WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.074
Volume 8, Issue 7, 1117-1136. Research Article ISSN 2277– 7105

COMPARATIVE SCREENING OF TWO HIBISCUS SPECIES BY MONOGRAPHIC, PHYTO CHEMICAL INCLUDING BIOLOGICAL STUDIES

[1]C. Lavanya Vasavi, [1]A. Siva Jyothi, [1]P. Sravani, [1]T. Pranav Chand, [1]S. K. Adil, [1]*Dr. R. Ramasubramania Raja and [2]Dr. K. Harinadha Baba

[1]Department of Pharmacognosy, Narayana Pharmacy College, Nellore, A.P.

[2]Principal, Narayana Pharmacy College, Nellore, A.P.

Article Received on
28 March 2019,

Revised on 18 April 2019,
Accepted on 08 May 2019,

DOI: 10.20959/wjpr20197-14945

***Corresponding Author**
Dr. R. Ramasubramania Raja
Department of Pharmacognosy, Narayana Pharmacy College, Nellore, A.P.

ABSTRACT

The present research work was carried out by standardization of *Hibiscus cannabinus* and *Hibiscus sabdariffa* leaves. They were standardized using various pharmacognostical and phytochemical parameters. Pharmacognostical screening includes macroscopical parameters, microscopical parameters (transverse section), fluorescent analysis, physicochemical parameters were performed and values were reported. The extraction and identification of phytochemical screening. Finally larvicidal activity was performed using larva of *Aedes*mosquitoes. Due to presence of open drainages in Nellore, larva were available easily. *Hibiscus sabdariffa* showed more potency towards larva of *Aedes* than that of *Hibiscus cannabinus.* We hope that our research work will be useful for further research scholars in their future studies. Well developed countries are also following herbal medicines now-a-days for no risk, without any side effects when compared to allopathic system of medicine. So, for a developing country like India where there is a huge population of poor people living who cannot afford allopathic medicines, this could be useful for day to day activities.

KEYWORDS: *Hibiscus sabdariffa, Hibiscus cannabinus,* macroscopical, microscopical, larva of *Aedes.*

INTRODUCTION

Pharmacognostical Screening is a method of evaluating the characteristics of the plant. It is of great significance in determining the medicinal activities of the plant. A wide variety of

methods are being applied for pharmacognostical studies of *hibiscussabdariffa* leaves and *hibiscuscannabinus* leaves. Following pharmacognostical screening tests are performed on *hibiscuscannabinus* and *hibiscussabdariffa* to evaluate larvicidal and ovicidal activities of *Aedesaegypti* : Macroscopical and microscopical evaluation of *hibiscuscannabinus* and *hibiscussabdariffa* leaves. Physico-chemical screening of leaf powder of *Hibiscus cannabinus* and *Hibiscussabdariffa.* Fluorescence and analysis of leaf powder of *Hibiscuscannabinus* and *Hibiscussabdariffa*. It refers to the extraction, screening and identification of the medicinally active substances found in plants. Some of the bioactive substances that can be derived from plants are flavonoids, alkaloids, carotenoids, tannin, antioxidants and phenolic compounds. Phytochemicals are chemical compounds produced by plants, generally to help them thrive competitors, predators, or pathogens. The name comes from Greek word phyton, meaning 'plant'. Some phytochemicals have been used as poisons and others as traditional medicine. Phytochemicals are produced by plants through primary or secondary metabolism. Following methods are performed to identify the larvicidal and ovicidal activities of Aedesaegypti : Extraction by continuous hot percolation of soxhlet apparatus. Preliminary phytochemical screening of alcoholic extract of *Hibiscuscannabinus* and *Hibiscussabdariffa*. Larvicidal activity: Mosquitoes are the vectors for the dreadful diseases of mankind. Mosquitoes are the most dangerous insect pestsaffectinghumans and animals worldwide, transmitting a number of epidemic and fatal diseases. WHO has declared the mosquito “public enemy number one”. They also cause allergic responses in humans that include local skin and systemic reactions such as angioedema. Major dreadful diseasescaused by mosquitoes are Malaria, Dengue fever, Yellow fever, Filariasis, Japanese encephalitis, Chikungunya. So, by performing Larvicidal mosquito population can be reduced by determining the mortality rate of its larva. Excessive use of synthetic pesticides causes resistance to them and harmful effects on non-target organisms. So, development and improvement of mosquito control methods that are economical and effective as well as safe for non- target organisms and environment, therefore taking this into consideration herbal insecticides were chosen.

HIBISCUSCANNABINUS

SYNONYMS

Abelmoschus congener Walp, Abelmoschus, verrucosus Walp., Furcariacannabina Ulbr., Furcariacavanillesii Kostel., Hibiscus malangensis, Baker f. and Hibiscus vanderystii De Wild.

TAXONOMIC CLASSIFICATION

Kingdom: Plantae

Subkingdom: Viridiplantae

Infrakingdom: Streptophyta

Superdivision:Embryophyta

Division: Tracheophyta

Subdivision: Spermatophytina

Class:Magnoliopsida

Superorder: Rosanae

Family: Malvaceae

Genus: Hibiscus

Species: *Hibiscuscannabinus*

VERNACULAR NAMES

Arabic: Jaljal;

Chinese: da majin;

English: Bastard-jute, bimli-jute, Deccan-hemp, Indian-hemp, Java-jute, *Kenaf*, *Kenaf* hibiscus;

French: chanvrede Bombay, chanvre de Guinée;

German: Ambari, Dekkanhanf, Gambohanf, Jawa-Jute, *Kenaf*;

Hindi: Ambary, mesta, patsan, pitwa;

Italian: ibisco;

Japanese: *kenaf*u;

DISTRIBUTION

Hibiscus cannabinus was a warm-season annual fiber crop. It was native to Africa [Kenya, Tanzania, Uganda, Chad, Ethiopia, Somalia, Sudan, Angola, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Ghana, Mali, Nigeria, Senegal, Burundi, Cameroon, Central African Republic, Rwanda and Zaire], and has been commercially cultivated in Asia, such as Russia, China, India, Malaysia, Thailand, Iran, Iraq and many other countries.

MORPHOLOGY[1,2,3,4,5,6]

Fig: ***Hibiscus cannabinus.***

USES

The flowers were considered emollient, and an infusion of the petals was used as a demulcent. Its decoction was given in bronchial catarrh in India. Seeds were considered aphrodisiac, fattening, aphrodisiac, purgative, for stomachic, bilious conditions, bruises, fever, and puerperium. Powdered leaves were applied to Guinea worms in Africa. Africans use peelings from the stems for anemia, fatigue, lassitude, etc. In Gambia, the leaf infusion was used for coughs. In local medicine in Kenya, pounded roots were administered to spider bites, and leaves were used to treat stomach disorders. In West Africa, powdered leaves were applied to sores and boils, and a leaf infusion was administered for treatment of cough. In India, juice from the flowers was taken against biliousness. Seeds were applied externally to aches and bruises, juice of the flowers with sugar and black pepper was used in biliousness with acidity. It was also used as antidote to poisoning with chemicals [acid, alkali, pesticides] and venomous mushrooms.

HIBISCUSSABDARIFFA

SYNONYMS

Abelmoschuscruentus, Furcariasabdariffa, Hibiscus acetosus, Hibiscus cruentus, Hibiscus fraternus, Hibiscus gossypifolius, Hibiscus palmatilobus, Hibiscus sanguineus, Sabdariffarubra.

TAXONOMIC CLASSIFICATION

Domain: Eukaryota

Kingdom: Plantae

Phylum: Spermatophyta

Subphylum: Angiospermae

Class: Dicotyledonae

Order: Malvales

Family: Malvaceae

Genus: Hibiscus

Species: *Hibiscussabdariffa*

VERNACULAR NAMES

ENGLISH: Indian sorrel; Jamaica sorrel; red sorrel

SPANISH: canamo de Guinea; rosella; sereni

CHINESE: Luoshenhua, Mei guijia, Shan jiazi.

GERMAN: Afrikanischer Eibisch, *Hibiscus*-Tee, Karkade-Tee, Roselle, Rote Malve.

GHANA: Sobolo.

FRENCH: Oseille de Guinée, Thé rose d'Abyssinie.

JAPANESE: Roozera, Roozeru, Rozerusou.

POLISH: Hibiskusszczawiowy, Ketmiaszczawiowa.

PORTUGUESE: Caruru De Guine (Brazil), Quiabo Da Angola (Brazil), Rosela, Vinagreira.

THAI: Krachiap, Krachiapdaeng.

DISTRIBUTION

Hibiscus sabdariffa probably originates from Africa, where it may have been domesticated in Sudan about 6000 years ago, first for its seed and later for leaf and calyx production. In the 17th century vegetable types were introduced to India and the Americas. Selection for fibre production took place in Asia, where cultivation is reported from the beginning of the 20th century, e.g. in India, Sri Lanka, Thailand, Malaysia and Java. Roselle is now found throughout the tropics. In tropical Africa it is especially common in the savanna region of West and Central Africa. It is often found as an escape from cultivation. However, apparently truly wild plants of *Hibiscussabdariffa* have been collected in Ghana, Niger, Nigeria and Angola.

MORPHOLOGY[7,8,9,10,11,12]

Fig: *Hibiscus sabdariffa.*

MATERIAL AND METHODS

PLANT MATERIAL

The crude drug was collected from Magunta layout (NELLORE) inthe month of November 2018. Then the plant was identified by local people and then authorized by ***Dr. Joy***, Botanist at D.K.W Degree College, Nellore. Then the specimen of plant material was kept in college for further work.

LARVA

The larva was collected from drainages and small ponds in the locality of Magunta layout and Chintareddypalem(NELLORE). Then they were identified and then authorized by ***Dr.M.Padmapriya***, Zoologist at V.R. College, Nellore.

CHEMICALS

All the chemicals produce from Rankem, Aventor Performance material India limited, Haryana.

PREPARATION OF EXTRACT

The leaves of the plant collected were dried under shadow (5 days) and then powdered by using grinder and then sieved. Then this powder material was extracted by using ethanol as solvent.15 grams of powder was taken in soxhlet extraction apparatus and then extracted using ethanol in a duration of 6 hours. The ethanolic crude extract for *Hibiscuscannabinus* and *Hibiscussabdariffa* was found to be 7.040g & 7.140g respectively.

PHARMACOGNOSTICAL STUDIES[13,14,15,16,17,18]

The pharmacognostical studies on extractive value, moisture content, crude fiber content, and loss on drying, foreign organic matter and ash values was performed and reported on table.

MICROSCOPICAL EVALUATION OF LEAF

The leaf was examined and microscopically characterized by using transverse section technique by using the staining reagents like safranin, bromothymol blue and iodine solution. Observed characters are reported.

CHEMICAL TEST

1. DETECTION OF ALKALOIDS

The small portions of solvent free chloroform, alcoholic and water extracts are stirred separately with a few drops of dilute hydrochloric acid and filtered. The filtrate may be tested carefully with various alkaloidal reagents; Mayer's reagent (cream precipitate). Dragendroffs reagent (orange brown precipitate), Hager's reagent (yellow precipitate) and Wagner's reagent (Reddish - brown precipitate).

2. DETECTION OF CARBOHYDRATES AND GLYCOSIDES

1. Small quantities (200mg) of alcoholic and aqueous extracts are dissolved separately in 5 ml of distilled water and filtered. The filtrate may be subjected to Molisch's to detect the presence of carbohydrates.
2. Another small portion of extract is hydrolyzed with dilute hydrochloric acid for few hours in water-bath and is subjected to Liebermann-Burchard's, Legal and Borntrager's test to detect presence of different glycosides.
3. A small portion of extract is dissolved in water and treated with Fehling's, Barfoed's and Benedict's reagents to detect presence of different sugars.

3. DETECTION OF PHYTOSTEROLS

The petroleum ether, acetone and alcoholic extracts are refluxed separately with solution of alcoholic potassium hydroxide till complete saponification takes place. The saponification mixture is diluted with distilled water and extracted with ether. The etheral extract is evaporated and the residue (unsaponifiable matter) is subjected to Lieberman's and Burchard's tests.

4. DETECTION OF FIXED OILS AND FATS

A small quantity of petroleum ether is pressed separately between two filter papers. Oil stains on the paper indicate the presence of fixed oil.

A few drops of 0.5N alcoholic potassium hydroxide is added to a small quantity of petroleum ether or Benzene extract along with a drop of phenolphthalein. The mixture is heated on water-bath for 1-2 hours. Formation of soap or partial neutralization of alkali indicates the presence of fixed oils and fats.

5. DETECTION OF SAPONINS

About 1 ml of alcoholic and aqueous extract is diluted separately with distilled water to 20ml and shaken in a graduated cylinder for 15 minutes. One cm layer of foam indicates the presence of saponins. The test solution may be subjected to test for haemolysis.

6. DETECTION OF PHENOLIC COMPOUNDS AND TANNINS

Small quantities of alcoholic and aqueous extracts in water are tested for the presence of phenolic compounds and tannins with dilute ferric chloride solution (5%). 1% solution of gelation containing 10% sodium chloride. 10% lead acetate and aqueous bromine solutions.

FLUORESCENCE ANALYSIS OF CRUDE POWER

The fluorescence analysis was performed by crude powder with various chemical reagents under day light and UV light reported on the table.

LARVICIDAL BIOASSAY

Bioassay for Larvicidal activity was carried out using WHO procedure with minor modifications. Twenty larvae, each were introduced into treatment trays containing 250 ml of their natural growth medium (Tap water - untreated - added with dog biscuits and yeast in the ration 3:1). To the treatment set, respective concentrations of plant extracts (0.5, 1.0, 2.0, 4.0, 8.0 ml) were added from the stock solution; maintaining a relative concentration of the plant extract as 10, 20, 40, 80, and 160 mg/ml respectively. A control was maintained, containing only larvae and natural growth medium. Mortality counts of larvae were monitored at regular intervals i.e., 6, 12, 24, 48 and 72hours after treatment. Larvae were considered dead if they settle and remain motionless in the bottom of the test beaker with no response to light or mechanical stimulus or not recovering life functions even after being transferred to their growth medium.

RESULTS

MACROSCOPY

HIBISCUSCANNABINUS

Fig: *Hibiscuscannabinus.*

Table 1: Macroscopic characteristics.

S.NO.	MACROSCOPY	
1	Colour	Green
2	Odour	Fruity Odour
3	Size	1 - 1.8 mts
4	Shape	5 lobed, digitate, 9cms, margin - toothed

HIBISCUSSABDARIFFA

Fig: Hibiscussabdariffa.

Table 2: Macroscopic characteristics.

S.NO.	MACROSCOPY	
1	Colour	Green
2	Odour	Odourless
3	Size	1 to 2 m
4	Shape	Stems Glabrous Or Sparsely Pubescent,

MICROSCOPIC CHARACTERISTICS OF *HIBISCUSCANNABINUS*

Fig: Transverse sections of *Hibiscuscannabinus.*

Upper epidermis is covered by cuticle and contains elongated tubular cells. Lower epidermis is also covered by smooth cuticle and it also contains elongated tubular cells. Trichomes are rarely seen and are glandular in nature. Palisade layer is present below the upper epidermis and contains beam shaped cells. Arc shaped vascular bundle is present which contains lignified xylem and unlignified phloem. Collenchyma is present below the upper epidermis. Calcium oxalate crystals are present in parenchymatous region. Mucilage-present.

MICROSCOPIC CHARACTERISTICS OF *HIBISCUSSABDARIFFA*

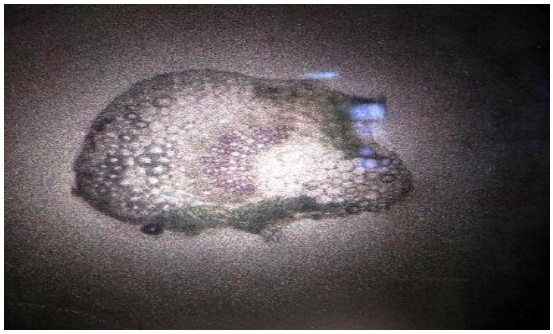

Fig: Transverse section of *Hibiscussabdariffa.*

Upper epidermis is covered by cuticle and contains single layered elongated tubular cells. Lower epidermis is also covered by cuticle and contains single layered elongated tubular cells. Dorsiventral in nature. Trichrome contain single stalk with unicellular head. Vascular bundle contains lignified xylem and unlignified phloem cells. It contains 7-13 layers of spongy parenchyma. Collenchyma is present only above the epidermis. Calcium oxalate crystals are in the form of prism.

LEAF CONSTANTS[19,20,21,22]

Table 3: Leaf Constants of *Hibiscuscannabinus* Leaves.

SL.NO	LEAF CONSTANT	RESULTS
1	Vein islet number	25
2	Vein termination	12
3	Stomatal no.	155
4	Stomatal index	37

Fig: Stomatal number of *H.cannabinus.*

Table 4: Leaf Constants of *Hibiscussabdariffa Leaves*.

SL.NO	LEAF CONSTANT	RESULTS
1	Vein islet number	27
2	Vein termination	08
3	Stomatal no.	137
4	Stomatal index	37

Fig: Stomatal number of *H. sabdariffa.*

Fig: Vein islet number of *H.Sabdariffa.*

PHYSIOCHEMICAL PARAMETERS

Table 5: Physiochemical Parameters of *Hibiscus Cannabinus Leaf.*

SL.NO.	CONTENTS	PERCENTAGE (%)
1	Hexane soluble extractive values	2
2	Cyclohexane soluble extractive values	6
3	Benzene soluble extractive values	8
4	Chloroform soluble extractive values	10
5	Acetone soluble extractive values	20
6	Methanol soluble extractive values	62
7	Water soluble extractive values	28
8	Ethanol soluble extractive values	23
9	Crude fiber content	60.5
10	Foreign organic matter	1.4
11	Loss on drying	16
12	Total ash	6
13	Acid insoluble ash	0.5
14	Acid soluble ash	2.5
15	Sulphated ash	3

High extractive value *of Hibiscus cannabinus* was found to be in polar solvent Methanol 62% w/w. Low extractive value was found to be in non polar solvent Hexane 2%.

Fig: Extractive values of *Hibiscus cannabinus.*

Table 6: Physiochemical Parameters of *Hibiscus Sabdariffa Leaf.*

SL.NO	CONTENTS	PERCENTAGE(%)
1	Hexane extractive values	4
2	Cyclohexane extractive values	4
3	Benzene extractive values	4
4	Chloroform extractive values	7.4
5	Acetone extractive values	16.6
6	Methanol extractive values	26.6
7	Water extractive values	42
8	Ethanol extractive values	28
9	Crude fiber content	46.5
10	Foreign organic matter	2
11	Loss on drying	16
12	Total ash	4
13	Acid insoluble ash	2
14	Acid soluble ash	2
15	Sulphated ash	8

High extractive value of *Hibiscus sabdariffa* was found to be in polar solvent i.e.; Water42% w/w. Low extractive value was found to be in non polar solvent i.e.; Hexane 4%.

Fig: Extractive values of *Hibiscus sabdariffa.*

CHEMICAL TESTS[23]

Table 7: Chemical Tests of Ethanolic Leaf Extract of *Hibiscus Cannabinus*.

SL.NO	CHEMICAL TEST	ABSENT/PRESENT
1	Alkaloids (Mayer's,Hager's, Wagner's)	Present
2	Saponins (Foam test)	Present
3	Carbohydrates (Molisch's test)	Present
4	Proteins (Millon's test)	Absent
5	Tannins (Ferric chloride test)	Present
6	Phenolic compounds (Dil.HNO3 test)	Present
7	Flavinoids (NaOH test)	Absent
8	Fats&Oils (Filter paper test)	Absent
9	Steroids (Libermann's test)	Absent
10	Volatile oil (Filter paper test)	Absent

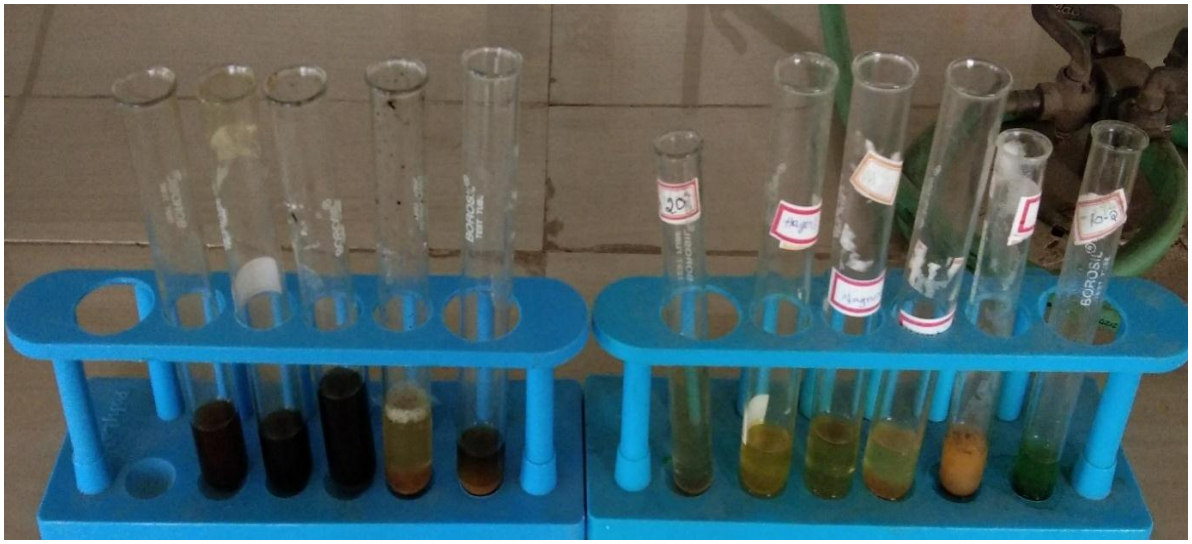

Fig: Chemical tests of ethanolic leaf extracts of *Hibiscus cannabinus.*

Table 8: Chemical Tests of Ethanolic Leaf Extract of *Hibiscussabdariffa.*

Sl.no	Chemical Test	Absent/Present
1	Alkaloids (Mayer's, Hager's, Wagner's)	Present
2	Saponins (Foam test)	Absent
3	Carbohydrates (Molisch's test)	Present
4	Proteins (Millon's test)	Absent
5	Tannins (Ferric chloride test)	Present
6	Phenolic compounds (Dil.HNO3 test)	Present
7	Flavinoids (NaOH test)	Present
8	Fats&Oils (Filter paper test)	Absent
9	Steroids (Libermann's test)	Absent
10	Volatile oil (Filter paper test)	Absent

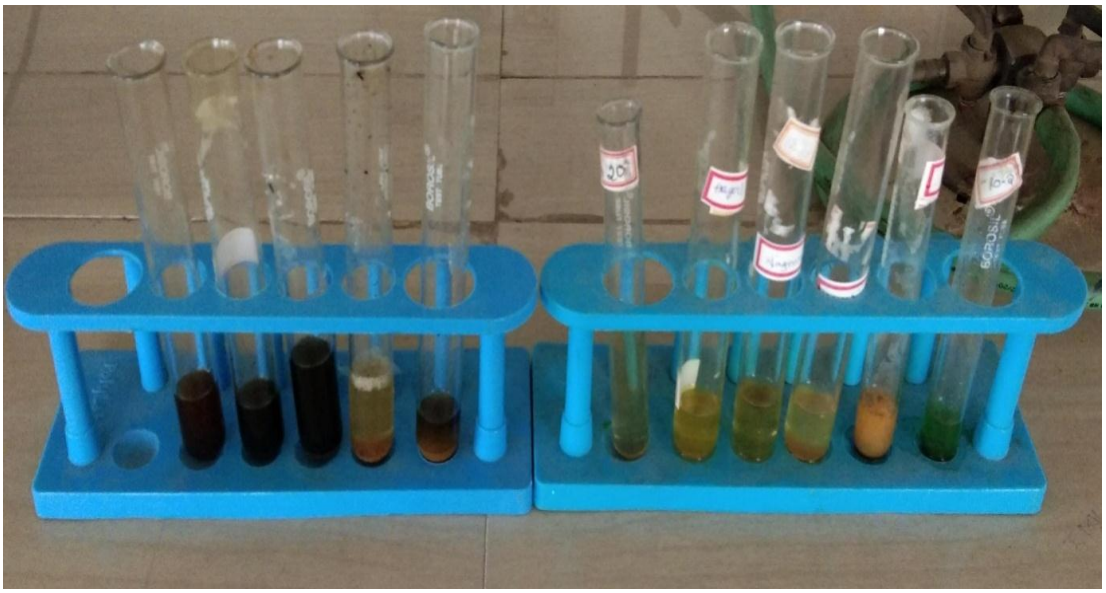

Fig: Chemical tests of ethanolic leaf extracts of *Hibiscus sabdariffa.*

FLUROSCENCE TEST

Table 9: Fluorescence Analysis of Leaf Powder of *Hibiscus Cannabinus*.

Sl.no:	Reagents	Visible light	U.V. Light
1.	Drug +H2SO4	Green	Dark green
2.	Drug+HCl	Pale brown	Green
3.	Drug+NaOH	Pale yellow	Pale green
4.	Drug+KOH	Pale yellow	Pale green
5.	Drug+HNO3	Grayish brown	Dark brown
6.	Drug+ H2O	Pale brown	Green
7.	Drug+CHCl3	Brown	Green
8.	Drug+Acetone	Pale brown	Green
9.	Drug+Benzene	Brown	Brown
10.	Drug+Ethanol	Pale brown	Brown

Fig: Fluorescence analysis of leaf powder of *Hibiscus Cannabinus.*

Table 10: Fluorescence Analysis of Leaf Powder of *Hibiscus Sabdariffa*.

SL.NO:	REAGENTS	VISIBLE LIGHT	U.V. LIGHT
1.	Drug +H2SO4	Greenish	Dark green
2.	Drug+HCl	Brown	Pale brown
3.	Drug+NaOH	Yellowish brown	Green
4.	Drug+KOH	Yellowish brown	Green
5.	Drug+HNO3	Slightly yellowish brown	Light green
6.	Drug+ H2O	Dark green	Dark green
7.	Drug+CHCl3	Brown	Brown
8.	Drug+Acetone	Dark green	Green
9.	Drug+Benzene	Dark green	Dark Green
10.	Drug+Ethanol	Pale brown	Pale brown

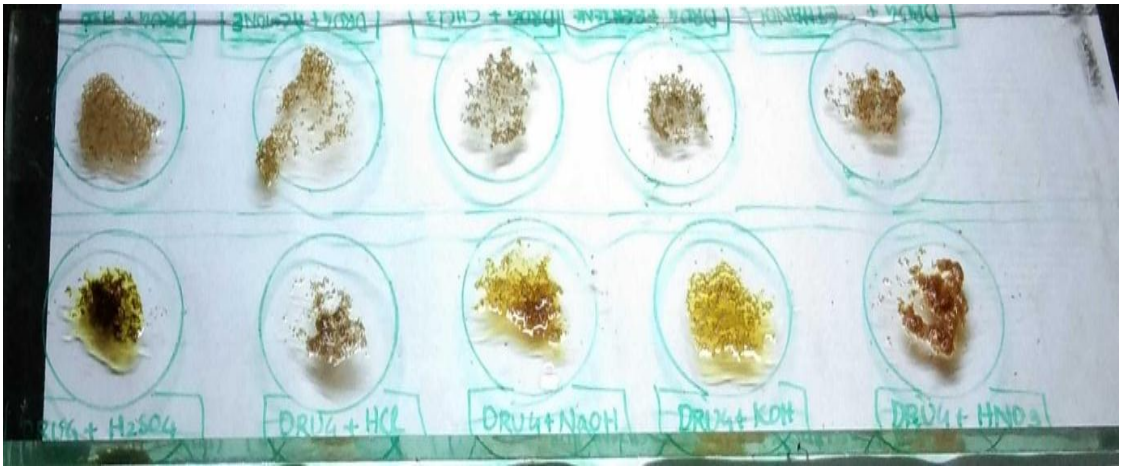

FIG: Fluorescent Analysis of leaf powder of *Hibiscus sabdariffa.*

LARVICIDAL ACTIVITY

Table 11: Larvicidal Activity of *Hibiscuscannabinus*.

SL.NO:	CONCENTRATION	6 HOURS	12 HOURS	24 HOURS	48 HOURS	72 HOURS
1	10mg/ml	0	0	2	3	5
2	20mg/ml	0	1	2	4	5
3	40mg/ml	1	3	4	5	9
4	80mg/ml	2	4	6	6	10
5	160mg/ml	3	5	7	12	0

Fig: Larvicidal activity of ethanolic leaf extract of *Hibiscuscannabinus* in 6 hrs.

Fig: Larvicidal activity of ethanolic leaf extract of *Hibiscuscannabinus* in 12hrs.

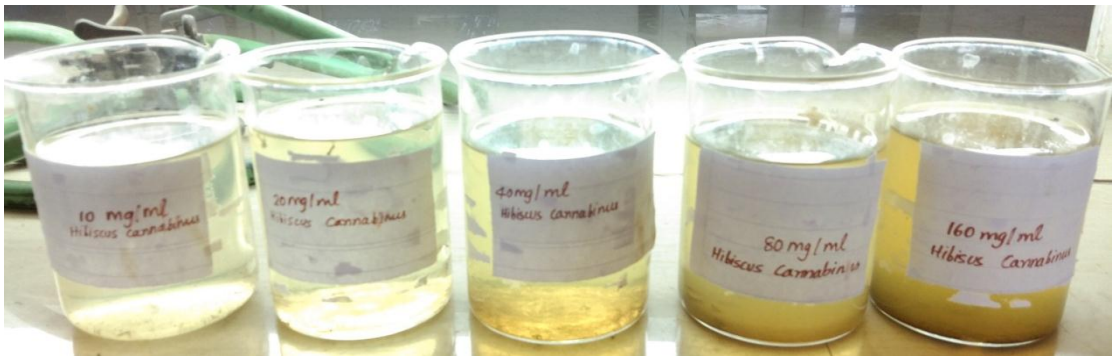

Fig: Larvicidal activity of ethanolic leaf extract of *Hibiscuscannabinus* in 24hrs.

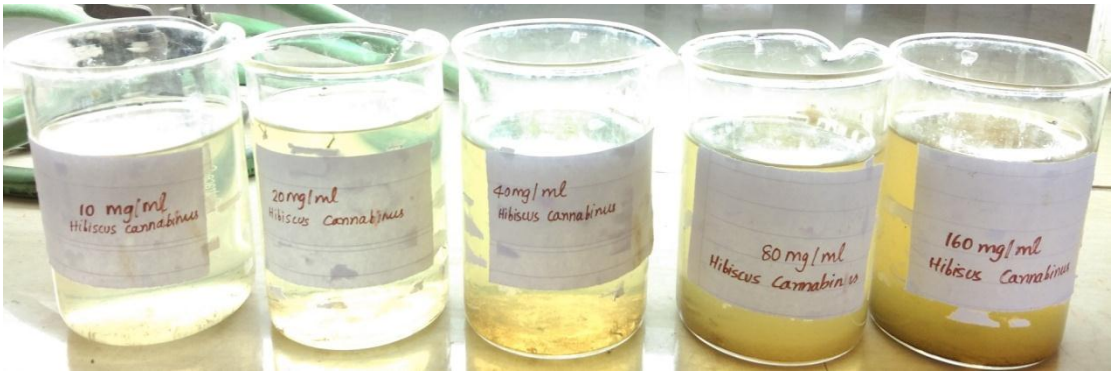

Fig: Larvicidal activity of ethanolic leaf extract of *Hibiscus cannabinus* in 48hrs.

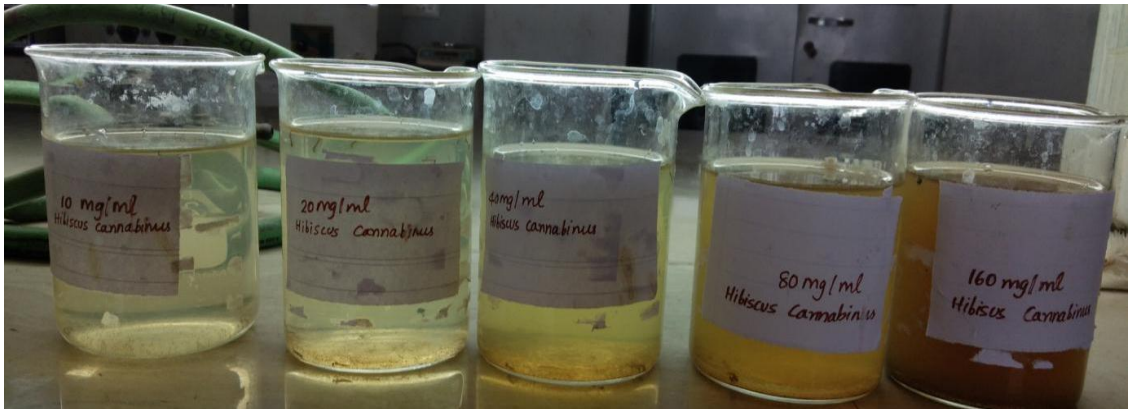

Fig: Larvicidal activity of ethanolic leaf extract of *Hibiscuscannabinus* in 72hrs.

Table 12: Larvicidal Activity of *Hibiscussabdariffa*.

S.NO:	CONCENTRATION	6 HOURS	12 HOURS	24 HOURS	48 HOURS	72 HOURS
1	10mg/ml	0	2	4	5	6
2	20mg/ml	0	2	3	6	7
3	40mg/ml	2	5	6	7	12
4	80mg/ml	3	5	8	9	15
5	160mg/ml	4	6	8	20	0

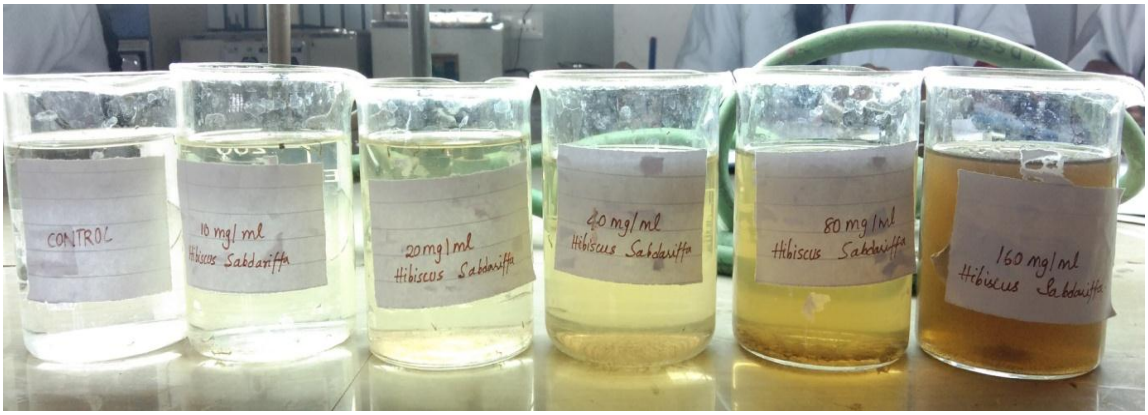

Fig: Larvicidal activity of ethanolic leaf extract of *Hibiscus sabdariffa* in 6 hrs.

Fig: Larvicidal activity of ethanolic leaf extract of *Hibiscus sabdariffa* in 12hrs.

Fig: Larvicidal activity of ethanolic leaf extract of *Hibiscus sabdariffa* in 24hrs.

Fig: Larvicidal activity of ethanolic leaf extract of *Hibiscus sabdariffa* in 48hrs.

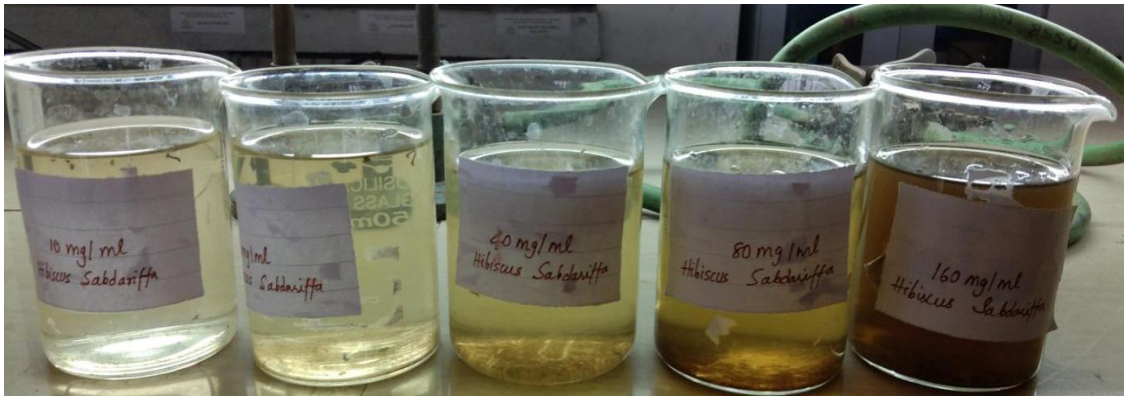

Fig: 24: Larvicidal activity of ethanolic leaf extract of *Hibiscussabdariffa* in 72hrs.

DISCUSSION

Hibisus cannabinus and *Hibiscus* sabadariffa belong to the family malvaceae. The macroscopical evaluation i.e; colour, size, shape, taste of both the plants was performed by identification. Microscopical evaluation was also performed by transverse section of leaves. By this method parenchyma, collenchyma, vasular bundles, palisade, upper and lower epidermis, trichomes were identified. Leaf constants like vein islet numbers:25 and 27; vein termination number: 12 and 08, stomatal number:155 and 137: stomatal index-37 and 37 of both the plants. The pharmacognostical parameters like extractive values, loss on drying, crude fiber content were performed. The solvent was selected by using the order of polarity; Methanol showed 62%w/w of extractive value where as Hexane showed 2%w/w for *Hibiscus cannabinus*. The water soluble extractive value is 42% w/w and Hexane soluble extractive value is 4%w/w for *Hibiscus sabdariffa*. Extraction was performed by using soxhlet extraction apparatus by using ethanol as solvent and the crude extract was found to 7.040g and 7.140g for *Hibiscuscannabinus* and *Hibiscussabdariffa* respectively. The ethanoic extract was analyzed by using coloured reactions based on chemical tests for identification of alkaloids, flavonoids, glycosides, saponins, proteins, carbohydrates, fats, volatile oils

etc…respectively for both plants. Drug powder with different chemical reagents was used to perform fluorescence tests by using visible light and U.V. light at 366nm. The larvicidal activity was performed by sing ethanolic extract of *Hibiscuscannabinus* and *Hibiscussabdariffa*. The values were noted under various time intervals viz. 6hours, 12hours, 24hours, 48hours and 72 hours. The various concentrations of ethanolic extracts of *Hibiscus cannabinus* and *Hibiscussabdariffa* used for larvicidal activity are 10mg/ml, 20mg/ml, 40mg/ml, 80mg/ml and 160mg/ml. The activity was responded based on dose dependent manner. Finally we conclude that ethanolic extracts of *Hibiscus sabdariffa* has more potency towards mosquito larva than *Hibiscus cannabinus*.

CONCLUSION

The present research work was carried out by standardization of *Hibiscus cannabinus* and *Hibiscus sabdariffa* leaves. They were standardized using various pharmacognostical and phytochemical parameters. Pharmacognostical screening includes macroscopical parameters, microscopical parameters (transverse section), fluorescent analysis, physicochemical parameters were performed and values were reported. The extraction and identification of phytochemical screening. Finally larvicidal activity was performed using larva of *Aedes*mosquitoes. Due to presence of open drainages in Nellore, larva were available easily. *Hibiscus sabdariffa* showed more potency towards larva of *Aedes* than that of *Hibiscus cannabinus.* We hope that our research work will be useful for further research scholars in their future studies. Well developed countries are also following herbal medicines now-a-days for no risk, without any side effects when compared to allopathic system of medicine. So, for a developing country like India where there is a huge population of poor people living who cannot afford allopathic medicines, this could be useful for day to day activities.

REFERENCES

1. Abdul Khalil, H. P. S., A. F. Ireana Yusra, A. H. Bhat, and M. Jawaid. 2010. Cell wall ultrastructure, anatomy, lignin distribution, and chemical composition of Malaysian cultivated *kenaf* fiber. Industrial Crops and Products, 31: 113–121. doi:10.1016/j.indcrop.2009.09.008.
2. Ayadi, R., L. Hamrouni, M. Hanana, S. Bouzid, M. Trifi, and M. L. Khouja. 2011. In vitro propagation and regeneration of an industrial plant *kenaf* (*Hibiscuscannabinus* L.). Industrial Crops and Products, 33: 474–480.

3. Bert, N. 2002. *Kenaf* fibers. Presentation of the 5th annual conference of the America *kenaf* society, Memphis, TN, November 7–9.
4. Coetzee, R. 2004. Characterization of *Kenaf* (*Hibiscuscannabinus* L.) cultivars in South Africa, 135 Masters thesis of the University of the Free State, South Africa.
5. Danalatos, N. G., and S. V. Archontoulis. 2004. Potential growth and biomass productivity of *kenaf* (*Hibiscus Cannabinus* L.) under central Greek conditions: The influence of fertilization and irrigation. 2nd World Conference on Biomass for Energy, Industry and Climate Protection Rome, Italy, May 10–14.
6. Falasca, S. L., A. C. Ulberich, and S. Pitta-Alvarez. 2014. Possibilities of growing *kenaf* (*Hibiscuscannabinus* L.) in Argentina as biomass feedstock under dry-subhumidand semi-arid climate conditions. Biomass Bioenergy, 64: 70–80.
7. Kuroda, K., N. Akiko, B. M. Bibhuti, O. Yoshito, and S. Kazuhiko. 2005. Evaluation of chemical composition of the core and bastlignins of variety Chinpi-3 *kenaf* (*Hibiscuscannabinus* L.) by pyrolysis–gas chromatography/mass spectrometry and cupric oxide oxidation. Industrial Crops and Products, 22: 223–232.
8. LeMahieu, P. J., E. S. Oplinger, and D. H. Putnam. 2003. *Kenaf*. In Alternative Field Crops Manual. University of Wisconsin-Extension, Cooperative Extension; University of Minnesota, Center for Alternative Plant & Animal Products and the Minnesota Extension Service.
9. Paul, D. M., and C. A. Smith. 2003. *Kenaf* seed storage duration on germination, emergence, and yield. Industrial Crops and Products, 17: 9–14.
10. Tahir, P. M., B. A. Ahmed, S. O. A. Saiful Azry, and Z. Ahmed. 2011. Retting process of some bast plant fibers and its effect on fiber quality: A review. Bio Resources, 6(4): 5260–5281.
11. Webber, C. L., and V. K. Bledsoe. 2002. *Kenaf* yield components and plant composition. In Trends in new crops and new uses, eds. J. Janick, and A. Whipkey, 348–357. Alexandria, VA: ASHS Press.
12. Webber, C. L., V. K. Bledsoe, and R. E. Bledsoe. 2002b. *Kenaf* harvesting and processing. In Trends in new crops and new uses, eds. J. Janick, and A. Whipkey, 340–347. Alexandria, VA: ASHS Press.
13. Dr.Khandelwal.K.R(2016) practical pharmacognosy, 27th edition, 23.3.
14. Dr.Khandelwal.K.R(2016) practical pharmacognosy, 27th edition, 23.7.
15. Dr.Khandelwal.K.R (2016) practical pharmacognosy, 27th edition, 23.8.
16. Dr.Khandelwal.K.R(2016) practical pharmacognosy, 27th edition, 23.9.

17. Dr.Khandelwal.K.R(2016) practical pharmacognosy, 27th edition, 23.10.
18. Dr.Khandelwal.K.R(2016) practical pharmacognosy, 27th edition, 23.17.
19. Dr.Khandelwal.K.R (2016) practical pharmacognosy, 27th edition, 24.1.
20. Dr.Khandelwal.K.R (2016) practical pharmacognosy, 27th edition, 24.1.
21. Dr.Khandelwal.K.R (2016) practical pharmacognosy, 27th edition, 24.3.
22. Dr.Khandelwal.K.R (2016) practical pharmacognosy, 27th edition, 24.4.
23. Dr.Khandelwal.K.R (2016) practical pharmacognosy, 27th edition, 25.1.
24. R. Ramasubramania Raja, P.Vijayasanthi, G.Mydhili, M.Aswini, S.Seshadri, V.M.Rajesh and M. Sreenivasulu. (2017) Pharmacognostical phytochemical and larvicidal activity of ethanolic leaf extract of Luffa acutangula (cucurbitaceae) World Journal of Pharmaceutical Research, 6(5): 1357-1378. DOI : 10.20959/wjpr20175-8444.