Journal of Applied Biosciences 207: 21920 – 21933
ISSN 1997-5902

Ethnobotanical study of medicinal plants used to treat influenza and measles

«*case of the kimwenza neighbourhood in the urban-rural municipality of Mont-Ngafula / Kinshasa in the Democratic Republic of Congo*».

MBALE KUNZI Henri[(1)], MUKENDI TSHIBANGU Michael[(1)], LANDU NAMBATA Christivie[(1)], KALALA MPIANA CARLO[(2)],LUKOKI LUYEYE Félicien[(1)].

1. Laboratory of Systematic Botany and Plant Ecology, Department of Biology, Faculty of Sciences and Technology, University of Kinshasa. P.O. Box 190, Kinshasa XI, DR Congo.
2. Life Sciences Division, Faculty of Sciences and Technology, University of Kinshasa. P.O. Box 190, Kinshasa XI, DR Congo.
3. Corresponding author:mukendimike23@gmail.com

Submitted 11/02/2025, Published online on 30/04/2025 in the https://www.m.elewa.org/Journals/journal-of-applied-biosciences https://doi.org/10.35759/JABs.207.2

ABSTRACT

Objective : To make an ethnobotanical inventory of plants that treat influenza and measles

Methodology and Results: The ethnobotanical survey of medicinal plants used to treat influenza and measles in the Kimwenza district, Mont Ngafula commune, in the Democratic Republic of Congo (DRC), identified 42 plant species distributed across 29 families and 20 orders, with 4 clades. The Lamiaceae family is predominant, with four species: *Ocimum gratissimum* L., *Ocimum basilicum* L., *Tetradenia riparia* (Hochst.) Codd, and *Hyptis nepetifolia* R. Br. The study reveals that the population of the Kimwenza district has more knowledge about influenza than measles, two recurrent childhood diseases in Kinshasa. The data show that 21 species are specific for treating influenza, 11 species for measles, and 10 species are common to both diseases. The species capable of treating both diseases include: *Ocimum gratissimum* L., *Dysphania ambrosioides* (L.) Mosyakin & Clemants, *Morinda lucida* Benth., *Carica papaya* L., *Morinda morindoides* (Bak.) Milne-Redhead, *Camellia sinensis* L., *Elaeis guineensis* Jacq., *Eremospatha haullevilleana* De Wild., *Brillantaisia owariensis* P. Beauv., *Ocimum basilicum* L., and *Cymbopogon citratus* (DC.) Stapf.

Conclusion and Application of results: This study demonstrates the abundance of medicinal flora in the DRC in general and in Kinshasa in particular, showcasing plants useful in traditional phytotherapy. This botanical wealth should be leveraged to enhance the potential of the local pharmacopeia and to discover active biomolecules capable of developing new drugs for both traditional and modern medicine.

Keywords: Medicinal plants, influenza, measles, Mont Ngafula, Kinshasa, DRC.

INTRODUCTION

In Africa, more than 80% of the population relies on traditional medicine, using plant species to address primary health care issues (WHO, 2013). The use of medicinal plants for various health concerns worldwide is driven not only by preference but also by the increasing poverty of populations, which restricts access to modern medicines due to their high costs (Moroh*et al.,* 2008). Plant resources hold a significant place in human life, giving rise to traditional medicine and local pharmacopeia. According to WHO. In some developing countries in Asia, Africa, and Latin America, 80% of the population depends on traditional medicine, especially in rural areas, due to the proximity and accessibility of this type of care, its affordable costs, and the lack of access to modern medicine for these populations (Zeggwagh*et al.,* 2013). This survey aims to highlight the knowledge and expertise of the population in the therapeutic management of influenza and measles infections.

Study Area: This study was conducted in Kimwenza, located in the Mont-Ngafula commune, in the city of Kinshasa, Democratic Republic of Congo (DRC). The map below (Fig. 1) represents the Mont-Ngafula commune.

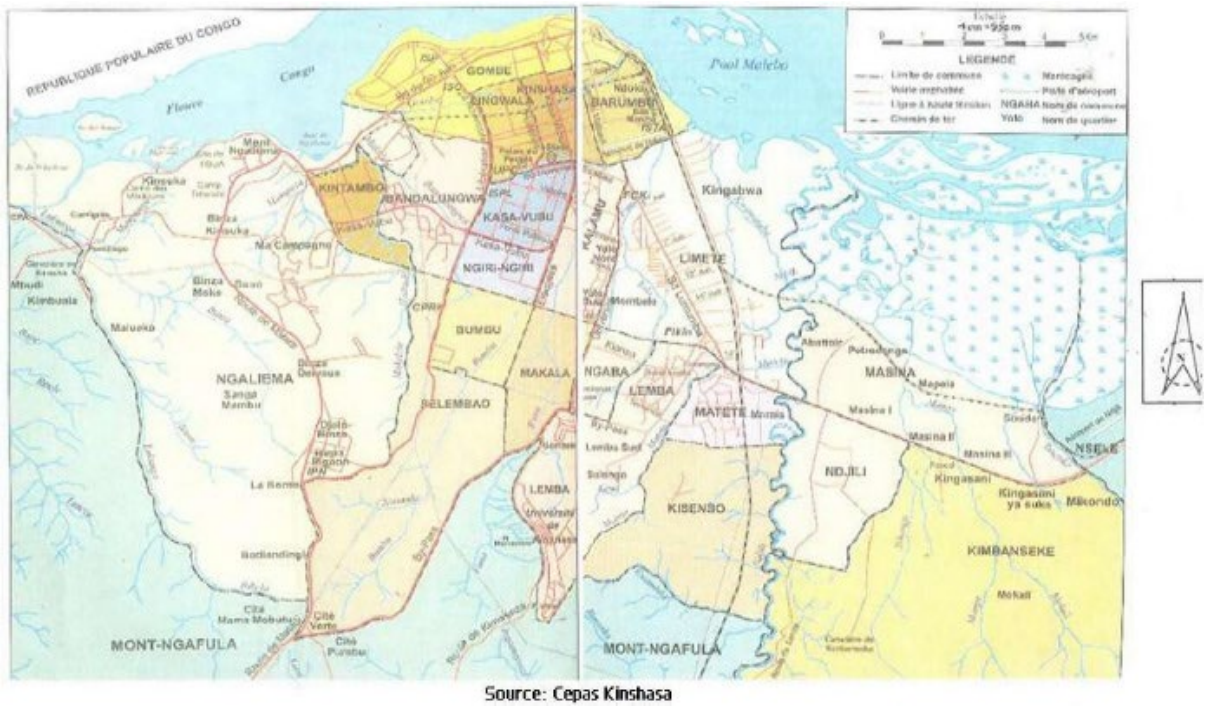

Figure 1: Map of Kinshasa city (Source: Tshomba*et al.,* 2015).

The Mont-Ngafula commune is one of the 24 communes of Kinshasa, the capital of the Democratic Republic of Congo. According to Gutu (2021), the population of Mont-Ngafula is estimated at 379,831 inhabitants. Kinshasa is characterized by a tropical and humid climate of the AW4 type, according to the Köppen classification (PNUD/UNOPS, 1998). Table 1 shows the average minimum and maximum temperatures in Kinshasa throughout the year. The relative humidity is very high, ranging between 76% and 86% during the year (Gutu Kia Zimi, 2021). The rainfall in the geographical area of Kinshasa is abundant but unevenly distributed throughout the year. The highest volume of rainfall is observed in

November, with an average of 268.1 mm, while the lowest rainfall occurs in July, with an average of 0.7 mm. The average annual rainfall is nearly 1500 mm (PNUD/UNOPS, 1998).

Materials: The plant species that were the subject of our study constitute our biological material.

Methods: The necessary information related to theirstudy was gathered using ethnobotanical survey methods, sample collection, and ecological and phytogeographical study methods.

Ethnobotanical Survey: The survey was conducted from September 9, 2020, to April 15, 2021, through interviews with individuals knowledgeable about phytotherapy. The following information was sought:The plants used to treat the flu and measles and the ecological environments in which they are collected.

Laboratory Study Methods

.**Plant Identification**: The collected plants were identified at the IUK Herbarium of the Department of Biology, Faculty of Science and Technology, University of Kinshasa.

Ecological Study Methods: This method identifies and analyses various biological and morphological types, including leaf size categories, diaspore types, and their geographical distribution.

A. Biological Types: Biological types were determined following Raunkiaer's (1934) classification as described by Dajoz (2000) and Lacoste and Salanon (1999). These include the major groups:

Phanerophytes (Ph)
Chamaephytes (Ch)
Hemicryptophytes (Hc)
Cryptophytes (Cr)
Therophytes (Th)

B. Morphological Types: The main morphological types are based on the aerial stratification of species, as defined by Lacoste and Salanon (1999). These include:

Trees (A)
Shrubs (arb)
Sub-shrubs (s/arb)
Perennial herbaceous plants (hr)
Annual herbaceous plants (ha)
Climbers or lianas (Lia)

C. Leaf Size Categories: Leaf size categories were determined according to Raunkiaer's (1934) classification as cited by Lubini (1997). These include:

Aphyllous (aph)
Leptophyllous (lepto)
Nanophyllous (nano)
Microphyllous (micro)
Mesophyllous (méso)
Macrophyllous (macro)

D Diaspore Types: The determination of the morphological types of diaspores is based on the classifications of Dansereau and Lems (1957), Molinier and Muller (1938), as well as adaptations by Habiyaremye (1997) and Triplet (2019). These classifications distinguish the following:

- Ballochores (ballo): Dispersed by explosive mechanisms.
- Barochores (baro): Dispersed by gravity.
- Anemochores (anemo): Dispersed by wind.
- Hydrochores (hd): Dispersed by water.
- Zoochores (zooch): Dispersed by animals.

E Phytogeographical Distribution: The major chorological subdivisions used for Central Africa are based on the classifications adopted by Lejoly et al. (1988), Lubini (2001), Houinato & Sinsin (2001), Senterre (2005), and Habari (2009). These include:

Pantropical (Pan)
Paleotropical (Paléo)
Guineo-Congolian (GC)
Afrotropical (Af)
Lower Guineo-Congolian (BGc)
Cosmopolitan (Cosm)

F Local Cultural Importance of Plants: Various methods exist to evaluate the cultural importance of plants (Trotter & Logan, 1986; Phillips *et al.,* 1993a, 1993b; Cook, 1995;

Höft*et al.,* 1999; Betti, 2001; Pieroni, 2001; Moerman, 2007; Garibay-Orijel, 2007; Tardío & Pardo-de-Santayana, 2008; Ilumbe, 2010, 2014). To better interpret the medicinal cultural value of plants, the **Value of Use Agreement Index (VAUs)** was applied, as defined by Ilumbe (2014):

VAUs = VUs x ICs (1)

Where:

- **VUs** represents the Value of Use.
- **ICs** represents the Cultural Importance Index.

Où ***ICs*** est l'indice de confirmation, ***Na*** = nombre de personnes ayant cité cette espèce et ***Nt*** = nombre total de personnes interviewées.

Calculation of Utilization Value Index (VUs)

The utilization value index (VUs) is expressed as:

VU=∑i=1nUisns(2)\text{VU} = \frac{\sum_{i=1}^n U_{is}}{n_s} \tag{2}VU=ns∑i=1nUis(2)

Where:

- UisU_{is}Uis = the number of uses of species sss mentioned by informant iii.
- nsn_sns = the number of people who cited the species.

Informant Consensus Calculation: The informant consensus index (ICs) is calculated as follows:

ICs=NaNt(3)\text{ICs} = \frac{N_a}{N_t} \tag{3}ICs=NtNa(3)

Where:

- ICs\text{ICs}ICs = the confirmation index.
- NaN_aNa = the number of people who cited the species.
- NtN_tNt = the total number of people interviewed.

RESULTS AND DISCUSSION

Floristic Survey: According to the APG III (2009) and APG IV (2016) classifications, the floristic survey identified 42 species used to treat influenza and measles. These species are grouped into 20 orders and 29 families. All the inventoried species belong to the clades of angiosperms and polypodiales.

Table2: Provides the complete list of all the identified species.

Clade Ordre Families Species	**Ecological characteristics**				
	T.M	**T.B**	**T.F**	**T.D**	**D.P**
C1.1: Monocotylédones					
C1.2: *Commelinidées*					
O1 : *Poales*					
F1 : *Poaceae*					
E1 : *Cymbopogom ncitratus*(DC.) Stapf	Hv	Grh	Micro	Scléro	Pan
O2 : *Arecales*					
F2 : *Arecaceae*					
E2 :*Eremospatha haullevilleana* De Wild	Lia	Lph	Méso	Sarco	Gc
E3:Elaeis guineensis Jacq.	A	Msph	Mega	Sarco	Pan
O3:*Zingiberales*					
F3:*Zingiberaceae*					
E4:*Zingiberofficinale*, Roscoe.	Hv	Grh	Méso	Sarco	G
F4:Costaceae					
E5:*Costus phyllocephalus* K. Schum.	Hv	Grh	Méso	Sarco	GC

C2:Monocotyledones					
O4:Asparagales					
F5:*Amaryllidaceae*					
E6:*Allium cepa* L.	Ha	Gb	Lepto	Scléro	Paléo
E7:Allium*schoenoprasum* L.	Hv	Gb	Micro	Scléro	At
C3: Angiospermes					
C3.1: Dicotyledones varies or Eudicotylédones					
C3.2 : Rosidées					
C3.3 : Fabidées ou Eurosidées I					
O5 : Malpighiales					
F6 : Euphorbiaceae					
E8 :*Alchornea cordifolia* Schumach & Thonn	S/arb	MsPh	Méso	Sarco	AT
E9:*Manihotesculenta*Crantz.	S/arb	McPh	Méso	Ballo	Pan
F7:Anonaceae					
E10:*Annonareticulata* L.	Ha	McPh	Méso	Sarco	Pan
O6 : Rosales					
F8 : Cannabaceae					
E11:*Cannabis sativa* L.	A	Msph	Lepto	Baro	BGc
F9 :Salicaceae					
E12 :*Caloncoba welwitshii*(Oliv.) Gilg.	Arb	Mcph	Méso	Sarco	Gc
O7:Fabales					
F10:Fabaceae					
E13:*Scorodophoeus zenkeri* Harms	A	Msph	Micro	Sarco	Pan
C4: Angiospermes					
C4.1: Dicotylédones varies ou Eudicotylédones					
C4.2 : Malvidées ou Eurosidées II					
O8 : Myrtales					
F11 : Myrtaceae					
E14 : *Eucalyptuscitriodora*Hook.	A	MsPh	Méso	Sarco	AnT
O9 : Sapindales					
F12 : Rutaceae					
E15 :*Citruslimon*(L.) Burm.f.	S/arb	NcPh	Nano	Ptéro	Pan
E16 :*Citrus reticulata* Blanco	A	MsPh	Macro	Sarco	Pan
E17 :*Citrussinensis* (L.) Osbeck.	A	MsPh	Micro	Sarco	Pan
O10 : Malvales					
F13 : Malvaceae					
E18:*Gossypiumbarbadense*L.	S/arb	McPh	Nano	Pogo	Pan
E19:*Hibiscus esculenta* L.	Han	Thd	Macro	Bal	Pan
O11:*Brassicales*					
F14:Caricaceae					
E20:*Caricapapaya* L	A	MsPh	Macro	Sarco	Pan
F15 : *Pentadiplandraceae*					
E21 : *Pentadiplandrabrazzeana* (ball)	A	Phgr	Méso	Sarco	GC
C5 : Angiospermes					
C5.1 : "Noyau des dicotylédones vraies" ou Eudicotyledones supérieures					
O12 : Caryophyllales					
F16 : *Amaranthaceae*					
E22 : *Dysphaniaambrosioides(*L.)Mosyk.&Clemants.	Ha	Thd	Méso	Sarco	Pan

F17 : Anacardiaceae					
E23 :*Mangiferaindica* L.	Arb	MsPh	Méso	Sarco	Pan
E24 :*Spondiascytherea*, Sonn.	A	MsPh	Méso	Sarco	Pan
C6 : Angiospermes					
C6.1 : Dicotylédones vraies ou Eudicotyledones					
C6.2 : Astéridées					
C6.3 : Lamiidées ou Euastéridées I					
O13.Lamiales					
F18.*Acanthaceae*					
E25 : *Brillantaisia owariensis* P.Beauv	Arb	Chd	Méso	Bal	Gc
O.14. Asterales					
F19.Asteraceae					
E.26.*Chromolaena odorata*(L.)R.M.King& H. Rob.	S/arb	Chd	Méso	Pogo	Pan
F20 : Lamiaceae					
E27:*Ocinum gratissimum* L.	S/arb	Chd	Méso	Scléro	Paléo
E28 : *Ocinum basilicum* L.	S/arb	Nph	Méso	Scléro	Pan
E29 : *Tetradenia riparia*(Hochst)Codd.	Arb	McPh	Nano	Ptéro	G
E30 : *Hyptis nepetifolia* RBr	Arb	Thd	Micro	Desmo	Aa
F21 : *Verbenaceae*					
E31 : *Lantana camara* L.	S/arb	McPh	Micro	Sarco	Pan
E32 *:Lippia multiflora* Moldenke.	S/arb	Nph	Méso	Desmo	Gc
O15: Gentianales					
F22:*Rubiaceae*					
E33 : *Morinda lucida*Benth.	A	MsPh	Méso	Sarco	Gc
E34 :*Morinda morindoïdes* (Bak.) Milne-Redhead.	Lia	Lph	Méso	Sarco	Gc
O16:Solanales					
F23:*Solanaceae*					
E35 :*Nicotianatabacum*L.	Ha	Nph	Méso	Pogo	Pan
E36 :*Capsicum annuum* L.	Ha	Thd	Méso	Sarco	Sav
C7 Angiospermes					
C7.1 Magnoliidées					
O17 : Magnioliales					
F24:*Annoceae*					
E37 : *Annonamuricata L*	A	McPh	Méso	Sarco	Pan
F25:*Burseraceae*					
E38 : *Dacryodesedulis*(G. Don) H. J. Lam.	A	MsPh	Méso	Sarco	GC
O18:Laurales					
F26:*Lauraceae*					
E39 : *Persea americana* Mill.	A	MsPh	Méso	Sarco	Pal
F27 : *Chrysobalanaceae*					
*E40:Parinaricapensis*Harv. *subsp. Capensis*	Arb	Géof	Micro	Sarco	GC
C9 Angiospermes					
C9.1Dicotyledones vraies ou Eudicotylédones					
C9.2 Asteridées					
O19 :Ericales					
F28 : *Theaceae*					
E41:Camelliasinensis L.	Arb	Mcph	Méso	Sarco	Pan
O20 : Polypodiales					
F29 : *Dennstaedtiaceae*					
E42 : *Pteriduim aquilinum* L.	Hv	Grh	Micro	Sclero	COS

Legend : T.M- Morphological Types; Grh- *Geophytes rhizomateux*

Statistical Analysis of Taxa : Table 3 presents the major taxonomic groups to which the identified medicinal species belong.

Tableau3 : Major Taxonomic Groups of the Identified Medicinal Species Following APG III (2009) and APG IV (2016).

Groups	Orders	Families	Species	% specific
Monocotyledons	Poales	Poaceae	1	2.4
	Arecales	Arecaceae	2	4.7
	Zingiberales	Zingiberaceae	1	2.4
		Costaceae	1	2.4
	Asparagales	Amaryclidaceae	2	4.7
Dicotyledons	Malpighiales	Euphorbiaceae	2	4.7
		Solanaceae	1	2.4
		Chrysobalanaceae	1	2.4
	Rosales	Cannabaceae	1	2.4
	Myrtales	Myrtaceae	1	2.4
	Fabales	Fabaceae	1	2.4
	Sapindales	Rutaceae	3	7.1
	Malvales	Malvaceae	2	4.7
	Brassicales	Caricaceae	1	2.4
		Pentadiplandraceae	1	2.4
	Asterales	Asteraceae	1	2.4
	Caryophyllales	Amaranthaceae	1	2.4
		Anacardiaceae	2	4.7
	Lamiales	Acanthaceae	1	2.4
		Lamiaceae	4	9.5
		Verbaceae	2	4.7
	Gentianales	Rubiaceae	2	4.7
	Solanales	Solanaceae	2	4.7
	Ericales	Theaceae	1	2.4
Magnolids	Magnoliales	Annonaceae,	1	2.4
		Burseraceae	1	2.4
	Laurales	Lauraceae	1	2.4
Pteridophytes	Polypodiales	Dennstaedtiaceae	1	2 .4
TOTAL	20	29	42	100

The 42 species are classified into 29 families. 20 orders. and grouped into 4 clades: Monocotyledons. Dicotyledons. Magnoliids. and Pteridophytes. Additionally. the floristic analysis reveals that the most represented family is the Lamiaceae family with 4 species (10.2%). followed by the Rutaceae family with 3 species (7.1%). while the other families are represented by either one or two species.

Analysis of Ecological Traits: The results of the analysis on:

1 Biological Types: Are presented in Figure 2. The data in Figure 2 show a clear predominance of **Phanerophytes** (28 species. or 67%) compared to **Geophytes** (7 species. or 17%). followed by **Therophytes** (4 species. or 9%) and **Chamaephytes** (3 species. or 7%).

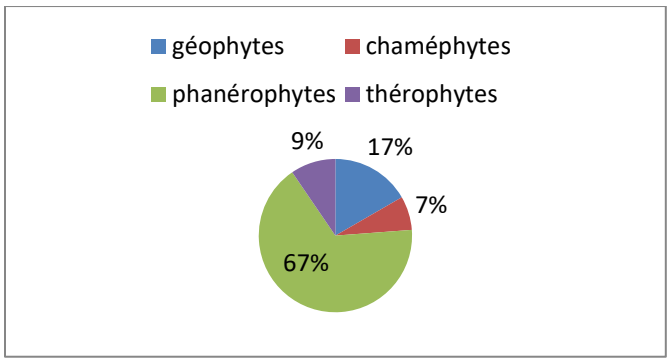

Figure 2 :Spectrum of Biological Types

2 Morphological Types: The results of the analysis of morphological types are presented in **Figure 3**. The inventoried flora consists of 6 main life forms:

- **Trees (A)**
- **Shrubs (arb)**
- **Sub-shrubs (s/arb)**
- **Lianas (lia)**
- **Annual herbs (ha)**
- **Perennial herbs (hv)**

Trees are predominant. with 13 species (31%). followed by sub-shrubs with 9 species (21%). shrubs with 7 species (17%). and annual herbs with 6 species (14%).**Perennial herbs (hv)** with 5 species (12%). and finally. **lianas (lia)** are the least represented. with only 2 species (5%).

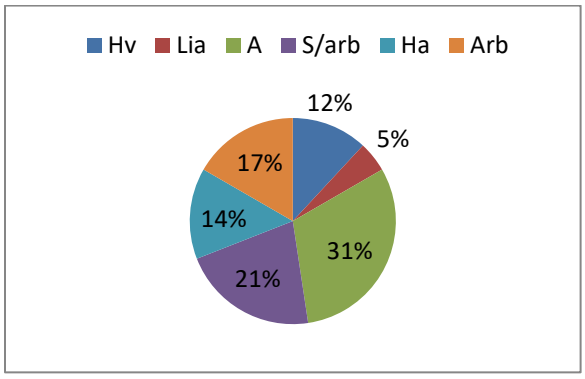

Figure 3.: Spectrum of Morphological Types

3 Leaf Size Categories: The results of the analysis of leaf size categories are presented in **Figure 4**. The spectrum of leaf size categories shows that **Mesophyllous** leaves predominate. with 25 species (60%). followed by **Nanophyllous** leaves with 8 species (19%). The other leaf types are less represented.

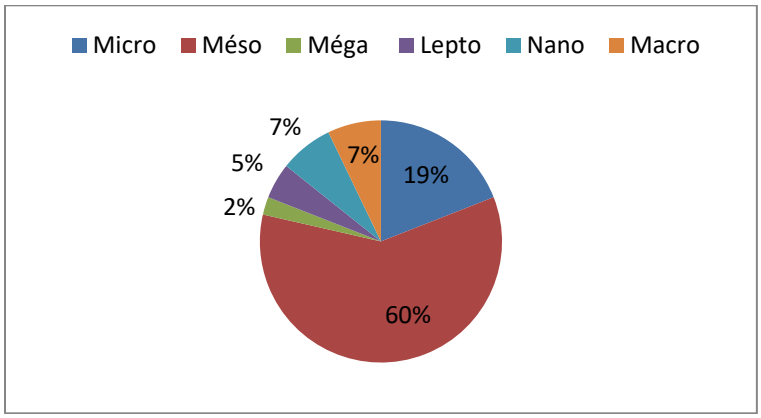

Figure 4 : Spectrum of Leaf Size Categories

4 Diaspore Types: The data on the types of diaspores for the species are presented in **Figure 5.**

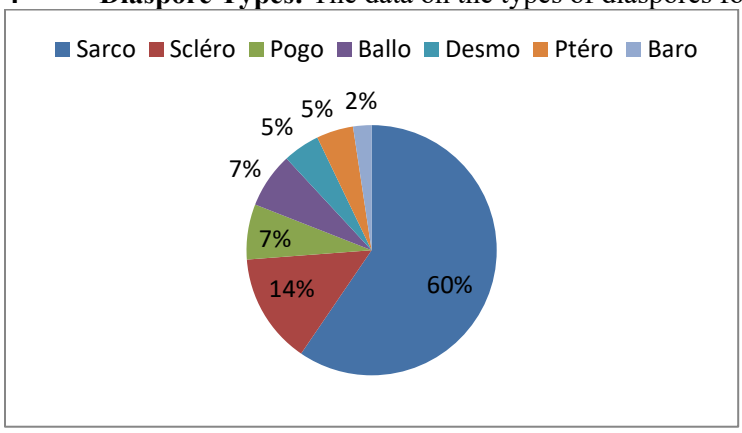

Figure 5: Spectrum of Diaspore Types

Seven types of diaspores were recorded. **Sarcochores** predominate with 25 species (60%). followed by **Sclerochores** with 6 species (14%). while the other types are less represented. **Phytogeographical or Chorological Distribution:** The data on the phytogeographical distribution types of the recorded species are presented in **Figure 6**.

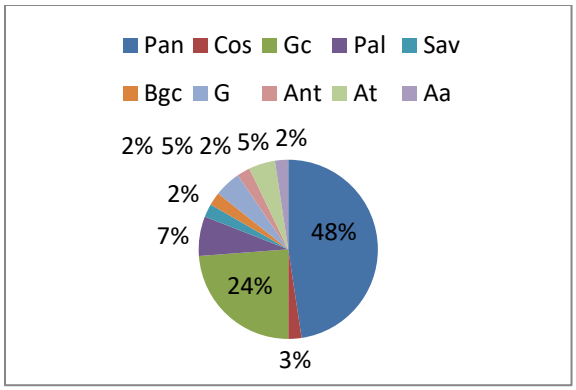

Figure 6 : Phytogeographical Distribution Types of Taxa

The **Pantropical** and **Guineo-Congolian** types are the most numerous. with 20 species (48%) and 10 species (24%) respectively. These are followed at a distance by

Paleotropical types with 3 species (7%). while the remaining distribution types are less represented.

The Most Used Species for Treating Influenza and Measles: The main species most commonly used by the population of Kimwenza. in the commune of Mont-Ngafula. Kinshasa. RDC. for treating influenza and measles. are listed in Table 4.

Table 4:Table of the Most Used Species

Species
1.Brillantaisia owariensis P. Beauv.
2. Carica papaya L.
*3. Citrus limon (L.) Burm.*f
4. Cymbopogo ncitratus (DC.) Stapf
5. Dacryodes edulis (G.Don) H.J.Lam
6. Dysphania ambrosioides (L.) Mosyakin&Clemants
7. Eucalyptus citriodora Hook.
8. Gossypium barbadense L.
9.Hyptis nepetifolia R Br.
10.Lantanacamara L.
11.Lippia multiflora Moldenke.
12.Morinda morindoides (Baker) Milne-Redhead
13.Nicotianatabacum L.
14.Ocimum basilicum L.
15.Ocimum gratissimum L.
16.Caloncoba welwitschii(Oliv) Gilg.
17.Parinari capensis Harv.
18.Tetradenia riparia(Hochst.)Codd.
19.Camellia sinensis (L.) O.Kuntze
20.Cannabis sativa L.
21.Capsicum annuum L.
22.Chromolaena odorata (L.) R.King& H.Robinson
23.Draca enamannii Baker
24.Gymnanthemum amygdalinum (Delile)Sch. Bip. Ex Walp
25.Hibiscus esculentus L.
26.*Manihot esculenta* Crantz
27.Morinda lucida Benth.

Ethnobotanical Data

1 **General Characteristics of Recipes**

2 Disease Groups : The data on the disease groups show that the population interviewed has knowledge of these diseases. **Influenza** is the most commonly cited condition with 84 mentions (51.53%). while **measles** has only 79 citations (48.47%). The disease groups are listed in **Table 5**.

Table 5 : Citations and Therapeutic Indications by Disease Group

Disease Group	Number of Citations	%
Influenza	84	51 .53%
Measles	79	48 .47%
Total	163	100 %

Species and Their Therapeutic Indications : The 42 species recorded are divided into those specific to the treatment of influenza and those specific to the treatment of measles. Eleven (11) plant species treat both influenza and measles.

Table 6: Species and Diseases Treated

Diseases Treated	**Species of Medicinals plants**
Influenza	*Ocinum gratissimum, Dysphania ambrosioides. Morinda lucida. Carica papaya, Cymbopogon citratus. Morinda morindoides. Gossypium barbadense, Eremospatha aullevilleana, Ocinum bassilicum, .Dacryodes edulis. Mangifera indica. Persea americana, Annona reticulata . Annona moricata, Lippia multiflora. Citrus reticulata. Citrus sinensis. Citrus limon. Hyptis nepetifolia. Tetradenia riparia. Lantana camara. Pentadiplandra brazzeana. Brillantasia owarieniss. Parinari capensis. Zingiber officinale. Alchornea cordifolia. Eucalyptus citriodora .Camellia sinensis. Elaeis guineensis , Nicotiana tabacum. Caloncoba welwitschii.*
Measles	*Camellia sinensis. Scordophloeus zenkeri. Costus phyllociphalus. Allium shoenoprasun .Brillantasia owariensis. Ocinum basilicum. Eremospatha haullevilleana. Morinda morindoides Manihot esculenta. Pteridium aquilinum. Cymbopogon citratus. Allium cepa. Capsicum annuum. Cannabis sativa. Carica papaya. Morinda lucida. Dysphania ambrosioides. Ocinum gratissimum. Elaeis guineensis. Hibiscus esculenta. Chromoleana odorata.*

It was noted that certain plants treat both influenza and measles. including: *Ocinum gratissimum. Dysphania ambrosioides. Morinda lucida. Carica papaya. Morinda morindoides. Camellia sinensis. Elaeis guineensis. Eremospatha haullevilleana. Brillantaisia owariensis. Ocinum basilicum. Cymbopogon citratus*

DISCUSSION

The analysis of the floristic surveys of plants used for treating the flu and measles in the Kimwenza neighborhood. specifically in the Mont-Ngafula commune. reveals the presence of 42 species. Almost all of these species belong to the clade of **angiosperms** and are distributed across four clades: **monocotyledons**. **dicotyledons**. **magnoliids**. and **Pteridophytes**. These 42 taxa are spread across **20 orders** and **29 families**. The most predominant family in terms of species is **Lamiaceae**. with **4 species**. The data from a previous study by **Olenga (2019)**. which conducted an ethnobotanical inventory of medicinal plants used for treating **hepatitis**. **hiccups**. and **otitis** in the nearby Kindele neighborhood. reveals the presence of **43 species**. **40 genera**. **26 families**. and **21 orders**. The predominant family in this study is **Poaceae**. This work shows that the number of species is nearly the same as the present study's results. In contrast. studies by **Mubigala (2018)** in the Lemba commune. with **26 species**. and **Mando (2015)** on hemorrhoids and hypertension in the Matété commune. with **35 species**. show a lower number of medicinal species compared to this study. This suggests that the **Kimwenza** area.

and particularly the **Mont-Ngafula commune**. has a rich diversity of medicinal plants. potentially offering a broader range of therapeutic resources for common diseases such as the flu and measles. This richness could play a significant role in the development of both **traditional phytotherapy** and future pharmaceutical research. The population surveyed appears to have a good knowledge of medicinal plants used to treat influenza and measles. Specifically. for influenza. 21 species are mentioned. while for measles. 11 species are cited. Additionally. 10 other species are used to treat both diseases simultaneously.

Among these species. some are particularly notable because they are used to treat both infections. These plants include:

- ***Ocinum gratissimum***
- ***Dysphania ambrosioides***
- ***Morinda lucida***
- ***Carica papaya***
- ***Morinda morindoides***
- ***Camellia sinensis***
- ***Elaeis guineensis***
- ***Eremospatha haullevilleana***
- ***Brillantaisia owariensis***
- ***Ocinum basilicum***
- ***Cymbopogon citratus***

These results show that Congolese pharmacopoeia is rich and diverse. with a wide range of medicinal plants used to manage common infections such as influenza and measles. This highlights the importance of traditional medicine in community healthcare. particularly in areas where access to modern medicine may be limited.

CONCLUSION AND APPLICATION OF RESULTS

The ethnobotanical survey in the Kimwenza neighborhood of Mont-Ngafula identified 42 medicinal plant species used to treat influenza and measles. spanning 29 families and 20 orders. The dominant family is Lamiaceae. with four species. including *Ocinum gratissimum* and *Ocinum basilicum.* Of the 42 species documented. 21 treat influenza. 11 treat measles. and 10 are effective for both diseases. Notable species cited frequently include *Camellia sinensis. Ocinum gratissimum.* and *Cymbopogon citratus*. Most of the plants are Phanérophytes (68%). mainly trees (51%). The phytogeographical analysis revealed a predominance of Pantropical elements (48%) and Guinéo-Congolese species (24%). The survey highlights the local medicinal plant knowledge but warns that ecosystem destruction in Kinshasa threatens biodiversity. Conservation measures and further studies in phytochemistry and pharmacognosy are recommended to explore the potential of these plants for developing traditional and modern medicinal treatments.

REFERENCES BIBLIOGRAPHIQUES

APG III (2009):" An update of the Angiosperm Phylogeny Group classification for the orders and families of the flowering plants: APG III). Botanical Journal of the Linnean Society; vol.141. pp. 399-436.

APG IV (2016): The Angiosperm Phylogeny Group: "An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APGIV." Botanical Journal of the Linnean Society. Vol. Early View. pp. 1-20.

Betti J L (2001) : Vulnérabilité des plantes utilisées comme antipaludiques dans l'arrondissement de Minton au Sud de la Réserve de Biosphère du Dja (Cameroun). Syst. Geogr. 678 p.

Bikandu K.B.. 2007. Inventaire préliminaire des plantes médicales vendues dans quelquesmarchés de la partie Ouest de la ville de Kinshasa. Cas de districts

Funa et Lukunga. Mémoire. Département. Biol.. Fac des sciences. UNIKIN.106p + annexes.

Binda M.B. (2011) Etude Floristique et Ecologique des Plantes Médicinales du Quartier Kimbangu dans la Commune de Kalamu/Kinshasa. TFC Unikin. Fac.Sc. Dép. de Biologie 31 P.

Cook. F.R.M. (1995): Economic Botany Data Collection Standard. Kew BotanicalGardens. UK.

DansereauetLems (1957) : The grading dispersal types in plant communities and ecological significance. Contr. Inst. Bot. Univ. Montréal. n°71. 52p.

Garibay-Orijel R.. Caballero J.. Estrada-Torres A.. Cifuentes J. (2007). Understanding cultural significance. the edible mushrooms case.Journal of Ethnobiology and Ethnomedicine. 3: 4-8.

GutukiaZimi. F(2021) : Kinshasa. Mégapole verdoyante en Crise. Défis de la gestion urbaine et environnementale. Edition AuthorHouse. Bloomington. USA. 377p.

Habari M J P ((2009) : Etude floristique. phytogéographique et phytosociologique de la végétation de Kinshasa et des bassins moyens des rivières N'djili et N'sele en RD Congo. Thèse de doctorat. Université de Kinshasa. Fac. Sci. Dépt. Biologie. 273 p.

Habiyarmye M K (1997) : Etude phytoécologique de la dorsale orientale du lac Kivu (Rwanda) – Annales des Sciences Economiques- Musée Royal d'Afrique Centrale. Bruxelles/ Belgique. vol. 24. 276 p.

Höft M.. Baril S.K. &Lykke A.M. (1999): Quantitative ethnobotany. Application of multivariate and statistical analyses in ethnobotany. People and plants working paper 6. UNESCO. 46 p.

HOUINTO J. et SINSIN B.. 2001. Analyse phytogéographique de la région des monts Kouffé au Bénin. in Syst. Géogr. Pl. 71. XVIth. AETFAT Congrès. pp. 889-910.

Ilumbe B G (2010) : Utilisation des plantes en médecine traditionnelle par les Pygmées (Ba-Twa) et les Bantous (Ba-Oto) du territoire de Bikoro. Province de l'Equateur en RDC. Thèse de doctorat. ULB/ Bruxelles. 251 p.

Ilumbe G.B. Van Damme P. Lukoki L.F. Joiris V. Visser M and LejolyJ (2014) : Contribution à l'étude des plantes médicinales dans le traitement des hémorroïdes par les Pygmées Twa et leurr voisin Oto de Bikoro . en RDC. Congo Sciences. Journal International en Ligne de l'Acasti et du Cedersurk. Vol. 2. n°1. pp. 46- 54.

Lacoste A et SalanonR (1999) : Eléments de Biogéographie et d'Ecologie. 2è Edition. Nathan Université. 300 p.

Lassa K.L.. 2007. Inventaire préliminaire des plantes médecinales vendues dans quelques marchés de la partie Est de la ville de Kinshasa. Cas d districMontAmba et Tshangu. Mém. Département Biologie. Fac des sciences. UNIKIN.

Lejoly J. LisowskiS et Njele L. (1988) : Catalogue des plantes vasculaires des districts de Kisangani et de la Tshopo. . Haut-Zaïre. 3è Ed. Lab. Bot. Syst. Et Phyto. ULB. Bruxelles. 122p.

Lubini A C (2001) : Analyse phytogéographique de la flore forestière du secteur du Kasa¨au Congo- Kinshasa. Systematic and Phtygeography of plants. Proceedings of the XVIème AEFAT Congress. 71 (2). pp. 859-872.

Lubini A.C. (1997) : Utilisation des plantes médicinales par les YANSI de l'entre Kwilu-Kasaï (Zaïre). In Proceedings

XIIème Plenary Meetings AEFAT. Malawi n°1. pp. 53-74.

Luzayikusu B.M. (2012) Etude Ethnobotanique des Plantes Utilisées dans la pharmacopée de Manianga

Mando K. R. (2015) Contribution à l'Etude Ethnobotanique des Plantes Utilisées dans les Traitements des Hémorroïdes et de l'Hypertension dans la Ville de Kinshasa. dans la Commune de la N'sele. dans le Quartier Kinkole p 54 – 55.

Moerman D.E. (2007). Agreement and meaning: rethinking consensus analysis. Journal of Ethnopharmacology112: 451–460.

Molinier. R et Muller. P. (1938) : La dissémination des espèces végétales. Rev. Gen. Bot. n°1. pp. 53- 670.

Moroh JL. Bahi C. Dje K. Loukou YG. Guede-guina F. 2008. Etude de l'activité antibacterienne de l'extrait acétalique (EAC) de *Morindamorindoides*

OMS (2000) : Médecine Traditionnelle : In Principes méthodologiques généraux pour la recherche et l'évaluation de la médecine traditionnelle. Genève/ Suisse

OMS (2013) : WHO traditional medicine strategy: 2014-2023Phillips O.L. & Gentry A.H. (1993a) : The useful plants of Tambopata. Peru. I. Statistical hypothesis tests with new quantitative technique. Economic Botany. 47. pp. 15-32.

Phillips O.L.& Gentry A.H. (1993b): The useful plants of Tambopata. Peru. II. Additional hypothesis testing in quantitative ethnobotany. Economic Botany. 47. pp. 33-43.

Pieroni A (2001): Evaluation ofthe cultural significance of wild food botanicals traditionally consumed in northwestern Tuscany. Italy. Journal of Ethnobiology 21. pp. 89- 104.

PNUD/UNOPS. (1998) : Plan d'action triennal (1998-2000). province urbaine de Kinshasa. programme national de relance du secteur agricole et rural. Kinshasa. 247p.

Raunkiaer (1934): The life forms of plants statistical plant geography. exford.clarendron press. 632p.

Senterre B.. 2005. Recherche méthodologique pour la typologie de la végétation et de la distribution phytogéographique des forêts denses d'Afrique tropicales. Thèse Doc. Inédit.U.L.B.. 345 p.

Shomba. K. Mukoka. F. Olela. D. Kaminar. T.M. Mbalanda. W. (2015):Monographie de la ville de Kinshasa. ICREDES Kinshasa – Montréal – Washington 105p.

Tardio J. &Pardo-de-Santayaana M.. (2008). Cultural importance indices: a comparative analysis based on the useful wild plants of southern Cantabria (northern Spain). EconomicBotany. 62:pp. 24–39.

Triplet Patrick (2019). Dictionnaire encyclopédique de la diversité biologique et dela conservation de la nature. 5ème Edition. 1145 p.

Trotter R.T. & Logan M.H. (1986): Informant consensus: a new approach for identifying potentially effective medicinal plants. IN: Etkin. N.L.(Ed.). Plants in Indigenous Medicine and Diet. Redgrave Publishing Company. Bedford Hill. New York. pp. 91-112.

White F (1986): La végétation d'Afrique. Mémoire accompagnant la carte de la végétation d'Afrique – UNESCO/ AETFAT/ UNSO. ORSTOM. UNESCO. 384p.

Zeggwagh (2013) : Enquête sur les aspects toxicologiques de la phytothérapie utilisée par un herboriste à Fès.Maroc.