Zingiberaceae



- **Description :**

This robust grass species, reaching 2 to 3 m in height, is found in primary wet or swampy forests.

- **Use :**

The juice of the stem, applied locally, heals wounds.

22. *Crossopteryx febrifuga* (Afzel. ex G.Don) Benth.

Family: Rubiaceae



- **Description :**

The plant can grow up to 8 m high, with scaly bark and more or less long pubescent branches. Leaves elliptic, rounded or short acuminate at the top. Lateral veins 6 to 7 pairs. Inflorescences corymbs form with white flowers. Seeds flat and winged.

- **Use :**

The macerated or decocted leaves were for washing and then powdered seeds were for topical application healing sores, and treating buboes (OMS, 2009) (Kambu, 1990).

23. *Dacryodes edulis* (G.Don) H.J.Lam

Family: Burseraceae



- **Description :**

It is a tree often planted in villages and has dense foliage. It is medium in size with a slender trunk. The leaves are imparipinnate. The inflorescences are usually terminal in panicles. The edible fruits are ellipsoidal in shape, of variable size, pink and then purple when ripe.

- **Use :**

The paste of fire-softened leaves heals wounds and burns: applied locally (OMS, 2009).

24. *Hymenocardia acida* Tul.

Family: Hymenocardiaceae



- **Description :**

Shrub with branches that turn red when the bark is removed. The plant is hermaphroditic with twisted branches, the fruits are green and winged. The leaves are elliptical, rounded at both ends, and leathery. The thick bark is covered with brown dust with medicinal properties. The shrub is best found in the savannahs of Africa.

- **Use:** Dry trunk bark dust mixed or not with salt, applied locally, heals the circumcision wound (OMS, 2009).

25. *Morinda morindoides* (Baker) Milne-Redh.

Family: Rubiaceae



- **Description :**

This species is a sarmentose, sometimes climbing shrub that can reach 9 to 10 m in height, with dark green, cylindrical, spindly, intertwined branches. The leaves are elliptical, with an acuminate base and a short petiole. Flowers white, large, sessile and numerous, grouped at the end of a solitary, often terminal stalk. Berries yellow when ripe, fused together to form a fruit of 7 to 15 parts.

- **Use :**

The powder of the dry leaves, applied locally, treats wounds (OMS, 2009).

26. *Morinda lucida* Benth

Family: Rubiaceae



- **Description :**

Medium-sized tree. The leaves are elliptical or oval, more or less acuminate, and rounded. The inflorescences are globose, long-stalked, and opposite.

The flowers are white, or greenish-white. It is a tree of the secondary rainforests of tropical Africa.

- **Use :**

The leaves, cooked in water, are used as a compress to treat malignant wounds (OMS, 2009).

27. *Moringa oleifera* Lam.

Family: Moringaceae



- **Description :**

Shrub over 5 m high. The trunk is thick, with greyish or brownish bark. Leaves compound and unipinnate. Inflorescence in axillary or terminal panicles of white flowers. The fruit is an elongated linear silique, about 20 cm long and 2 cm wide. Native to India and Arabia, now cultivated in all tropical and subtropical countries of the world.

- **Use :**

The macerated flowers cooked in olive, peanut or palm oil combined with beeswax, applied locally, heal wounds and abscesses (OMS, 2009).

28. *Musa x paradisiaca* L.

Family: Musaceae



- **Description :**

A large herb, reaching up to ten meters in height. Leaves are petiolate, enveloping and forming the trunk of the plant; inflorescence pendulous, with oblong-lanceolate to oblong-oval, reddish to brown bracts; flowers yellowish-white, calyx 5-toothed, free petal oval, fruits cylindrical, yellow to green depending on the degree of maturity.

Currently, plantains, sweet bananas, and others are thought to be hybrids of *Musa acuminata* and *Musa balbisiana*.

- **Use :**

The sap from the fruit husk heals wounds and injuries; applied locally (OMS, 2009).

29. *Nicotiana tabacum* L.

Family: Solanaceae



- **Description :**

This annual species of the Solanaceae family, with a robust stem, can reach 2 m in height. Leaves are sessile, hairy, slimy, oval or lanceolate, shortly acuminate, and decurrent at the base. Native to South America, highly hand-hybridized, and widely cultivated worldwide as a stimulant due to its high nicotine content.

- **Use :**

The decoction of leaves, applied locally, treats various wounds and injuries.

30. *Pentaclethra macrophylla* Benth.

Family: Mimosaceae



- **Description :**

Medium-sized, more or less sinuous tree, reaching 40 cm in diameter. The branches are erect, the leaves with linear, pinnate stipules of 10 to 13 pairs. Leaflets asymmetrical, oblique and auriculate at the base, slightly emarginate or acute at the top. The flowers sessile yellow. A large tree evolving in the rainforests of tropical Africa.

- **Use :**

Leaf culet applied to the wound (OMS, 2009).

31. *Pentadiplandra brazzeana* var. *brazzeana*

Family: Pentadiplandraceae



- **Description :**

Shrub with long elliptical, obovate, lanceolate leaves, acute or rounded at the base. The inflorescence is in clusters up to 2 cm long. The flowers are white with blue and red spots. The fruits are red globular berries, spotted with white when ripe.

This sarmentose shrub is quite common in primary forests located in central Africa.

- **Use :**

Root decoction for external use on wounds, ulcers, boils, and others (OMS, 2009) (Kambu, 1990).

32. *Ricinus communis* L.

Family: Euphorbiaceae



- **Description :**

Perennial, tree-like herb, 2 to 3 m high. Leaves alternate, long-stalked, palmately lobed with 5-7 toothed lobes, acute, hairless and reddish. Inflorescence in erect panicles with male flowers at the base and female flowers at the top. Fruits are spiny capsules with shiny, smooth seeds.

- **Use :**

Powdered fruit, burnt, applied topically to an unhealable wound (OMS, 2009)

33. *Aframomum angustifolium* (Sonn.) K.Schum.

Family: Zingiberaceae



- **Description :**

A grassy plant with leafy stems reaching 3 to 5 m in height, the linear leaf blade lanceolate. Species of swamp forests.

- **Use :**

Le décocté de la plante entière désinfecte la plaie ou blessure (OMS, 2009).

34. *Manniophyton fulvum* Müll.Arg.

Famille: Euphorbiaceae



- **Description :**

This plant is a liana that grows up to 10 m into the tops of neighboring trees. They are very abundant in old and degraded secondary forests.

- **Usage :**

The Sap was applied topically to the snake bite and wound. Leaf char on the burn (Konda, 2012).

35. *Acanthus montanus* (Nees) T. Anderson

Family: Acanthaceae



- **Description :**

Robust, upright herb reaching up to 1.50 m in height, with variable pubescence in its upper parts. Leaves are very variable, deeply cut and irregularly toothed with spines.

A woodland species, growing in damp places, preferably by streams and sometimes behind houses.

- **Use :**

Fresh leaf pellet was applied topically to the Panariasis wound (Konda, 2012).

36. *Albizia gummifera* (J.F.Gmel.) C.A.Sm.

Family: Mimosaceae



- **Description :**

A tree reaching up to 35 m in height and 0.70 m in diameter at its base, fairly common in forest groups, with compound leaves.

- **Use :**

The pulverized leaves combined with plant salt, (as a dressing) were applied to the wound (Konda, 2012).

37. *Anonidium mannii* (Oliv.) Engl. & Diels

Family: Annonaceae



- **Description :**

The Tree 10-30 m tall, but the bole is short, slightly twisted, and fluted, the crown dense with drooping branches.

The leaves are long-stalked, up to 7 mm, thick, and puberulent to glabrous. This species is found in dense forests and forest galleries.

- **Use :**

The powdered bark of the trunk, combined with plant salt, applied topically after scarification on the snake bite (Konda, 2012).

38. *Bidens pilosa* L.

Family: Asteraceae



- **Description :**

Annual herb with opposite leaves and compound lower parts.

Very abundant in fallows, open areas, villages, and grassy or shrubby savannahs.

- **Use :**

The expressed and pileated are leaves applied or bandaged to wounds (Konda, 2012).

39. *Caladium bicolor* (Aiton) Vent.

Family: Araceae



- **Description :**

A rhizomatous and tuberous plant, usually having leaves and flowers at the same time. Leaves are peltate, sagittate, mostly with the spotted blade above. Species from tropical America, are introduced and cultivated in all tropical countries, sometimes as ornamental plants.

- **Use :**

Tuber piling combined with *Cissus aralioides* leaves and *Elaeis guineensis* petiole heals the wound; as a dressing (Konda, 2012).

40. *Cercestis congensis* Engl.

Family: Araceae



- **Description :**

Climbing vines on trees in swampy, wet, or hydromorphic forests and on farmland.

- **Use :**

Powder from the petioles as a dressing heals the wound (Konda, 2012).

41. *Chrysanthellum indicum* DC.

Family: Asteraceae



- **Description :**

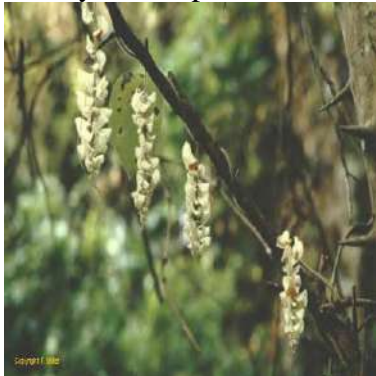
This species of the Asteraceae family is an annual, 25 - 50 cm high, growing in ruderal formations and on abandoned land.

- **Use:**

The leaves can be applied or bandaged on the wound.

42. *Cissampelos owariensis* P. Beauv. ex DC.

Family: Menispermaceae



- **Description :**

It is a voluble, slender vine with striated, pubescent, hairy or, glabrescent branches and a spiny stem and branch.

A species of primary or secondary forests. Also found in forest galleries, swamps, and savannahs.

The expressed leaves apply locally on the wound and ulcer (Konda, 2012).

43. *Combretum racemosum* P.Beauv.

Family: Combretaceae



- **Description :**

A sarmentous shrub or vine with reddish-brown bark can reach 10 m in length and 8 cm in diameter. Leaves are opposite or whorled in threes and then alternate.

- **Use :**

Fresh leaves are used as a poultice to treat abscesses and wounds (Konda, 2012).

44. *Conyza sumatrensis* (Retz.) E.Walker

Family: Asteraceae



- **Description :**

The plant is herbaceous, biennial, or perennial, with a stiff stem, reaching almost 2 m in height when growing on open ground. The leaves are linear and la-like, about 12 cm long and 1 cm wide. A pantropical species colonizing old crops and waste ground.

- **Use :**

The exprime of the crushed leaves, to bandage with the wound (Konda, 2012).

45. *Eclipta prostrata* (L.) L.

Family: Asteraceae



- **Description :**

Annual herb white inflorescence. It can reach 50 to 60 cm high. It is often found in damp places and fallow land, it is also ruderal.

- **Use :**

The pilate of the leaves is applied locally on the brun, but also the expression of the whole plant is applied on the moths in hard friction on the shaved head (Konda, 2012).

46. *Euphorbia cf. ingens*.

Family: Euphorbiaceae



- **Description :**

It is a shrub from 2 to 6 cm high covered with spines at the trunk; the branches have fleshy white latex stems. Species living in the vicinity of houses or planted around plots of land, with some in the cemetery as an ornamental plant [19].

- **Use :**

Cooking liquid like maize mush thinks mouth sores (Konda, 2012).

47. *Imperata cylindrica* (L.) Raeusch.

Family: Poaceae



- **Description :**

Herb with a hairless stem from 0.4 to 2 m high. The blades are linear, acuminate at the top, long, and narrow towards the base. A Pantropical species, largely sub-tropical, invading fallow land and poorly tilled fields with its powerful, underground, soaking rhizomes.

- **Use :**

Expressing sections of the young shoots as a dressing on wounds; 2 times a day (Konda, 2012).

48. *Ipomoea involucrata* P.Beauv.

Family: Convolvulaceae



- **Description :**

Voluble lianascent ruderal herb a growing development. This species is widespread throughout tropical Africa.

- **Use :**

The leaves are used as a local dressing on the wound (Konda, 2012).

49. *Leea guineensis* G.Don

Family: Leeaceae



• **Description :**

Woody species reaching 1 to 2 m in height. Composite leaves bipinnate; leaflets opposite, imparipinnate, oblong-elliptical. The plant grows in damp areas. It is found in dense forest areas throughout intertropical and tropical Africa.

• **Use :**

The charred leaves, apply locally to the burns (Konda, 2012).

50. *Milicia excelsa* (Welw.) C.C.Berg

Family: Moraceae



• **Description :**

A large tree that can reach 50 m in height. Leaves oblong-elliptic, 8-16 cm long, and 6-8 cm wide. It is a plant of dense forests and forest galleries, in savannah regions.

• **Use :**

Latex extract was applied topically to the scabby wound (Konda, 2012).

51. *Penianthus longifolius* Miers

Family: Menispermaceae



• **Description :**

An erect shrub, growing up to 2.5 m high, with angular branches. The leaves are erect with an expanded stalk at the base. This species is widespread in dense, moist forests on firm ground.

• **Use :**

The bark of the root crushed in a fresh state (as a dressing) on wounds or injuries (Konda, 2012).

52. *Petersianthus macrocarpus* (P.Beauv.) Liben

Family: Lecythidaceae



• **Description :**

A (caterpillar) tree 20-30 m high and about 1 m in diameter at the base, fairly abundant in dryland rainforests.

• **Use :**

Leaves softened with palm oil and applied locally to the wound (Konda, 2012).

53. *Psychotria peduncularis* (Salisb.) Steyererm.

Family: Rubiaceae



- **Description :**

Undergrowth grass of primary and secondary moist forests.

- **Use :**

Fresh leaves pounded, combined with earthworms and their excreta mixed in hot oil; in dressing traumatic wounds (Konda, 2012).

IV. Conclusion

The objective of this study was to document the healing medicinal plants traditionally used in the Democratic Republic of Congo. The results of the study reveal a total of 53 medicinal plants divided into 50 genera and 31 families used for healing human wounds. The most represented families are Asteraceae, Euphorbiaceae, Rubiaceae, and Lialliaceae. In terms of species abundance, the most represented genera are Allium, Morinda, and Vernonia. Herbs, shrubs, and trees are the main morphological types documented. Thus, the documented therapeutic use of these plants provides the first baseline data for the city and reveals further avenues for pharmacological, and conservation studies.

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