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Ethnobotanical survey of medicinal plants traditionally used in Low and Middle - Guinea for the treatment of skin diseases

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Abstract: From an ethnobotanical survey conducted in Low and Middle Guinea, 98 traditional healers and 76 herbalists were interviewed. An increasing involvement of female as traditional practitioners was observed, particularly in Low Guinea where they represented 57% (62/109) of the total traditional practitioners specialized in the treatment of skin diseases. A total of 104 plant species were listed. Of these, 96 from 87 genera and 38 families were identified for the treatment of various skin diseases. Fabaceae was the most represented family while the most cited plant species (28 to 17 times) were *Uvaria chamae*, *Uvariopsis guineensis*, *Alchornea cordifolia*, *Sarcocephalus esculentus*, *Cassia sieberiana*. The most cited plant parts were leaves 57% (79/139), root-bark 17% (24/139) and stem-bark 13% (18/139). The proportions of plant species were 24% (35/146) for the treatments of impetigo, 22% (32 /146) for scabies, 8% (12/146) for prurigo and eczema, 7% (11/146) for ringworm etc. The decoction and the maceration were the most used in the preparation forms of the recipes. Further research is needed to isolate and identify the active compounds and understand their biological activities.

Keywords: Guinea, Traditional Medicine, Skin Diseases, Medicinal Plants

1. Introduction

The skin disease constitutes a major public health problem in the world and in the tropical countries where they represent 30 % of the consultations in rural areas [1]. They affect people of all ages from neonates to the elderly and account for approximately 34% of all the diseases encountered worldwide [2].

Like in many other tropical countries, the Guinean population is particularity vulnerable. According to the annual report of the Guinean Health and Hygiene Ministry the prevalence of skin disease is estimated to 46 % [3]**.** This high prevalence is correlated with poor hygiene, overcrowding, malnourishment, non-availability of potable water, high temperature and humidity. Due to the weak geographical and financial accessibilities to conventional medicine, the majority of the Guinean population depends exclusively to traditional medicine to meet their health problem [4].

Various medicinal plants or herbal remedies are traditionnaly used to treat wounds ringworm, buruli ulcer, leprosy and various other microbial infections in many countries [5,6].

In order to provide a baseline data for future pharmacological and phytochemical studies, this ethnobotanical survey was conduted in Lower and Middle Guinea and was focused on the raditional treatment of skin diseases.

2. Materials and Methods

2.1. Study Area

Guinea is a West African country covering a surface of 245.857 km2 and divided into 4 main regions viz Lower-Guinea, Middle Guinea, High-Guinea and Forest Guinea [7,8]. The present survey was realized in five (5) cities in Low-Guinea (Dubréka, Coyah, Fria, Kindia and Conakry) and two cities in Middle-Guinea (Labé and Mali), the main ethnic groups being Susus and Fulani, respectively. Low-Guinea is the western part of Guinea situated between Atlantic Coast and the cliffs of the Fouta-Djallon, occupying a zone about 300 km wide and covering a surface of 44.000 km². Middle Guinea is located in the mountainous region of Futa Djallon covering a surface of 63.600 km².

2.2. Data Collection

This study was realized from February 2011 to April 2012. Ethnomedical informations were obtained using an adaptation of semi-structured questionnaire developed and standardized by the Research and Valorization Center on Medicinal Plants (CRVPM)-Dubreka through oral interviews conducted in Soussou and pular local languages. The questionnaire was focused on the socio-demographic data (age, sex, educational level), school attendance and occupation of traditional healers and herbalists, the causes and diagnosis of skin disease, diseases treated by the plants, data on the vernacular names of the plants, the plant parts used, methods of preparation and routes of administration. The traditional healers were interviewed in their homes and herbalists in front of their stalls (roadsides or various market places). Sometimes, cola nux incentives and/or money were given to unwilling respondents. Based on the traditional description of the disease, the correlation between local names and scientific names was made with the collaboration of the dermatologic expert, Dr. Tounkara Thierno Mamadou of the service of Dermatology and Venereology, University Hospital Donka, Conakry, Guinea.

2.3. Plant Collection and Identification

Specimen of the cited plants were collected by the traditional healers in the presence of the inverstigators. Each specimen included leaves, stems, flowers and fruits when available. For small herbaceous plants, whole plants were usually collected. Their botanical identification was done by the botanists from the Research and Valorization Center on Medicinal Plants of Dubreka, “CRVPM – Dubreka”.

3. Results and Discussion

3.1. Socio-Demographic Characteristics

The study was carried out in five locations in Low-Guinea (19 in Conakry, 21 in Coyah, 19 in Dubreka, 24 in Fria and 26 in Kindia) and two locations in Middle-Guinea (37 in Labé, 28 in Mali). Hundred and seventy four (174) participants were interviewed: 56% (98/174) traditional healers (70 male and 28 female) and 43% (76/174) herbalists (21 male and 55 female). Although the global number of male (52%, 91/174) was slightly superior to that of female (48%, 83/174) whereas the male traditional healers (71%, 70/98) were significantly more represented than female (29%, 28/98), it is interesting to note the progressive involvement of females as traditional health actors. Moreover, the involvement of female in the traditional treatment of skin diseases is noteworthy, particularly in Lower-Guinea where they are significantly more represented (57%, 62/109) than male (43%, 47/109 male) whereas in Middle-Guinea the female group (32%, 21/65) was significantly lesser than male group (68%, 44/65).

In the Guinean traditional medicine, females are usually excluded from all cultural or material inheritance. Due to the specific socio-cultural rules of each ethnic, the female representation is consequently very weak except for the treatment of women diseases such as menstruation, sterility, sexual disease infections. Whatever, unlike previous studies [7–9], our results pointed out the interesting emergence of female in the management of skin ailments and other diseases such as malaria, diabetes, sexual diseases, infertility, erectile dysfunctionement.

The different ethnics involved in his study were the susus, bagas, fulani, mandingo, kpelle in Lower-Guinea and Fulani in Middle Guinea. Majority of the participants were Fulani 86 (49%) followed by susus 68 (62%), mandingo 22 (20%) and Guerze 3 (3%)**.** Middle Guinea is predominantly inhabited by fulani, while the susus remain the most dominant ethnic group in Lower Guinea. The numerous ethnic (fulani, mandingo, guerze etc.) in Lower-Guinea is mainly due to the wide and intense economic and financial activities in this region.

The age of the participants were ranged from 33 to 85 years old with a mean of 51 ± 14.1 years for male and 61.4± 12.3 years for female. (12%, 21/174) of the interviewees were under 40 years old, indicating a relative resurgence of interest of the young people. Similar results have been reported in the most ethnobotanical studies conducted in Guinea [7–9].

The 98 traditional healers assumed to benefit their knowledge and experience from a familial inheritance (64%, 63/98) apprenticeship (20%, 20/98) cure of own ancient illness (10%, 10/98) dream (4%, 4/98) and own experiments (4%, 4/98). The familial inheritance concerned 56% of male and 44% of female; This was in accordance with the Guinean social culture.

The educational levels of the interviewed traditional health actors were low (12%, 21/174). Few of them attended primary (9%, 16/174) or secondary (3%, 5/174) school graduate. Only 3 females (4%, 3/83) were educated from which only one had attended secondary school graduate.

3.2. Traditional Knowledge and Practice

Only three (2 male and 1 female) of the interviewees had their practice recognized by the Department of Traditional Medicine of the Guinean Health and Hygiene Ministry while seven were affiliated to Traditional Health practitioners’ association.

The diagnosis is mainly based on the visual symptoms. Causes of diseases are variously attributed to poor hygiene, witchcraft or spell. Only 3 traditional healers (3%, 3/98; only males) accompanied their treatments with incantation and divination methods. The duration of the treatment varies between four days and one month. Nature of the processing and the rhythm of administration of recipes depend on the severity of the pathologies.

During our survey we have listed 19 different skin diseases, four (4) of which have not been identified. As shown in Table 1, the most cited pathologies were impetigo, scabies, eczema, prurigo, ringworm, boils, chronic wounds. Different herbal preparations have been used for the management of these pathologies: 34 plant species were used for the treatment of impetigo 32 for scabies, 12 for eczema, 12 for prurigo, 11 for ringworm, 8 for boils, 7 for chronic wounds and less than seven plants species for the other pathologies

Table I. *Plant species used in the treatment of skin diseases in Low and Middle Guinea*

Family (total species)	Botanical name	Local name (ethnic)	Skin disorder treated	Preparation form	Plant part	Citations per sp
Anacardiaceae (3)	*Mangifera indica L.*	Manguékhounkhounry (S) Mango (P)	Scabies	Dc	L	2
	Sorindeia juglandifolia (A. Rich.) Planch. ex Oliv.	Kansi bomba (S) Sandji bombo (P)	Impetigo	Dc	L	3
	Pseudospondias microcarpa (A. Rich.) Engl.	Dhologa (P)	Scabies, ringworm	Dc	Sb	2
Annonaceae (4)	*Annona senegalensis* Pers.	Sougny (S) Doukummé (P)	Pimples	Dc/Cb	L/Rb	13
	Uvaria chamae P. Beauv.	Moronda (s), Boylè (P)	Impetigo, Scabies	Dc/Cb	L/Rb	39
	Uvariopsis guineensis Keay	Kinkirissi(S), Porékinkirissa (P)	Impetigo, Scabies	Dc/Cb	L/Wp	28
	Xylopia aethiopica (Dunal) A. Rich	Simingni (S), Guilè (P) Kani (M)	Eczema, chickenpox, urticaria, «Linguedi» (S)	Dc/Mc	Fr	4
Anysophylaceae (1)	*Anysophyllea laurina*. R.Br.	Kantinyi (S), Kansi (P)	Impetigo, «Linguedi» (S)	Dc	L	3
Apocynaceae (7)	*Adenium obesum* (Forssk.) Roem. & Schult.	Loukhouré(S) Djindji pètè (P) Boulou kourané(M)	Urticaria	Mc	L	3
	Holarrhena floribunda (G. Don)Dur. Et Schinz.	Yètè(S) Eindhanma(P)	Boils	Dc	L/Fr	7
	Landolphia dulcis (R.Br. ex sabine).Pichon.	Howenyi (S), Poorè kodoukou (P)	Impetigo, Scabies	Dc	L	4
	Landolphia heudelotii A. DC.	Foré (S), Poorè (P), Gbayi (M)	Impetigo	Dc	L	2
	Rauvolfia vomitoria Afzel.	Gbenssigbenssi (S) Mothia thialèl (P)	Impetigo, Prurigo	Dc/Pd	L/Sb	7
	Saba senegalensis Kot Schet Peyr	Porélaré (P)	Scabies	Dc	L	1
	Strophanthus sarmentosus DC.	Kindè (P)	Pririgo	Dc	Rb	1
Araceae (1)	*Colocasia exculenta* Schott	Diabèrè (P)	Intertrigo, boils	Cb	Fr	1
Asteraceae (3)	*Mikania cordata* Willd.	Khoffo (S) Noré (P)	Impetigo	Dc	L	1
	Vernonia colorata (Willd.) Drake	Khonokhongni (S) Bantara bourourè (P)	Eczema	Dc	L	3
	Azeratum conyzoïdes SL.	Kikalapurel (P)	Ringworm	Dc	L	1
Bignoniaceae (1)	*Newbouldia laevis* (P.Beauv.) Seemann.	Kinki (S), Soukounden(P)	Impetigo, «Linguedi» (S)	Dc	L	3
Campanulaceae (1)	*Tamarindus indica* L.	Diabhèe (P)	Chickenpox, Small pox	Mc	Fr	3
Caricaceae (1)	*Carica papaya* L.	Fofia (S), Boudi daridhi (P) Yiriyé (M)	Boils, Impetigo, «Linguecobi» (S)	Dc/If	L/Rb	6
Celastraceae (1)	*Salacia senegalensis* (Lam.) DC.	Kinkirissi(S), Porèmahouni(P)	Impetigo	Dc	Rb	12
Chrysobalanaceae (2)	*Bafodeya benna* (Scott Elliot) Prance	Soughé (S), Koura (P)	Scabies, eczema	Dc/Mc /Pd	Sb/Sd	3
	Parinari macrophylla Sabine	Sigon (P)	Scabies	Dc/Cb	L	1
Combretaceae (8)	*Combretum nigricans* Lepr. Var. ielliotii (Engl. & Diels)	Dhoki(P), Sembabali(M)	Prurigo	Pd	L	1
	Combretum micranthum G. Don	Kankaliba (P)	Scabies	Dc	L	1
	Combretum glutinosum D.C	Khoumbafiri (S), Dhoki(P)	Impetigo, scabies	Dc/Pd	L/Rb	10
	Combretum paniculatum Vent.	Tantafiri(S), Yayé safari(P)	Scabies	Dc	L	5
	Combretum sp	Soki (S), Sokoïu (P)	Impetigo	Dc	L/Rb	4
	Guiera senegalensis J.FG Mel	Fafarou (P)	Scabies	Dc	Rb	2

Family (total species)	Botanical name	Local name (ethnic)	Skin disorder treated	Preparation form	Plant part	Citations per sp
	Terminalia albida Sc. Elliot	Koberafighè (S), Woddja guitél (P)	Impetigo	Dc	L/Rb	8
	Terminalia ivoiriensis A. Chev.	Boori (P), Woli (S)	Scabies	Pd	Wp	2
Cyperaceae (1)	*Rhynchospora corymbosa*(L.)Britt.	Wakka (P)	Scabies	Dc	L	1
Dilleniaceae (1)	*Tetracera potatoria* Afz.	Goroogel (P)	Scabies	Dc	L	1
	Alchornea cordifolia (Schumach. & Thonn.) Mull. Arg.	Bolonta(S), Gharkassaki (P), Péléna(G)	Impetigo, scabies, chronic wounds	Dc/If	L/Rb	23
	Anthostema senegalense A. Juss.	Wanni(S), Manoninyiri (M)	Scabies	Dc	Sb	1
Euphorbiaceae (6)	*Bridelia ferruginea* Benth.	Tolingni(S), Daafi(P)	Impetigo, scabies, boils, chronic wounds	Dc/Pd	Sb	8
	Jatropha curcus L.	Bahaney (S), Kiidi (P)	Impetigo, prurigo, ringworm	Dc/Cb	L/Sb/Rt/La	4
	Margaritaria discoidea (Baill.) Webster	Mètè(S), Kéeri(P) Baakoönkön (M)	Impetigo, scabies	Dc/Cb	L/Rb	2
	Manniophyton fulvum Müll. Arg.	Bamba (P)	«Koulo» (p)	Pd	L	1
	Afzelia africana Sm.	Lingué (S), Linguè (P)	Pririgo, «linguecobi» (S)	Dc	L/Rt	2
	Anthonotha crassifolia P.Beauv.	Bambouri(S), Boubè(P) Fouroumon(M)	Eczema	Mc	L	1
	Cassia sieberiana DC.	Gbangba (S), Sindja (P) Sindia (M)	Scabies, prurigo, ringworm	Dc	L	21
	Daniellia oliveri (Rolfe) Hutch. & Dalz.	Houloungni(S), Teiwè (P) Sandan(M)	Vitiligo, scabies	Dc	Sb/L	9
Fabaceae Caesalpiniaceae (10)	*Detarium microcarpum* Guill & Perr	Pompodogo (P)	Impetigo, «capata» (P)	Dc	L	1
	Dialium guineense Willd.	Mokè(S), Mèko(P), Kofina(M) Wolo hala (G)	Pimples, impetigo, chickenpox	Dc/Mc	L	11
	Senna alata (L.) Roxb.	Sindaïguel (P)	Ringworm, dartre	Dc	L/Rb	2
	Erythrophleum suaveolens (Guill. & Perr.) Brenan.	Méli(S), Téli(P), Tali(M)	Scabies, chronic wounds	Dc	L/Sb	2
	Piliostigma thoningui (Schuma) Milne Redhead.	Yorokoé (s), Barkè (P)	Impetigo, small pox	Dc	L/Rt	10
	Tamarindus indica L.	Tombinyi (S), Diamhè (P) Tombé(M)	Chickenpox, small pox	Dc/Mc	L/Fr	11
	Arachis hypogaea L.	Tiga (P)	Ringworm	Cb	Fr	1
	Erythrina senegalensis DC.	Tilminyi(S), Botiola (P)	Prurigo	Dc	L	1
Fabaceae Papilionoideae (5)	*Lonchocarpus laxiflorus* Guill. & Perr.	Sackri (S), Mogo kolo (M)	Boils	Dc	Wp	1
	Mucuna pruriens (L) DL	Baagui (S), Bagui (P)	Scabies, zona	Dc/Cb	L/Sb	2
	Pterocarpus erinaceus Poir.	Khari (S), Bani danè (P)	Ringworm	Mc	Sb	2
Fabaceae Mimosaseae (2)	*Parkia biglobosa* (Jacq.) Benth.	Néri (S), Nètè (P), Méné (G)	Chronic wounds, eczema	Dc/Pd	Sb	4
	Prosopis Africana (Gull et Perr) Tauls	Tinnè (S), Tyèlèn (P)	Impetigo	Dc	L	1
Hymenocardiaceae (1)	*Hymenocardia acida* Tul.	Barambara (S), Pellitoro (P) Bran- bran (M)	Pimples, chickenpox	Dc	L	7
Hypericaceae (2)	*Harungana madagascariensis* Hook.f.	Soumbala (P)	Eczema	Pt	Fr	
	Psorospermun febrifugum Hochr.	Keti (P)	Ringworm, prurigo	Pt	L/Rb	3
Lamiaceae (1)	*Ocimum gratissimum* L.	Barkeri (S), Soukoran (P)	Impetigo, «linguecobi»	Dc	L	6
Lecythidaceae (1)	*Napoleonaea leonensis*Hutch. & Dalz.	Koumbaboya (S)	Impetigo	Dc	L	8
Liliaceae (1)	*Allium cepa* L.	Bassanlè (P)	Urticaria	Mc	Fr	1
Malvaceae (2)	*Hibiscus sabdariffa* L.	Folèrè (P)	Intertrigo	Cb	L	1
	Gossypium barbadense L.	Hottolo (p)	Ringworm	Pt	Sd	1
Meliaceae (2)	*Carapa procera* DC.	Koubi (S), Gobie (P),	Scabies, vitiligo, chronic wounds	Mc	L/Sd	2
	Khaya senegalensis (Desr.) A. Juss.	Kahi (P), Diala (M)	Eczema,	Dc	Sb	1

Family (total species)	Botanical name	Local name (ethnic)	Skin disorder treated	Preparation form	Plant part	Citations per sp
Moraceae (5)	*Ficus exasperata* Vahl	Gnogni (S), Gniègnè (P)	Eczema, ringworm, scabies	Mc/If	L/Sb/La	14
	Ficus capensis Taub.	Khores (S), Yuubhe (P)	Scabies	Mc	L/Rb/La	2
	Ficus ovata Vahl.	Sokoui (S), Nonko (P)	Impetigo	Dc	L	1
	Ficus glumosa Del	Sakhary (S), Thièkè (P)	Impetigo	Dc	Sb	5
	Milicia regia(A. Chev.) C.C. Berg	Simmè (S), Thimmè (P), Guéli (G)	Impetigo	Dc/Pt	L	1
Moringaceae (1)	*Moringa oleifera* Lam.	Nèbedaye (P)	Boils	Dc	L	1
Musaceae (1)	*Musa paradisiaca* L.	Banana (P)	Ringworm, boils	Dc	L/La	1
Myrtaceae (2)	*Psidium guajava* L.	Kobè (S), Goyahbè (P)	Impetigo	Dc	L	1
	Syzygium guineense (Willd.) DC	Khayo (S), Kadio (P)	Vitiligo	Mc	Sb	1
Ochnaceae (1)	*Lophira alata* Banks ex Gaertn. F.	Malanga (P)	Chronic wounds	Mc	Fr	1
Rhizophoraceae (1)	*Anisophyllea laurina* R.Br. ex Sabine	Kantinyi (S), Kanssi (P), Djaudi(M)	Scabies, boils	Dc	L	3
Rubiacaea (7)	*Canthium vulgare* (K. schum), Bull.	Ndakkalin (P)	Scabies	Dc	L	1
	Craterispermum laurinum (Poir.) Benth.	Mèkhèmèkhengni(S) Landhan édi (P),	Impetigo	Dc	L/Sb	16
	Crossopteryx febrifuga (Afzel. ex G. Don) Benth.	Mekya (S), Bèlindè (P)	Prurigo	Mc	L	6
	Gardenia ternifolia Schumach. & Thonn.	Teinghè (S), Bossè (P) Bourén (M)	Zona, «capata» (P)	Pd	L	1
	Morinda geminata DC.	Wanda (P), Wanda (M)	Boils	Dc	Rb/L	1
	Sarcocephalus esculentus Afzel.	Doundakhè (S),Doundoukè (P)	Boils, eczema and impetigo	Dc/if	L et Rb	1
	Mitragyna inermis (willd.) O.Ktze.	Fofo (S), Popo (P)	Chikenpox, warts	Mc	Sb	3
Rutaceae (1)	*Citrus medica* L.	Mouloukhoungni (S) Kathou (P)	Ringworm, chronic wounds	Dc	L/Fr	1
Sapindaceae (2)	*Paullinia pinnata* L.	Guinèbirinmahouri (S), Kolidioyi (P)	Boils	Dc	L	1
	Allophylus africanus. L	Koïlèyala (P)	Prurigo	Mc	L	1
Solanaceae (2)	*Physalis angulata* L.	Ponpontianin (S) Pompom digga (P) Kéawolo (G)	Scabies	Dc/Mc	L	4
	Capsicum frutescens	Baragbèmgbè (S), Nhiamakou (P)	Prurigo	Dc	L/Rb	2
Sterculiaceae (1)	*Cola nitida* (Vent.) Sch.et Endl.	Koola (S), Gooro (P)	Eczema	Mc	L/Fr	2
Verbenaceae (2)	*Clerodendrum capitatum* (Willd.) Schumach. & Thonn.	Firiforêt (S)	Eczema	Dc	L	3
	Vitex doniana Sweet	Koukoui (S), Boummè (P), Kodo (M)	Impetigo, «Linguecobi» (S)	Dc	L	9
Vitaceae (2)	*Cissus aralioides* (Welw. ex Bak.) Planch.	Fafarou (P)	Prurigo	Dc	Rb	1
	Cissus populnea Guill. & Perr.	Lakhassè foret (S)	Eczema	Pd	Rb	1
Zingiberaceae (1)	*Costus afer Ker*-Gawl	Sinkongni (S), Siandèn (K) Gogo thiagol (P)	Eczema	Mc/Dc	L/Rb	11
	Not identified	Sina wouri (s)	Impetigo,	Dc	L	4
	Not identified	Looli (s)	Impetigo	Dc	L	3
	Not identified	Tamouï (s)	Scabies, eczema	Dc	L/Rb	2
	Not identified	Déguidégui (s)	Impetigo	Dc	L	8
	Not identified	Helefiritanbhe (s)	Scabies	Dc	Sb	1
	Not identified	Haadhatyalèl (p)	Impetigo	Dc	L	1
	Not identified	timbiyamban (p)	scabies	Dc	L	1

Local name: G : Guerze; M: Maninka ; P : Pular ; S : Soussou
Plant part: Fr : fruit ; L : leaves; Rb : root bark; Sb : stem-bark; Wp: whole plant; La: latex
Preparation form: Dc: Decocotion ; Mc : Maceration ; If : Infusion; Pd: powder; Cb: carbonization; Pt: pastry

3.3. Mode of Preparation and Administration

The remedies consisted of one or a combination of two or more plant species: 56 % of the remedies were constituted of one plant, 22% of two plants and 22% of more than two plants. According to the traditional healers, the combinations of different plant species increases the activity of medicine and improve the cure's power or time of patients. Similar observations have been previously observed [8,10,11].

The most frequently used plant parts for the treatment of skin diseases were the leaves 57% (79/139) followed by root-bark 17% (24/139), stem-bark 13% (18/139), fruits 6% 8/139), latex 3% (4/139), seeds and whole plant 2% (3/139 for each). The wide use of the leaves in traditional medicine could be considered as a good sign for the preservation of the environment.

The decoction is the most common preparation 63% (77/123) followed by maceration 16% (20/123), carbonization 8% (10/123), Powder 7% (9/123) pastry and infusion (4 % for each). Various ingredients were used including palm oil, palm kernel oil, shea butter, butter of cow or honey. The medicinal plant preparations were administered through different routes including oral, topical and bath. In most cases, the oral route was associated with external application and the remedies are directly applied to the affected skin parts. For example, the latex of *Jatropha curcas, Ficus capensis* against ringworm. The juice of *Hibiscus sabdariffa* leaves in the treatment of intertrigo.

3.4. Collection of Plant Species

Hundred and one (104) plant species from 87 genera and 38 families were recorded for the treatment of skin diseases. Of these, 7 plant species were not be identified due to the lack of reproductive features. The most represented botanical families were the Fabaceae (16 species), Combretaceae (8 species), Apocynaceae and Rubiaceae (7 species for each), Euphorbiaceae (6 species) and Moraceae (5 species). The other families contained 1 or 2 plant species.

The most cited plant species were *Uvaria chamae* (29 times), *Uvariopsis guineensis* (28), *Alchornea cordifolia* (26), *Sarcocephalus esculentus* (19), *Cassia sieberiana* (17), *Craterispermum laurinum* (16), *Ficus exasperata* (14), *Salacia senegalensis* (13), *Combretum glutinosum* (11), *Dialium guineense* (11), *Tamarindus indica* (11).

Most of the collected plant species have been used in different African communities for the treatment of skin diseases within. These included *Alchornea cordifolia* [12–14], *Carapa procera* [16,17], *Senna alata , Cola nitida, Khaya senegalensis* [15,18], *Jatropha curcas* [19], *Mitragyna inermis, Parkia biglobosa, Pterocarpus erinaceus, Tamarindus indica, Vernonia colarata* [15], *Rauvolfia vomitoria* [14,20], *Mangifera indica* [12], *Newbouldia laevis* [16], *Erythrina senegalensis* [18] and [16], *Uvaria chamae* [16] Similar observation was observed in South America and Asia for *Jatropha curcas, Psidium guajava, Senna alata, Tamarindus indica* [21–25].

Previous biological testing have demonstrated the antimicrobal activity of *Alchornea cordifolia* [26–28], *Senna alata* [29], *Ficus exasperata* [30], *Ficus capensis* [31,32], *Tamarindus indica* [25], *Dialium guineense* [33], *Nauclea latifolia* [30], *Cassia sieberiana* [34], *Costus afer* [35] *Carapa procera* [36,37], *Mangifera indica* [13,38], *Uvaria chamae* [39–41], *Cissus aralioides* (27), *Afzelia africana* [33], *Daniellia oliveri* [42], *Guiera senegalensis* [43], *Vernonia colorata* (44), *Vitex doniana* [45], *Rauvolfia vomitoria* [14], *Gardenia ternifolia* [14], *Psidium guajava* [46], *Ocimum gratissimum* [47], *Khaya senegalensis* [47], *Erythrina senegalensis* [48], *Citrus medica* [49], *Cassia sieberiana* [34].

Various active antimicrobial principles have been isolated from some of the cited plant species. Among these, gallic acid, protocatechuic acid and triisopentenyl guanidine from *Alchornea cordifolia* [50], C-benzylated flavonoids from *Uvaria chamae* [39], sesquiterpene lactones (vernolide, vernodalin) from *Vernonia colorata* [44], furanocoumarins from *Ficus exasperata* [51] naphthyl ketone from *Guiera senegalensis* [52]

4. Conclusion

The main skin diseases treated by the Guinean traditional practitioners in Low and Middle-Guinea were impetigo, scabies, prurigo and eczema. Among the 104 inventoried plant species for the treatment of skin diseases, *Uvaria chamae*, *Uvariopsis guineensis*, *Alchornea cordifolia*, *Sarcocephalus esculentus* were the most cited. Further extensive biological, phytochemical and clinical investigations on the collected plant species may lead to the development of efficient phytomedicines dedicated to the treatment of skin diseases.

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