

Phytotherapy and Women's Reproductive Health: The Cameroonian Perspective

Authors

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Key words

- women reproductive health
- African pharmacopoeia
- emmenagogue
- uterine flow suppressors
- anti-infertility
- abortifacient

Abstract

Approximately 80% of the population in Africa use traditional medicinal plants to improve their state of health. The reason of such a wide use of medicinal plants has been mainly attributed to their accessibility and affordability. Expectation of little if any side effects, of a "natural" and therefore safe treatment regimen, as well as traditional beliefs additionally contribute to their popularity. Several of these plants are used by women to relieve problems related to their reproductive health, during or after their reproductive life, during pregnancy, or following parturition. The African pharmacopoeia thus provides plants used for preventing and/or treating gynecological infections, dysmenorrhea, irregular menstruations, oligomenorrhea or protracted menstruation, and infertility. Such plants may then be used as antimicrobians, emmenagogues, or as suppressors of uterine flow. African medicinal plants are also

used during pregnancy for prenatal care, against fetal malposition or malpresentation, retained dead fetus, and against threatened abortion. Some others are used as anti-fertilizing drugs for birth control. Such plants may exert various activities, namely, anti-implantation or early abortifacient, anti-zygotic, blastocytotoxic, and anti-ovulatory effects. Some herbs could also act as sexual drive suppressors or as a post-coital contraceptive by reducing the fertility index. A number of these plants have already been subject to scientific investigations and many of their properties have been assessed as estrogenic, oxytocic, or anti-implantation. Taking into account the diversity of the African pharmacopoeia, we are still at an early stage in the phytochemical and pharmacological characterization of these medicinal plants that affect the female reproductive system, in order to determine, through *in vitro* and *in vivo* studies, their pharmacological properties and their active principles.

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Introduction

Traditional societies in Africa and elsewhere have always used herbs to promote health [1]. According to Okoli et al. [2], traditional medical practices on the African continent date as far back as 4000 years and were the sole medical system for health care before the advent of conventional medicine. Even today, traditional medicine is still the predominant means of health care in developing countries where about 80% of their total population depends on it for their well-being [3]. The reason of such a broad use of medicinal plants has been mainly attributed to their accessibility and affordability. Expectation of little if any side effects, of a "natural" and therefore safe treatment regimen, as well as traditional beliefs additionally contribute to their popularity [3].

In this traditional system of medicine, plant extracts in forms of concoctions or infusions are used to treat a wide range of diseases. Some of these plants are used in connection with female reproductive health. Throughout history, women have tried to control or enhance their fertility with various levels of societal support. Since then, plant drugs have been used for their effects on reproductive function particularly for suppressing fertility, regulating menstrual cyclicality, relieving dysmenorrhea, treating menopausal symptoms, and breast pain. Plant materials have also been used during pregnancy against fetal malposition, threatened abortion, or amnionitis affecting the newborn [4,5]. The sites of action of fertility and/or antifertility agents in females comprise the hypothalamus, the anterior pituitary, the ovary, the oviduct, the uterus, and the vagina. Plants in question affect the reproductive system through

Table 1 Some Cameroonian medicinal plants with estrogenic properties.

Name	Family	Plant part used	Extract	Estrogenic effects	Authors
<i>Brenania brieyi</i>	Rubiaceae	Fruits	Methanolic extract	▶ Stimulated uterine growth and vaginal epithelial proliferation.	Magne Ndé et al. [12]
<i>Erythrina lysistemon</i>	Fabaceae	Stem barks	Ethyl acetate extract	▶ Stimulated phosphatase alkaline in Ishikawa cells; ▶ slightly stimulated uterine growth. ▶ Prevented bone loss, increased HDL-cholesterol and decreased triglycerides.	Tanee et al. [10] Njamen et al. [11]
<i>Milletia conraui</i>	Leguminosae	Stem barks	Ethyl acetate extract	▶ Increased uterine and vaginal epithelial heights;	Njamen et al. [13]
<i>Milletia drastica</i>	Leguminosae	Stem barks	Ethyl acetate extract		
<i>Bridellia ferruginea</i>	Leguminosae	Leaves	Methanolic extract	▶ stimulated alkaline phosphatase in Ishikawa cells.	
<i>Aloe buttneri</i>	Liliaceae	Leaves	Aqueous	▶ Stimulated uterine growth, increased ovarian weight;	Telefo et al. [16, 17]
<i>Dicliptera verticillata</i>	Acanthaceae	Leaves			
<i>Justicia insularis</i>	Acanthaceae	Leaves		▶ increased ovarian and uterine levels;	
<i>Hibiscus macranthus</i>	Malvaceae	Stem leaves		▶ increased serum estradiol levels and decreased ovarian cholesterol.	
<i>Senecio biafrae</i>	Asteraceae	Leaves	Aqueous	▶ Puberty onset and stimulation of folliculogenesis.	Lienou et al. [18]

estrogenic/anti-estrogenic, anti-inflammatory, analgesic, and antinociceptive activities. Plant extracts with estrogen-like properties in particular have been reported to mostly contain compounds endowed with estrogenic activities. Such compounds commonly known as phytoestrogens should be referred to as plant secondary metabolites with estrogenic activity, as they mimic part of estrogen action through estrogen receptor-mediated mechanisms. In addition, their mechanism of action depends on the levels of endogenous estrogens [6]. The present review aimed to highlight Central African medicinal plants used by women to relieve problems related to their reproductive health during or after their reproductive life, during pregnancy, or following parturition, with an emphasis on plants originating from Cameroon.

Estrogen-like Activities of Secondary Metabolites from Some Central African Medicinal Plants

As previously reported [7–9], xenobiotics with estrogenic properties and plant secondary metabolites with this activity in particular preferentially exert their biological activity by: (1) mimicking the action of endogenous estrogens; (2) acting as estrogen antagonists; (3) altering the pattern of synthesis and metabolism of endogenous hormones; and (4) modifying hormone receptor values.

Up to date, a large variety of studies have reported the estrogenic properties of a number of Central African medicinal plants, namely, *Erythrina lysistemon* (Fabaceae) [10, 11], *Brenania brieyi* (Rubiaceae) [12], *Milletia conraui* (Leguminosae), *Milletia drastica* (Leguminosae), *Bridellia ferruginea* (Leguminosae) [13], and *Erythrina poeppigiana* (Fabaceae) [14, 15]. A mixture of *Aloe buttneri* (Liliaceae), *Justicia insularis* (Acanthaceae), *Hibiscus macranthus* (Malvaceae), and *Dicliptera verticillata* (Acanthaceae) has also been associated with estrogenic properties [16–18]. The body of evidence for the respective estrogenic properties and of the above-cited plants is summarized in **Table 1**.

All the above-listed plant extracts exhibited direct estrogenic effects probably because of the presence of metabolites acting

through either or both of the two estrogen receptors. To continue with the pharmacological characterization of these extracts, extended phytochemical studies are required. In-depth phytochemical studies have already been conducted on some of these plants.

As far as the *Erythrina lysistemon* extract is concerned, following a phytochemical analysis, alpinumisoflavone and abyssinone V-4'-methyl-ether have been isolated as major estrogenic constituents [19, 20]. In the same study, alpinumisoflavone (an isoflavone) and abyssinone V-4'-methyl-ether (a flavanone) were found to be responsible for the estrogenic effects of the crude extract of *Erythrina lysistemon*, as they stimulated uterine growth and/or vaginal proliferation. This estrogenic activity was shown to be estrogen receptor-mediated as both compounds bound both subtypes of the estrogen receptor in a ligand binding assay, although not with the same affinity and preference. Furthermore, alpinumisoflavone and abyssinone V-4'-methyl-ether reduced atherogenic risks by decreasing the two assessed atherogenic parameters, namely, the total cholesterol/HDL-cholesterol ratio and the atherogenic index of plasma in ovariectomized Wistar rats serving as a preclinical model for postmenopausal conditions. In the same study, both compounds were found to decrease serum gonadotrophin levels and to reduce the hot flush activity by increasing the ratio of FSH on LH [19]. Finally, whereas alpinumisoflavone induced clear estrogenic effects both on classical and nonclassical estrogen targets, the flavanone abyssinone V-4'-methyl-ether did affect only the vagina (suggesting the safety of treatment with this compound towards the uterus of female rats) and nonclassical estrogen targets such as the lipid metabolism, implying a tissue specific effect.

Concerning the study on *Erythrina poeppigiana*, crude methanolic and dichloromethane extracts of the stem bark of this plant induced significant estrogenic effects on some classical estrogenic targets, namely the uterus and vagina, following a three-day uterotrophic assay with ovariectomized rats (unpublished observations). Using classic chromatographic methods, five new isoflavones derivatives, namely, 5,4'-dihydroxy-7-methoxy-3'-(3-methylbuten-2-yl)isoflavone, 5,2',4'-trihydroxy-7-methoxy-5'-(3-methylbuten-2-yl)isoflavone, 5,4'-dihydroxy-7-methoxy-3'-

(3-methyl-2-hydroxybuten-3-yl)isoflavone, 3'-formyl-5,4'-dihydroxy-7-methoxyisoflavone, and 5-hydroxy-3''-hydroxy-2'', 2''-dimethyldihydropyrano[5'',6'': 3',4']isoflavone, as well as six known compounds, wightone, 3'-isoprenylgenistein, isolupabigenin, alpinumisoflavone, erypogin D, and crystacarpin, most of which are structurally related to the soy isoflavone genistein, were isolated [14]. Ligand binding assays with estrogen receptor- α and - β revealed that isoprenyl and dimethylpyrano substituents in ring A reduced the affinity of binding to ER β approximately 100-fold compared to genistein; the isoprenyl substituent in ring B was better accommodated, allowing 3'-isoprenylgenistein to bind with ca. 10-fold lower affinity than genistein [14]. As a follow-up study on this plant, the estrogenic properties of the isolated isoflavones derivatives with isoprenyl and/or 7-methoxy substitution were evaluated using estrogen receptor- α - and - β -dependent reporter gene assays. These compounds are particularly interesting as they represent naturally occurring structural modifications, namely, isoprenylation and/or methoxylation at various positions of the genistein skeleton. These modifications were associated with a statistically significant activation of the ER α - and ER β -dependent reporter gene expression starting from 0.1 nM and resulting in distinct functional properties. For example, the 7-methoxy-3'-isoprenyl and the 7-methoxy-3'-(3-methyl-2-hydroxybuten-3-yl) derivatives induced an ER α - and ER β -coupled luciferase activity at a concentration ten times lower than that of genistein. Conversely, a double prenylation at positions 8 and 3' was found to be associated with an almost complete loss of activity in the ER α -dependent system; but in the ER β expressing system, the effectiveness remained on a statistically significant level, demonstrating an "exclusive ER β -selectivity" in U2OS cells [15]. It will be interesting to investigate whether and to what extent these properties translate into *in vivo* effects, e.g., regarding bone and menopausal health.

Milletia griffoniana is used in traditional medicine in some village communities of Cameroon to treat menopausal disorders among others. Following phytochemistry, the estrogenic activities of some compounds isolated from *M. griffoniana*, namely, griffonianone C, griffonianone E, 7-*O*-geranylformononetin, 4'-*O*-geranylisquirigenin, 4'-methoxy-7-*O*-[(E)-3-methyl-7-hydroxymethyl-2,6-octadienyl]isoflavone, and 3',4'-dihydroxy-7-*O*-[(E)-3,7-dimethyl-2,6-octadienyl]isoflavone, could be assessed [21]. Three different ER α -dependent assays revealed weak estrogenic properties of the above-mentioned substances. Griffonianone C was selected for in-depth studies on the modulation of the expression of several estrogen-responsive genes in various organs of ovariectomized rats [22, 23], confirming mild estrogenic properties and excluding the risk of stimulation of uterine proliferation.

Additional research efforts focused on the following four Cameroonian medicinal plants, *Aloe buttneri*, *Justicia insularis*, *Hibiscus macranthus*, and *Dicliptera verticillata*. The leaves of these four medicinal plants were mixed in the proportions indicated in traditional medicine and tested for hormonal properties in immature female Wistar rats. This mixture has been shown to significantly increase the weight of the ovaries and uterus, as well as their total proteins levels, and the serum estradiol level at the dose of 94 mg/kg/day. These effects were accentuated in the pubertal period [16, 17], probably due to the increase of estrogen receptors expression during puberty. The same authors showed that the aqueous extract from leaves and stem bark of *Senecio biafrae* induced premature puberty onset in immature female Wistar rat after a 30-day period of treatment at the doses of 8,

32, and 64 mg/kg/day, respectively, indicated by an effective folliculogenesis [18].

An experimental endpoint not related to reproduction but to menopausal health is the bone. In this respect, from the Cameroonian medicinal plant *Pterospermum acerifolium*, two phytoceramides were isolated and shown to exhibit estrogenic activities assessed by alkaline phosphatase production in osteoblasts [24].

Cameroonian Medicinal Herbs and Women's Reproductive Health

Women reproductive health does not only comprise fertility control or treatment of infertility problems but also implies genital organ health (prevention and/or treatment of gynecological infections). Many Cameroonian medicinal plants are therefore used as contraceptives (to prevent ovulation or fertilization), abortifacients (to prevent implantation or to push out unwanted conceptus), emmenagogues (to stimulate uterine flow), or oxytocics (to stimulate uterine contractions, particularly to promote labor) [25]. Some other plants are used for vaginal douching to prevent pregnancy or infections [26] or to enhance sexual stimulation of the male partner by drying or tightening the vagina [27, 28].

Besides the availability of the present methods of birth control, the population explosion and unintended pregnancies continue to pose major public health issues worldwide. The world population has exceeded 6.43×10^9 [29] and is increasing by 1×10^9 every 12 years. Ninety-five percent of this growth is in the developing nations, and particularly in Africa. In the USA, half of all pregnancies are unintended, which results in more than 1×10^6 elective abortions annually [30, 31]. This calls for a better method of contraception that is acceptable, effective, and available both in the developed and developing nations. In the African pharmacopoeia, there are an appreciable number of plants endowed with antifertility properties. Antifertility is a term used for the prevention of pregnancy and is often referred to as birth control. The basic aim of antifertility drugs is to prevent conception or fertilization. Though considerable progress has been made for the development of highly effective, acceptable, and reversible methods of contraception among females, options on the male side are still slow and limited [32].

As far as females are concerned, antifertility drugs are those that control ovulation and, if regularly consumed, function as effective contraceptives. For instance, widely known steroidal oral contraceptives are chemicals that control the female menstrual cycle and ovulation.

Natural products traditionally used as remedies for birth control in women could exert various activities: anti-implantation or early abortifacient, anti-zygotic, blastocytotoxic, and anti-ovulation. Some herbs could act as sexual drive suppressors or as post-coital contraceptive by reducing the fertility index [32, 33].

Birth control is not the sole burden of women as far as their reproductive health is concerned. Many women in Africa still face the problem of infertility. Indeed, infertility, defined as the inability to conceive after one year of regular intercourse, is said to affect 8–14% of couples in European and Eastern countries [34, 35]. In Africa, infertility is a serious reproductive health problem with regional prevalence rates of 30–40% [36]. Infection, which is the most common cause of infertility, affects the physical health of both men and women. Women in particular, also commonly suffer from severe negative social consequences such as stigmatization, ostracism, abuse, and economic deprivation [37–39]. The

effective management of infertility therefore has a considerable impact on reproductive health in Africa. Traditional medicinal herbs used to treat female infertility may thus act against urogenital infections, tubal blockage, anovulatory cycles, or premature menopause.

An emmenagogue is an herb which stimulates menstrual bleeding. To provoke menstrual bleedings, emmenagogue herbs may act by stimulating uterine contractions. In the case of pregnancy, emmenagogue herbs might provoke, according to the stage of the pregnancy, abortion or childbirth. These emmenagogue herbs can then be used either to treat amenorrhoea, or as oxytocic to hasten labor, or as an abortifacient.

Some other plants are traditionally used against oligomenorrhoea or protracted menstruation (menorrhagia). Plants may also help during pregnancy against fetal malposition, threatened abortion, or amnionitis affecting the new born.

In 1996, Adjanohoun et al. [40] catalogued a large number of Cameroonian traditional medicinal plants among which were those used for women's reproductive health. In **Table 2**, we summarized some of the Cameroonian medicinal plants used for women's reproductive purposes, as compiled from the Cameroonian Pharmacopoeia published by Adjanohoun et al. [40]. In this table, plants are classified according to their traditional use.

Conclusion

▼ The tropical forest continues to provide raw materials for the discovery of new medicinal products in view of the large diversity of its flora. In the African pharmacopoeia, many plants are used for women's reproductive health and particularly for fertility, genital organ health, or for birth control. In this paper, we have reviewed the knowledge on plants traditionally used for women's reproductive purposes mostly in central parts of Africa. A significant number of these plants are found in Cameroon. Among these traditional medicinal herbs, some have already been characterized scientifically, although to a varying degree, and several of their properties are attributed to estrogenic, oxytocic, or anti-implantatory properties. Taking into account the diversity of the Cameroonian pharmacopoeia, there is still a lot to do for the phytochemical and pharmacological characterization of these medicinal plants.

Conflict of Interest

▼ The authors declare no conflict of interest.

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Table 2 Summary of Cameroonian medicinal plants and their traditional use for women's reproductive health (compiled from the Cameroon Pharmacopoeia, by Adjanohoun et al. [40]).

Disorders	Botanical name	Vernacular name	Origin	Part used
Amenorrhoea	<i>Acanthospermum hispidum</i> (Asteraceae)	Guirlayi in Ffulde (Cameroon).	Widespread throughout tropical Africa.	Leafy shoot
Breast abscess	<i>Cogniauxia podolaena</i> Baill (Cucurbitaceae)	"Beyeme elok" in Bulu or "Kol ekona ezouo" in Badjoun (Cameroon).	Widespread in Cameroon, Gabon, Congo, and Angola.	Leaves
Cervicitis	<i>Desmodium hirtum</i> (Leguminosae-Papilionoideae)	"Sac-sac" in Mgem Mgem (Cameroon).	Found in savanna and pasture lands.	Leaves and stems
Defective lactation	<i>Elephantopus mollis</i> (Asteraceae)	"Akiba" in Bulu or "Toll" in Ewondo (Cameroon).	Found in abandoned cultivated land and in fringing forest.	Stem bark
	<i>Zanthoxylum gillettii</i> De Willd (Rutaceae)	"Bongo" in Ewondo (Cameroon).	Forest regrowths, young secondary forests, from Sierra Leone to Angola and Sudan.	Barks
Dysmenorrhoea	<i>Acanthus montanus</i> (Acanthaceae)	"Ndole elok" in Ewondo or "Ngick" in Bassa (Cameroon).	Forest region plants occurring from Benin to Angola.	Whole plant
	<i>Aloe buettneri</i> (Liliaceae)	"Kagbaya" in Bamoun, "Lah-Ndih" in Bana, "Gassa" in Bandjoun, or "Adjan nkoum" in Eton (Cameroon).	Savanna species, growing preferably in rocky areas. Found from Mali to the Central African Republic, Congo, and Angola to Malawi.	Leaves
	<i>Aloe vera</i> (Liliaceae)	"Kouovut" or "NschaSoure" in Bamoun (Cameroon).	Probably native of the Mediterranean region; propagated by rhizome.	Leaves
	<i>Anonidium manii</i> (Annonaceae)	"Mombou kombo" in Kaka.	A species of forest undergrowth. It is also found in Ghana, Nigeria, and Democratic Republic of Congo.	Bark
	<i>Begonia schaeferi</i> (Begoniaceae)	"Woyamowo" in Bana (Cameroon).	Found in forests, by streams.	Leaves
	<i>Centella asiatica</i> (Apiaceae)	"longion diep" in Bamenda (Cameroon).	Widely distributed in tropical Africa, Asia, and Australia. West Africa-East Africa.	Stem and leaves
	<i>Cissus quadrangularis</i> (Vitaceae)	"Coeur" in Bafut, "Ndieh gap" in Bamoun, "Thor-Ngehkue" in Bana, "Nkhsat" in Bagangte, or "Nyo" or "Njel" in Bassa (Cameroon).	Widespread in the drier parts of Africa, Arabia, and India.	Fresh stem
	<i>Clerodendrum volubile</i> (Verbenaceae)	"Tughlen" in Babungo (Cameroon).	Secondary forests, gallery forests, and along streams.	Bark

continued

Table 2 Continued

Disorders	Botanical name	Vernacular name	Origin	Part used
Dysmenor-rhea	<i>Emilia coccinea</i> (Asteraceae)	"Alonvu" in Bulu, "Thohi" in Ffulde, or "Mahomambio" in Bassa (Cameroon).	Frequently found on roadsides, in sunny parts of the forest, and in the Guineo-Sudanese savanna.	Fresh leaves
	<i>Entandrophragma cylindricum</i> (Meliaceae)	"Sbicha" in Banyangi, or "Assie" in Ewondo (Cameroon).	Species common in Guinean forest.	Bark
	<i>Gardenia aqualla</i> (Rubiaceae)	"Digale" in Ffulde (Cameroon).	Hills in West Africa, in Ubangi-Shari, Sudan, and Kenya.	Roots
	<i>Gouania longipetala</i> (Rhamnaceae)	"Konteh" in Lamso or "Sobomissile" in Badjoue (Cameroon).	Frequent in forest regrowth and in forest margins.	Fresh leaves
	<i>Khaya senegalensis</i> (Meliaceae)	"Dalehi" or "Kalei" in Ffulde (Cameroon).	Sudano-Zambezian and sahelian region species, widespread from Senegal to Uganda.	Bark
	<i>Morinda lucida</i> (Rubiaceae)	"Akeng" in Ewondo (Cameroon).	Forest region species, widespread from Guinea to Congo. It is more abundant in secondary formations.	Bark
	<i>Ozoroa pulcherrima</i> (Anacardiaceae)	"Korewinabae" in Ffulde (Cameroon).	Sudano-Zambezian species, widespread from Guinea to Cameroon, in Central African Republic, in Ethiopia, and in the Sudan.	Roots
	<i>Picralima nitida</i> (Apocynaceae)	"Bamborutuk" in Maka (Cameroon).	Species occurring in African forest regions, spread through Côte d'Ivoire to Democratic Republic of Congo and Uganda.	Fruits
	<i>Piper umbellatum</i> (Piperaceae)	"Mhubua" in Bana, "Mbebhueh" in Badjoun, "Aboo Medjan" in Ewondo or "Abomejang" in Bulu, "Mbobou" in Balesing or "Bobong ngoh" in Kaka (Cameroon).	Heliophile species, widespread from Guinea to Cameroon and Angola.	Whole plant
	<i>Polyalthia suaveolens</i> (Annonaceae)	"Afoumengen" in Mankon (Cameroon).	Primary forest, beside the river from Sierra Leone to Ghana.	Bark
	<i>Rauvolfia vomitoria</i> (Apocynaceae)	"Medzanga medzanga" in Ewondo, "Ikwadongdongui" in Bassa, or "Sebal" in Ffulde (Cameroon).	Guinea-Congolese species, widespread in secondary formations; it grows in fringing forests and small groves of the Sudano-Guinean region.	Root bark
	<i>Sansevieria trifasciata</i> (Agavaceae)	"Lah-Njue" in Bana or "Bascori" in Ffulde (Cameroon).	Usually found around dwellings from Sierra Leone to Democratic Republic of Congo.	Leaves
	<i>Setaria megaphylla</i> (Poaceae)	"Akwo kwo" in Bakossi, "Kiwawa" in Lamso, or "Dikok" in Bakundu (Cameroon).	Species very common in forest zones; marshy places in forest, widespread in tropical and southern Africa and tropical America.	Leaves
	<i>Tylophora cameroonica</i> (Asclepiadaceae)	"Babambe", "Babambi", or "Zarawolhi" in Ffulde (Cameroon).	Paleotropical plant; widespread through inter-tropical Africa mostly in dry regions.	Leaves
	<i>Zehneria scabra</i> (Cucurbitaceae)	"Njombe" or "Kwandalempa" in Maka, "Bohngwei" in Lamso (Cameroon).	Savanna, rocky and ruderal plains. Equatorial Africa from Nigeria to Angola.	Roots
Irregular menstruation	<i>Basella alba</i> (Basellaceae)	"Ndore" in Bafut, "Laire gapou" in Ffulde, "Kefuveyit" in Oku, "Nnab" in Metta, or "Loh" in Bagangte (Cameroon).	West Africa to Asia, West Indies and East Africa; cultivated in vegetable gardens.	Aerial parts
	<i>Clerodendrum umbellatum</i> (Verbenaceae)	"Nganwi" in Bafut, "Binyem" or "Dion" in Bassa, "Elok dibi" in Ewondo, or "Dor nkol" in Kaka (Cameroon).	Roadsides, swampy places.	Leaves
	<i>Eremomastax speciosa</i> (Acanthaceae)	"Banguimoh" in Bafut, "Ekunte" in Bakossi, "Mejama Njombe" or "Majjai ma njombe" in Bakweri, "Essan dja" in Yebekolo, "Noni" in Mbo, or "Purple leaf" in Pidgin (Cameroon).	Widespread in tropical Africa.	Fresh leaves
	<i>Harungana madagascariensis</i> (Hypericaceae)	"Toune" in Bamoun, "Ntone" in Bayang, or "Tiotintou" in Esso (Cameroon).	Sun-loving secondary forest species widely spread in all intertropical Africa, Madagascar, and Mascareigne islands.	Roots
	<i>Khaya senegalensis</i> (Meliaceae)	"Dalehi" or "Kalei" in Ffulde (Cameroon).	Sudano-Zambezian and sahelian region species, widespread from Senegal to Uganda.	Stem bark
	<i>Milicia excelsa</i> (Moraceae)	"Abang" in Ewondo, "Abang Iroko" in Mvele "Chou-lak" in Bagangte, "Mmat" in Bayang (Cameroon).	Plant growing in dense forests and forest galleries as well as savanna regions. Found from Côte d'Ivoire to Cameroon, Gabon to Democratic Republic of Congo, Mozambique, and Angola.	Bark
	<i>Vernonia conferta</i> (Asteraceae)	"Mbet mbu" in Bagante (Cameroon).	Secondary forest from Cameroon through Central Africa to Uganda and Angola.	Bark
Menorrhagia/protracted menstruation	<i>Amaranthus hybridus</i> (Amaranthaceae)	"Majouohe" in Balesing (Cameroon).	Commonly found cultivated or as a weed.	Leaves
	<i>Ampelocissus pentaphylla</i> (Vitaceae)	"Nkweeti" in Lamso (Cameroon).	Abundant in wooded savanna extending from Senegal to Mozambique.	Leaves
	<i>Aspilia africana</i> (Asteraceae)	"Kigavir" or "Kighair" in Lamso (Cameroon).	Secondary formation species, occurring from Senegal to Cameroon.	Leaves

continued

Table 2 Continued

Disorders	Botanical name	Vernacular name	Origin	Part used
Menorrhagia/protracted menstruation	<i>Dyschoriste perrottetii</i> (Acanthaceae)	"Nse net" in Lamso (Cameroon).	Plant found in tropical Africa from Senegal to Angola and from Ethiopia to South Africa.	Leaves
	<i>Prunus africana</i> (Rosaceae)	"Bakiva" in Banyangi or "Kepa", "Kira", "Kilum", and "Win wan" in Lamso (Cameroon).	Widely distributed on the mountains.	Leaves
	<i>Senecio biafrae</i> (Asteraceae)	"Nsob" in Bakossi, "Nduwane" in Bana, or "Nboh" or "Borh nja nkom" in Lamso (Cameroon).	Cocoa plantation, fallows, roadsides.	Leafy twig
	<i>Sonchus angustissimus</i> (Asteraceae)	"Bankar", "Kirah", or "Mborvingua" in Lamso (Cameroon).	High savanna.	Stem and leaves
	<i>Spilanthes africana</i> (Asteraceae)	"Ntossi" in Badjoue or "Shishur sheshiv" in Lamso (Cameroon).	A plant of wet lands. It is found in countries of West and Central Africa.	Leaves
Oligomenorrhea	<i>Asystasia gangetica</i> (Acanthaceae)	"Basu ebu" in Ejagham (Cameroon).	Widespread throughout the tropics.	Soft aerial parts
Uterine hemorrhage	<i>Setaria megaphylla</i> (Poaceae)	"Akwo kwo" in Bakossi, "Dikoko" in Bakundu, "Kiwawa" in Lamso, or "Mekoapkoap" in Vomvom (Cameroon).	Species very common in forest zones; marshy places in forests, widespread in tropical and southern Africa and tropical America.	Leaves and stems
Vaginitis	<i>Cissus quadrangularis</i> (Vitaceae)	"Coeur" in Bafut, "Ndieh gap" in Bamoun, "Thor-Ngehkue" in Bana, "Nkohsat" in Bagangte, or "Nyo" or "Njel" in Bassa (Cameroon).	Widespread in the drier parts of Africa, Arabia, and India.	Leafy twig
Vulvovaginitis	<i>Capsicum frutescens</i> (Solanaceae)	"Olene" in Badjoue, "Hehoy" in Banen, "Ondondo ndodo" in Bulu, "Ndondon" in Ewondo, or "Shishur Shengamri" in Lamso (Cameroon).	Pantropical species growing in secondary formations, in the field, and sometimes cultivated.	Aerial parts and fruits
	<i>Clerodendrum umbellatum</i> (Verbenaceae)	"Nganwi" in Bafut, "Binyem" in Bassa, Elok dibi" in Ewondo (Cameroon)	Roadsides, swampy places.	Tops of the plant
	<i>Detarium microcarpum</i> (Leguminosae-Caesalpi-noideae)	"Nkwazi" in Bakoko (Cameroon).	Woodland species, widespread in all the Sudano-Zambesian region of Africa.	Bark
	<i>Dichrocephala integrifolia</i> (Asteraceae)	"Chemambor" in Bafut, "Yieri" in Bamoun, "Tchitchiani" in Fefea, "Abiabi" in Bikom, "Esosombuog" in Bakossi, or "Tape" in Ffulde (Cameroon).	A weed of high ground.	Tops of the plant
Imperforate vagina	<i>Euphorbia hirta</i> (Euphorbiaceae)	"Ndo" in Babungo, "Pengmey" in Bafaji, Mpemeu" in Bamoun, "Tenkwuvue" in Bana, Ewuda manyongo" in Douala, "Okoul bifes" in Ewondo, or "Endemhi" in Ffulde (Cameroon).	Wild species, growing in various areas, along roads particularly on waste grounds and in old cultivations; pantropical.	Leaves
	<i>Hillieria latifolia</i> (Phytolacaceae)	"Akange" in Bafut, "Essumba" in Kaka (Cameroon).	Common in forest stations, banana plantations, palm groves, and outskirts of villages.	Roots
Leucorrhoea	<i>Ageratum conyzoides</i> (Asteraceae)	"Eshing" in Akono, "Mobangtu" in Bali, "Mejottefu" in Bamoun, "Ogaate" or "Okpati" in Bulu, "Nyat elok" or "Okpati" in Ewondo, and "Nde das se" in Sanaga (Cameroon).	Widespread in Africa.	Leaves
	<i>Alchornea cordifolia</i> (Euphorbiaceae)	"Enzezam aboe" in Bulu, "Diboybonji" in Douala, "Aboe" in Ewondo, "Mbienchie" in Bafang, or Bambemi" in Hausa (Cameroon).	Widespread in tropical Africa.	Leaves
	<i>Commelina thomasii</i> (Commelinaceae)	"Gougouot" in Bamoun (Cameroon).	Secondary lowland rain forest, persisting in farms and plantations.	Leaves
	<i>Dichrocephala integrifolia</i> (Asteraceae)	"Chemambor" in Bafut, "Yieri" in Bamoun, "Tchitchiani" in Fefea, "Abiabi" in Bikom, "Esosombuog" in Bakossi, or "Tape" in Ffulde (Cameroon).	A weed of high ground.	Tops of the plant
	<i>Hibiscus sabbadnffa</i> (Malvaceae)	"Mejue" in Bakossi, "Fouchi" in Bamoun, "Ewouda maya" in Douala, "Okro'o" in Kwen, or "Essan" in Mvele (Cameroon).	Widely cultivated in the tropics.	Leafy twig
	<i>Spanthodea campanulata</i> (Bignoniaceae)	"Vivet" in Bamoun, "Kilulone" in Lamso, "Evovone" in Bulu, "Fowara" in Kwen, or Bolabola" in Vomvom (Cameroon).	Mainly fringing forests.	Leaves

continued

Table 2 Continued

Disorders	Botanical name	Vernacular name	Origin	Part used
Infertility (primary and secondary)	<i>Asystasia decipiens</i> (Acanthaceae)	"Nzuae" in Bakossi and "Mborfen" in Lamso (Cameroon).	Swampy rain forest areas.	Tops of the plant
	<i>Asystasia macrophylla</i> (Acanthaceae)	"Telofe" in Kaka (Cameroon).	Found in Cameroon, Nigeria, Gabon, and Equatorial Guinea.	Leaves
	<i>Hibiscus asper</i> (Malvaceae)	"Ejimuwae" in Bakossi (Cameroon).	A savanna species which is widespread in all intertropical Africa.	Whole plant
	<i>Hibiscus vitifolius</i> (Malvaceae)	"Kiwuoy" in Lamso (Cameroon).	Widespread in tropical Africa.	Tops of the plant
	<i>Ipomoea mauritiana</i> (Convolvulaceae)	"Ndongo Yagisse" in Yambassa (Cameroon).	Pantropical species, common in various plant formations in sub-Saharan Africa.	Tuber
	<i>Klainedoxa gabonensis</i> (Irvingiaceae)	"Boukoko" in Banka (Cameroon).	Found in forests.	Stem bark
	<i>Lasianthera africana</i> (Icacinaeae)	"Badjimbo" in Bassa (Cameroon).	Found in secondary forests.	Fresh leaves
	<i>Laportea aestuans</i> (Urticaceae)	"Nduru likund" in Bassa, "Karara" in Hausa, and "Kimbin" in Oku.	Pantropical plant, widespread in humid regions. Found in wastelands and on farms.	Whole plant
	<i>Momordica charantia</i> (Cucurbitaceae)	"Nzec-Zeneng" in Bbesi, "Njii Ngoue" in Bamenda, or "Bohghwei" in Lamso (Cameroon).	Pantropical species growing especially in abandoned cultivations.	Leafy twig
	<i>Myrianthus arboreus</i> (Moraceae)	"Sanpute" in Bounde or "Loco'o" in Kaka (Cameroon).	Species frequent enough in primitive or secondary forests, fringing forests, or clearings of Guineo-Congolese dense forest area.	Fresh leaves
	<i>Pennisetum purpureum</i> (Poaceae)	"Nto obwet" in Bamoun, "Sinsung" in Bana, "Lekop" in Bassa, and "Kikhi" or "Mjee" in Lamso (Cameroon).	Forest zone species, spread in Africa, now introduced in other tropical regions.	Leaves
	<i>Pistia stratiotes</i> (Araceae)	"Lah-chie" in Bana (Cameroon).	Pantropical aquatic floating species growing through intertropical Africa.	Leaves
	<i>Premna quadrifolia</i> (Verbenaceae, Boraginaceae)	"Mua-Ndong-dong" in Bakossi and "Nfesai" in Lamso (Cameroon).	Guinea-Congolese species which is found in secondary formations. Widespread from Guinea to Cameroon.	Leafy twig
	<i>Raphidophora africana</i> (Araceae)	"Wonya" in Banka (Cameroon).	A plant found along the west and central coast land of Africa.	Leaves
	<i>Ricinus communis</i> (Euphorbiaceae)	"Mejang" or "Mijang" in Bamoun, "Lamdji" in Bana, and "Shinjang" in Lamso (Cameroon).	Introduced species, widely cultivated in tropical countries, now pantropical.	Castor oil extracted from <i>Ricinus communis</i> seeds
	<i>Sida acuta</i> (Malvaceae)	"Chubepa" in Bateh, "Zeyssim" in Bulu, and "Saldori" or "Calori" in Ffulde (Cameroon).	Pantropical wild species, growing of roadsides and in wastelands.	Leaves
	<i>Solanum torvum</i> (Solanaceae)	"Elam-tam" or "Ngaleni sumembre" in Bakossi and "Ngunmbia" in Kaka (Cameroon).	A very common weed throughout the tropics.	Fruits
	<i>Trichilia gilgiana</i> (Meliaceae)	"Tuba" in Banka (Cameroon).	Species frequent in the wetter types of lowland rain forest. Extends from South Nigeria to Democratic Republic of Congo, and Cabinda.	Bark
	<i>Terminalia superba</i> (Combretaceae)	"Nkwombo", "Nkwonda", or "Nkwondo" in Bamoun, "Nguie" in Bamungo and "Akom" in Bulu (Cameroon).	Dense humid forest species, widespread from Guinea to Democratic Republic of Congo.	Stem bark
	<i>Zenheria scabra</i> (Cucurbitaceae)	"Kwandalempa" or "Njombe" in Maka and "Bohghwei" in Lamso (Cameroon).	Savanna, rocky and ruderal plains. Equatorial Africa from Nigeria to Angola.	Roots
Pelvic abscess/pelvic inflammatory disease	<i>Acacia polyacantha</i> (Leguminosae-Mimosoideae)	"Ngombo" in Ewondo (Cameroon).	Species growing in humid regions, from Senegal to Nigeria as well as in eastern and southern Africa.	Stem bark
	<i>Cogniauxia podolaena</i> (Cucurbitaceae)	"Kol eona ezouo" in Badjoun, "Fui Gbain" in Bali, "Kon-afu" in Banwa, and "Beyeme elok" in Bulu (Cameroon).	Species widespread in Gabon, in Cameroon, and in Congo, found also in Angola.	Roots
	<i>Drymaria cordata</i> (Caryophyllaceae)	"Chkerre" in Bakossi, "Mgou-minque" in Bana, "Ntoh" in Banwa, "Hissona'si" in Bassa, and "Oyang" or "Oyanga" in Ewondo (Cameroon).	Widely dispersed in the tropics and subtropics.	Whole plant
	<i>Hibiscus sabdariffa</i> (Malvaceae)	"Mejue" in Bakossi, "Fouchi" in Bamoun, "Ewouda maya" in Douala, "Okro'o" in Kwen, and "Essan" in Mvele (Cameroon).	Widely cultivated in the tropics.	Aerial parts
	<i>Leea guineensis</i> (Leeaceae)	"Totonn" in Bassa (Cameroon).	Plant growing in humid places; found in the forest region galleries throughout tropical Africa.	Leaves

continued

Table 2 Continued

Disorders	Botanical name	Vernacular name	Origin	Part used
Pelvic abscess/ pelvic inflammatory disease	<i>Mammea africana</i> (Clusiaceae)	"Houng abodzog" in Bassa and "Abot zok" or "Houng abodzog" in Ewondo (Cameroon).	Species found in the forest. Distributed from Sierra Leone to Uganda and Angola.	Stem bark
	<i>Piptadeniastrum africanum</i> (Leguminosae-Mimosoideae)	"Atui" in Beti and Fang, "Tombou" in Kaka, and "Mpie" in Maka (Cameroon).	Tree found in dense, humid forests. Found in Cameroon, Sierra Leone, Angola, and Uganda.	Stem bark
Premature menopause	<i>Hemizygia welwitschii</i> (Lamiaceae)	"Sokri" in Gnem gnem.	Growing in clumps in dry stony grassland.	Leaves
Tubal blockage	<i>Eleusine indica</i> (Poaceae)	"Lisingesinge" in Bakweri, "Ngongui" in Bassa and Douala (Cameroon).	Species spread in all tropical regions; widespread in all regions of tropical Africa.	Leaves
	<i>Icacina tricantha</i> (Icacinaceae)	"Koulissi" or "Moudici" in Bassa, and "Byem elok" in Bulu (Cameroon).	Undergrowth species of the forest region, usually growing in secondary formations.	Root tubers
	<i>Phyllanthus muellerianus</i> (Euphorbiaceae)	"Riribo" in Ffulde (Cameroon).	Forest species widespread in all intertropical Africa.	Roots or leaves
	<i>Solanum aculeastrum</i> (Solanaceae)	"Sircerka" in Bana, and "Kijah", "Kilum", or "Kira" in Lamso (Cameroon).	Found in Cameroon, tropical East Africa, and Angola.	Fruits
Urinary tract infection	<i>Afromomum melegueta</i> (Zingiberaceae)	"Koge" or "Mbong" in Bakossi, "Nkong" in Bassa or "Ndong" in Ewondo, and "Soc kwa" in Bagante (Cameroon).	Forest region plant, common in all intertropical Africa, often cultivated.	Grains and rhizome
	<i>Alchornea laxiflora</i> (Euphorbiaceae)	"Eholo" in Bakossi and "Josos" in Bakweri (Cameroon).	Widespread in central, eastern, and southern tropical Africa.	Leaves
	<i>Asystasia macrophylla</i> (Acanthaceae)	"Telofe" in Kaka (Cameroon).	Found in Cameroon, Nigeria, Gabon, Equatorial Guinea.	Leaves
	<i>Calotropis procera</i> (Asclepiadaceae)	"Bambambi" in Ffulde (Cameroon).	Paleotropical plant, widespread through intertropical African mostly in dry regions.	Roots
	<i>Cissus quadrangularis</i> (Vitaceae)	"Coeur" in Bafut, "Ndieh gap" in Bamoun, "Thor-Ngehku" in Bana, "Nkhsat" in Bagangte, or "Nyo" or "Njel" in Bassa (Cameroon).	Widespread in the drier parts of Africa, Arabia, and India.	Stem
	<i>Combretom hispidum</i> (Combretaceae)	"Amiomlo" in Badjoue (Cameroon).	Fallows, semideciduous forests, clearings in the evergreen forests, widespread from Guinea to Angola.	Leaf
	<i>Commelina congesta</i> (Commelinaceae)	"Nkoleke" in Bakossi (Cameroon).	Found in forests, sometimes in open.	Leaves
	<i>Desmodium adscendens</i> (Leguminosae-Papilionoideae)	"Pepeur" in Bakossi, "Owondo bekone" in Bulu (Cameroon).	Species widespread in Guinea, Cameroon, extending to Zimbabwe. It exists in tropical America. In Gabon, it is found in the forest regions and the edges of the savanna.	Leaves
	<i>Enantia chlorantha</i> (Annonaceae)	"Menjap" in Banyagi, "Mfo'o" in Bulu, "Upon" in Ewondo, and "Mpolo'o" in Sanaga (Cameroon).	Dense humid forest plant, spread through Nigeria into Gabon.	Stem bark
	<i>Eremomastax speciosa</i> (Acanthaceae)	"Tankebi" in Mbo, "Purple leaf" in Pidgin, "Essan dja" in Yebekolo, and "Ekunte" in Bakossi (Cameroon).	Widespread in tropical Africa.	Leaves
	<i>Euphorbia laterifolia</i> (Euphorbiaceae)	"Lahmbeuh" in Bagangte (Cameroon).	Species usually planted as hedges. It grows from Sierra Leone to Cameroon.	Whole plant
	<i>Khaya senegalensis</i> (Meliaceae)	"Dalehi" or "Kahi" in Ffulde (Cameroon).	Sudano-Zambezian and sahelian region species, widespread from Senegal to Uganda.	Stem bark
	<i>Laportera ovalifolia</i> (Urticaceae)	"Anelembu" or "Talambo dop" in Bakossi, "Kilikion" in Bassa, and "Sogo" in Emankon (Cameroon).	Widespread, abundant on sandy and clay soils.	Leaves and bark
	<i>Mondia whitei</i> (Periplocaceae)	"Djiri", "Katagora", or "Eleli" in Ffulde (Cameroon).	Widely distributed in tropical Africa, from Guinea through Cameroon to East Africa.	Roots
	<i>Raphidiocystis mannii</i> (Cucurbitaceae)	"Nduh" in Bakossi (Cameroon).	Cameroon.	Leaves
	<i>Spilanthes filicaulis</i> (Asteraceae)	"Ehe ngui" in Bamenji, "Gniguet" in Bamera, "Odongdong-si" in Ewondo, "Leuk ngeub" in Bagangte, and "Ondodosi" in Bulu (Cameroon).	Plant growing in humid places, along the roads and near dwelling houses. It is found in all the forest regions of Africa.	Leaves
	<i>Tragia benthami</i> (Euphorbiaceae)	"Tulebuo" in Bakossi, "Mbepaa" in Bana, and "Sas" in Ewondo (Cameroon).	Secondary bushes in Cameroon, Sudan, Uganda, Democratic Republic of Congo, and Angola.	Leaves and roots
<i>Zehneria scabra</i> (Cucurbitaceae)	"Njombe" in Maka and "Bohngwei" in Lamso (Cameroon).	Savanna, rocky and ruderal plains. Equatorial Africa from Nigeria to Angola.	Roots	

continued

Table 2 Continued

Disorders	Botanical name	Vernacular name	Origin	Part used
Amnionitis affecting the newborn	<i>Ageratum conyzoides</i> (Asteraceae)	"Eshing" in Akono, "Mobangtu" in Bali, "Mejottefu" in Bamoun, "Ogaate" or "Okpati" in Bulu, "Nyat elok" or "Okpati" in Ewondo, and "Nde das se" in Sanaga (Cameroon).	Widespread in Africa.	Whole plant
	<i>Cleome rutidosperma</i> (Capparaceae)	"Amborrenja" in Bafut, "Macomagnia" in Bassa, "Mephomonze" in Bouda, and "Mbango" in Douala (Cameroon).	Species growing in all of tropical Africa.	Whole plant
	<i>Commelina benghalensis</i> (Commelinaceae)	"Nkwa" in Bafut, "Ngungwet" in Bamoun, and "Kaalep" in Bassa (Cameroon).	A weedy plant of open cultivated and wasted ground, also in savanna.	Whole plant
	<i>Eleusine indica</i> (Poaceae)	"Lisingesinge" in Bakweri, "Ngongui" in Bassa, and "Ngongui" in Douala (Cameroon).	Species spread in all tropical regions; widespread in all regions of tropical Africa.	Flowering plant
	<i>Euphorbia hirta</i> (Euphorbiaceae)	"Okoul bifés" in Ewondo, "Mpemeu" in Bamoun, "Ewuda manyongo" in Douala, and "Endemhi" in Ffulde (Cameroon).	Wild species, growing in various areas, along roads particularly on waste grounds and in old cultivation.	Whole plant
	<i>Portulaca oleracea</i> (Portulacaceae)	"Kepingoup" or "Koupugoup" in Bamoun, "Derdegue" in Mvele, and "Nyukutu nyukutu" in Douala (Cameroon).	Cosmopolitan and ruderal species.	Whole plant
	<i>Triptaxis stellulifera</i> (Asteraceae)	"Mudike musadi" in Douala, "Ntsam ntsam" in Ewondo, and "Jogue" in Maka (Cameroon).	Weed widespread in the clearings of forest regions from Liberia to Gabon and in Uganda.	Whole plant
	<i>Gossypium barbadense</i> (Malvaceae)	"Menekong" in Babungo (Cameroon).	Species native in America and now widely cultivated in all tropical countries.	Leaves
Dystocia	<i>Aloe buettneri</i> (Liliaceae)	"Lapapegue" in Badenkop, "Kagbaya" in Bamoun, "Lah-Ndih" in Bana, and "Adjankom" in Eton (Cameroon).	Savanna species, growing preferably in rocky areas. Found from Mali to the Central Africa Republic, Congo, Angola, and Malawi.	Whole plant
	<i>Aloe vera</i> (Liliaceae)	"Kouovut" or "Nchahsoure" in Bamoun (Cameroon).	Probably native of the Mediterranean region; propagated by rhizome.	Whole plant
	<i>Ampelocissus bomyisiana</i> (Vitaceae)	"Apoumigea" in Mankon (Cameroon).	African species of the Sudano-Guinean region, found from Guinea to Congo.	Leaves
	<i>Annona senegalensis</i> (Annonaceae)	"Saske" in Ffulde (Cameroon).	Savanna plant recorded from Senegal to Nigeria. Found also in the Central African Republic, Sudan, and Cape Verde.	Leaves
	<i>Basella alba</i> (Basellaceae)	"Ndore" in Bafut, "Potouye" in Ffulde, and "Loh" in Bagante (Cameroon).	West Africa to Asia, West Indies and East Africa.	Leaves and stems
	<i>Buchholzia coriacea</i> (Capparaceae)	"Ngale" in Bassa (Cameroon).	Humid, dense forest species, growing in the undergrowth, found from Guinea to Congo.	Leaves
	<i>Cissus quadrangularis</i> (Vitaceae)	"Coeur" in Bafut, "Ndieh gap" in Bamoun, "Nkohsat" in Bagante, "Sango-di" in Bangwan, and "Njel" in Bassa (Cameroon).	Widespread in the drier parts of Africa, Arabia, and India.	Leafy stem
	<i>Hibiscus rosa-sinensis</i> (Malvaceae)	None.	Native to tropical Asia, the hibiscus is widely cultivated in all tropical regions of the world as ornamentals.	Leaves
	<i>Momordica foetida</i> (Cucurbitaceae)	"Nyako" in Bassa and "Engokom" or "Oyale zom" in Bulu (Cameroon).	Forest edges and clearings; margins of swamp and riverine forests and of secondary thickets, also a weed and colonizer of disturbed ground and of old cultivations. Widely distributed in tropical Africa and in South Africa.	Leafy twig
	<i>Piptadeniastrum africanum</i> (Leguminosae-Mimosoideae)	"Atui" in Beti and Fang, "Tombou" in Kaka, and "Mpie" in Maka (Cameroon).	Tree found in dense, humid forests. Found in Cameroon, Sierra Leone, Angola, and Uganda.	Stem bark
<i>Terminalia glaucescens</i> (Combretaceae)	"Ogalu" in Sanaga (Cameroon).	Savanna tree. Widespread from Guinea, Cameroon, and Sudan.	Stem bark	
<i>Vernonia guineensis</i> (Asteraceae)	"Ibilihi" in Ffulde and "Shiji shokum" or "Whishishuch" in Lamson (Cameroon).	Widespread from Mali to Nigeria and spreading to the Sudan.	Fresh leaves	
Fetal malposition	<i>Senecio biafrae</i> (Asteraceae)	"Nsob" in Bakossi, "Nduwane" in Bana, and "Nboh" in Lamso (Cameroon).	Cocoa plantation, fallows, roadsides.	Tops
Fetal malpresentation	<i>Piper umbellatum</i> (Piperaceae)	"Mbubua" in Bana, "Mbebueh" in Bandjoun, "Me bout" in Bagangte, "Mbobou" in Baleing, and "Aboo medjan" in Ewondo and Bulu (Cameroon).	Heliophile species, widespread from Guinea to Cameroon and Angola.	Leaves

continued

Table 2 Continued

Disorders	Botanical name	Vernacular name	Origin	Part used
Intrauterine death/ retained dead fetus	<i>Abrus precatorius</i> (Leguminosaeae- Papilionoideae)	"Nzo-zunang" in Babesi, "Suka" in Bassa, "Nkwelutie" in Bassa, and "Bellerni" in Ffulde (Cameroon).	Species of secondary formations of forest regions extended into savanna. It grows in all intertropical Africa and also in other parts of the tropical world.	Leaves
	<i>Terminalia glaucenscens</i> (Combretaceae)	"Ogalu" in Sanaga (Cameroon).	Savanna tree. Widespread from Guinea, Cameroon, and Sudan.	Stem bark
Lactation failure	<i>Commelina benghalensis</i> (Commelinaceae)	"Nkwa" in Bafut, "Ngungwet" in Bamoun, and "Kaalep" in Bassa (Cameroon).	A weedy plant of open cultivated and wasted ground, also in savanna.	Leafy twig
	<i>Crinum zeylaninum</i> (Amaryllidaceae)	"Laansi" in Bana, "Black mbongie" in Banen, "Lilan li ngond" in Bassa, and "Gadal-salma" in Ffulde (Cameroon).	Savanna species growing in humid stations. It is widespread in all intertropical Africa.	Bulb
	<i>Guiera senegalensis</i> (Combretaceae)	"Gelude" or "Guelogi" in Ffulde (Cameroon).	Sudano-sahelian species, widespread from Senegal to Sudan, abundant in the fallow lands on sandy soils.	Leaves
Placenta retention	<i>Bidens pilosa</i> (Asteraceae)	"Atchiti" in Bulu, "Njim njim" in Bassa, and "Fouwan" or "Yiere" in Bamoun (Cameroon).	Widespread in Cameroon.	Leafy twig
	<i>Tetrapleura tetraptera</i> (Leguminosaeae- Mimosoideae)	"Telele" in Badjoue and "Djetk" or "Essissa" in Ewondo (Cameroon).	Guinea-Congolese species, widespread over all intertropical Africa, growing mostly in secondary formations.	Root tuber
Poly-hydramnios	<i>Ageratum conyzoides</i> (Asteraceae)	"Eshing" in Akono, "Mobangtu" in Bali, "Mejottetu" in Bamoun, "Ogaate" or "Okpati" in Bulu, "Nyat elok" or "Okpati" in Ewondo, and "Nde das se" in Sanaga (Cameroon).	Widespread in Africa.	Whole plant
	<i>Cleome rutidosperma</i> (Capparaceae)	"Amborrenja" in Bafut, "Macomagnia" in Bassa, "Mephomonze" in Bouda, and "Mbango" in Douala (Cameroon).	Species growing in all of tropical Africa.	Whole plant
	<i>Commelina benghalensis</i> (Commelinaceae)	"Nkwa" in Bafut, "Ngungwet" in Bamoun, and "Kaalep" in Bassa (Cameroon).	A weedy plant of open cultivated and wasted ground, also in savanna.	Whole plant
	<i>Eleusine indica</i> (Poaceae)	"Lisingesinge" in Bakweri, "Ngongui" in Bassa, and "Ngongui" in Douala (Cameroon).	Species spread in all tropical regions; widespread in all regions of tropical Africa.	Flowering plant
	<i>Euphorbia hirta</i> (Euphorbiaceae)	"Okoul bifes" in Ewondo, "Mpemeu" in Bamoun, "Ewuda manyongo" in Douala, and "Endemhi" in Ffulde (Cameroon).	Wild species, growing in various areas, along roads, particularly on waste grounds and in old cultivation.	Whole plant
	<i>Portulaca oleracea</i> (Portulacaceae)	"Kepingoup" or "Koupugoup" in Bamoun, "Derdegue" in Mvele, and "Nyukutu nyukutu" in Douala (Cameroon).	Cosmopolitan and ruderal species.	Whole plant
	<i>Triplotaxis stellulifera</i> (Asteraceae)	"Mudike musadi" in Douala, "Ntsam ntsam" in Ewondo, and "Jogue" in Maka (Cameroon).	Weed widespread in the clearings of forest regions from Liberia to Gabon and in Uganda.	Whole plant
	<i>Gossypium barbadense</i> (Malvaceae)	"Menekong" in Babungo (Cameroon).	Species native in America and now widely cultivated in all tropical countries.	Leaves
	<i>Hibiscus surattensis</i> (Malvaceae)	"Molong" or "Chwenanton" in Bouda (Cameroon).	Widespread in the topics of the old world; from Senegal to East Africa.	Tops
	Postpartum hemorrhage	<i>Cogniauxia podolaena</i> (Cucurbitaceae)	"Kol ekona ezouo" in Badjoun, "Fui gbain" in Bali, "Kon-afu" in Banwa, and "Beyeme elok" in Bulu (Cameroon).	Species widespread in Gabon, Cameroon, and Congo; found also in Angola.
<i>Frenandoa adolfi-frederici</i> (Bignoniaceae)		"Ndjuewe" in Badjoue (Cameroon).	Species widespread in Cameroon, Central African Republic, Gabon, and Democratic Republic of Congo.	Bark
<i>Heisteria zimmereri</i> (Olacaceae)		"Ebarekoul" in Badjoue (Cameroon).	Widespread from Cameroon to Democratic Republic of Congo.	Bark
<i>Tetrapleura tetraptera</i> (Leguminosaeae- Mimosoideae)		"Telele" in Badjoue and "Djetk" or "Essissa" in Ewondo (Cameroon).	Guinea-Congolese species, widespread over all of intertropical Africa, growing mostly in secondary formations.	Fruit
Prenatal care	<i>Basella alba</i> (Basellaceae)	"Ndore" in Bafut, "Potouye" in Ffulde, and "Loh" in Bagangte (Cameroon).	West Africa to Asia, West Indies and East Africa.	Whole plant
Spurious labor pains	<i>Emilia praetermissa</i> (Asteraceae)	"Etukeyehle" in Noni (Cameroon).	Species frequently found in the savanna and fallow post-forests.	Aerial parts
	<i>Eremomastax speciosa</i> (Acanthaceae)	"Tankebi" in Mbo, "Purple leaf" in Pidgin, "Essan dja" in Yebekolo, and "Ekunte" in Bakossi (Cameroon).	Widespread in tropical Africa.	Aerial parts

continued

Table 2 Continued

Disorders	Botanical name	Vernacular name	Origin	Part used
Threatened abortion	<i>Bidens pilosa</i> (Asteraceae)	"Atchiti" in Bulu, "Njim njim" in Bassa, and "Fouwan" or "Yiere" in Bamoun (Cameroon).	Widespread in Cameroon.	Leaves
	<i>Borreria ocymoides</i> (Rubiaceae)	"Enore" in Ashon (Cameroon).	Frequent in secondary bush. Tropical Africa.	Whole plant
	<i>Clerodendrum speciosissimum</i> (Verbenaceae)	"Legkefen" in Babungo and "Dibiolog" in Ewondo (Cameroon).	Introduced ornamental plant with no precise habitat	Fresh leaves
	<i>Justicia insularis</i> (Acanthaceae)	"Lang" in Bakoko, "Esumejom" in Bakossi, "Ngnwangmekop" in Bassa, and "Efi" in Ejagem (Cameroon).	Ruderal species. Widespread elsewhere through intertropical Africa.	Whole plant
	<i>Hibiscus sabdariffa</i> (Malvaceae)	"Mejue" in Bakossi, "Fouchi" in Bamoun, "Ewouda maya" in Douala, "Okro'o" in Kwen, or "Essan" in Mvele (Cameroon).	Widely cultivated in the tropics.	Leaves and stems
	<i>Mammea africana</i> (Clusiaceae)	"Houng abodzog" in Bassa and "Abot zok" or "Houng abodzog" in Ewondo (Cameroon).	Species found in the forest. Distributed from Sierra Leone to Uganda and Angola.	Stem bark
	<i>Nauclea pobeguinii</i> (Rubiaceae)	"Banochi" in Hausa (Cameroon).	Fringing forest species, growing mainly in forest regions. Extending from Senegal to Nigeria, Cameroon, and Zimbabwe.	Bark
	<i>Peperomia pellucida</i> (Piperaceae)	"Eborbo" in Bakossi, "Njel" in Bassa, "Idokamokwe" in Bakweri, and "Ewonda doret" in Douala (Cameroon).	Pantropical species, ruderal, occurring especially around dwelling locations.	Whole plant
	<i>Piper guineense</i> (Piperaceae)	"Enore" in Ashon (Cameroon).	Humid dense forest species, dispersed from Guinea to Uganda.	Fruits
<i>Vernonia ampla</i> (Asteraceae)	"Mako" in Bandjoun, "Merke" in Bana, "Shiji" in Lamso (Cameroon).	Found in clearings of upland forests; rare species, recorded only from Guinea and Sierra Leone.	Shoots	

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