Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act, 1956)
(Vide Notification No. F.9-5/2000 - U.3, Ministry of Human Resource Development, Govt. of India, dated 4th July 2002)
Accredited by NAAC
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
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173, Agaram Road, Selaiyur, Tambaram,
Chennai - 600 073. Tamil Nadu.

Ref. No.SMS-2015-O-10

Date: 27.02.2018

TO

Mr. S. Jai Kumar
Associate Professor/Pharmacology
BIHER

BHARATH INSTITUTE OF HIGHER EDUCATION & RESEARCH (Declared as Deemed to be University U/S 3 of UGC Act 1956) 27 FEB 2018 OFFICE OF THE DEAN-RESEARCH Selaiyur, Chennai-600 073. (INDIA)

Thro: Concern Head of the Department

Greetings!!!

We are happy to announce that the Research Advisory Committee has approved your proposal for Seed Money Scheme-2015 which was presented by you. You are requested to complete the proposal and send the progress report to the Dean Research in the prescribed time period.

Title of the Project: Effect of ethanolic leaf extract of ipomoea sepiaria on sexual behaviour in male wistar albino rats

Seed Money Amount: Rs.1, 00,000/- (Rupees One Lakh Only)

Approved on: 21.02.2018

Payment details:

Voucher No.45

Dated: 02.03.2018

With Regards

Dean-Research

Bharath University

SELAIYUR, CHENNAI - 600 073, TAMIL NADU, INDIA.

CASH / PAYMENT VOUCHER

Date 02/03/2018

V.No. 45

Debit _____ Amount

Rs.

PAID TO Dr. S. Jaikumar

RUPEES One Lakh only

TOWARDS Seed Money Scheme - 2018

BHARATH UNIVERSITY CHENNAI 600 073. INDIA.

Authorised by **Finance Manager** **Cashier/Accountant** **Payee's Signature**

PROPOSAL SUBMISSION

1. **Details of Principal Investigator**

Name	: Dr. S. Jaikumar
Designation	: Assistant Professor
Highest Qualifications	: Ph.D.
Department	: Pharmacology
E-mail	: **jaipharma2007@gmail.com**
Contact no	: 8825343635
Date of Joining	: 17.08.2009

2. **Details of Co-Principal Investigator**

Name	: Dr. Somasundaram G
Designation	: Professor
Highest Qualifications	: MD
Department	: Pharmacology
E-mail	: somasundaramganesan8@gmail.com
Contact No	: 9677337050
Date of Joining	: 25.02.2016

Technical details

1. Introduction:

Aphrodisiac originated from the Greek word Aphrodite, the Greek god of love, Sex and romance Aphrodisiacs are the substances which stimulate sexual desire [1]. Sexual relationships are some of the most important social and biological relationship in human life. Male impotence also called Erectile Dysfunction (ED) is a common medical condition that affects the sexual life of millions of men worldwide [2, 3]. Erectile dysfunction is defined as the persistent inability to obtain and maintain an erection sufficient for naturally satisfactory intercourse. Sexual dysfunction is a serious medical and social symptom that occurs in 10-52% of men and 25-63% of women. It is the repeated inability to achieve normal sexual intercourse male impotence (or) ED is a significant problem that may contribute to infertility function decreases spontaneously with advanced aging [4].

Although the use of allopathic medicines has shown significant improvement in treating male sexual disorders, it has been reported to have significant cardiovascular, nervous associated side effects. The probable mode of synthetic aphrodisiacs is mediate by dilating the blood vessels causing headache and fainting. Other side effects include facial flushing, stomach upset, blurred vision and sensitivity to light which usually occur at higher doses [5]. Thus, there is growing need to look for herbal or natural plant aphrodisiacs with side effects free agents as opposed to synthetic compounds which are known to cause severe unwanted side effects.

Ipomoea sepiaria Koenig ex. Roxb. of the family Convolvulaceae is a perennial climber growing on the bank of streams, rivers, specially over hedges. It is a glabrous or occasionally pubescent or hirsute, slender twinning with a slightly thickened or tuberous perennial root and very short stem producing annually or seasonally a number of terete villous, grayish purple branches bearing simple, cordate or ovate, variable median sized leaves, very often blotches with dull purplish patches in the centre and pink to purplish flowers in clusters on fairy long thickened clavate peduncles [3]. This plant is distributed in tropical and sub-tropical regions. In traditional practice this herb is known as a good antidote for arsenic poisoning, uterine tonic, aphrodisiac and anti-ulcer drug, it is reported to be used in burning sensation, diabetics also as a diuretic, deobstruent and tonic [6]. Ethonomedically the herb is considered for burning sensation, general debility and sterility in women [7]. In ayurvedic texts it is mentioned that root powder in the dose of one tea spoon is administered with rice water for leucorrhoea. Only few of traditional claim of Ipomoea sepiaria was scientifically proved, in the present study effort has been taken to find out the effect of ethanolic leaf extract of Ipomoea sepiaria on sexual function in male rats.

2. Review of status of Research and Development in the subject

Nishteswar K. Vijayawada: Chaukhamba Surbharati Prakasan; 2003. Herbs in Vasavarajeeyam; p. 86.

According to an ethno botanical survey carried out among the Malasar tribals in various tribal villages of Coimbatore district, Tamil Nadu, India in 2003, the whole plant was used as laxative.[5] Generally, it is observed that the majority of medicinal plants of Convolvulaceae

family, especially the species of Ipomoea are rich in purgative resins; these resin possess purgative or laxative properties.[8] This signifies that all plant parts of this plant including leaves possess some purgative or laxative activity. Further, if leaf bears similar activity profile to that of root, it will be helpful to prevent destructive harvesting of the plant. By taking into consideration of these points, the present pharmacological study was designed to evaluate a comparative purgative effect of leaf and root of I. sepiaria in Swiss albino micc. It is wcll cstablishcd that thc drugs having purgative property are supposed to increase intestinal motility; hence, effect of test drug on intestinal transit time has been evaluated.

2.1. International Status:

It is estimated that at least 10% of the population in the industrialized part of the world is afflicted by renal disease. Among those, kidney stones are common in industrialized nations with an annual incidence of 0.5-1.9%. About 12% of the population of India is expected to have kidney stones and out of that about 50% of cases encounter loss of one or both kidneys with or without renal damage up to some extent. A large number of plants have been used in India since ancient times, which claim the efficient cure of urinary stone.

2.2. National Status:

NIL

3. Progress/ achievement so far, if any

a). Reference papers was collected.
b). Literature survey was studied.
c). Materials and methods were designed.

4. Work plan

4.1 Methodology

The leaves of Ipomea sepiaria was collected from outskirts of Erode, in the month of April. The plant was identified as Ipomea sepiaria and authenticated by the botanist, Botanical Survey of India, Agricultural University, Coimbatore. The voucher specimen (BSI/SRC/11/72/2017-18/Sci/01211) had been deposited in the herbarium for future reference.

Preparation of Extract: The collected leaves were washed in running water to remove the adhering foreign matter and shade dried. The dried plant materials were coarsely powdered by mechanical blender. The coarse powder of Ipomea sepiaria leaves was soaked in 70% ethanol for 24 h followed by cold maceration for further 48 h with occasional shaking. The mixture was filtered using muslin cloth followed by removal of excess of solvent by rotatory evaporator. The dried extract of Ipomea sepiaria was used for the study.

Animals

Sexually mature male and female Wistar albino rats weighing between 180 – 200 gms of 8 weeks were used in this study. The animals were obtained from animal house, Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry. On arrival, the animals were placed at random and allocated to treatment groups in polypropylene cages with paddy husk as bedding. Animals were housed at a temperature of 24±2oC and relative humidity of 30 – 70 %. A 12:12 light: day cycle was followed. All animals were allowed to free access to water and fed with standard commercial pelleted rat chaw (M/s. Hindustan Lever Ltd, Mumbai). All the experimental procedures and protocols used in this study were reviewed by the Institutional Animal Ethics Committee and were in accordance with the Institutional ethical guidelines.

Preparation of male rats: The male rats were trained, for sexual behavior, two times a day for a period of minimum of 10 days. The male rat which did not show any sexual interest during the test period was considered as an inactive male. The sexually active male rats were selected for testing aphrodisiac activity of the extracts.

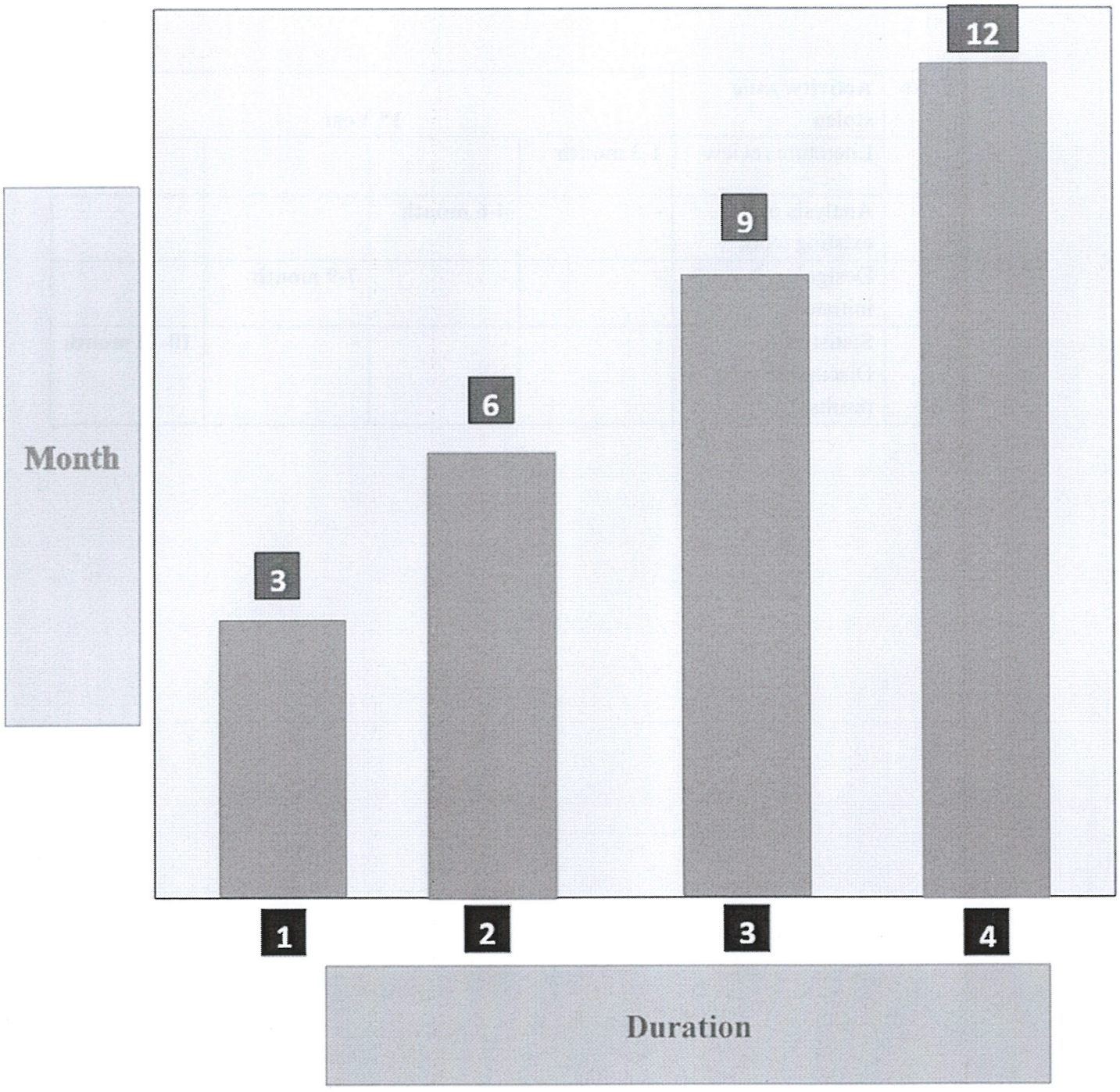
Preparation of female rats: Female rats were housed in separate cages with food and water ad libitum. The female rats were brought in oestrous phase by treating them with estradiol valerate (10 µg / kg. s.c.) and hydroxy progesterone 1.5mg/kg. s.c), for 48 hours and 5 hours prior to experimentation, respectively, to make them sexually acceptable and were selected for the study.

Experimental Design

The sexually active male rats were divided in to 4 groups of 6 animals each. Group I served as normal control received 0.1 % CMC (1ml/kg) through oral route. Group II served as reference control received Sildenafil citrate (5mg/kg). Group III & IV received the ethanolic leaf extract of Ipomea sepiaria 200 and 400mg/kg respectively. The sexual behavior of the experimental rats was observed in a dim light in specially designed cages that have glasses on all the sides and measuring 50×30×30cm. The male experimental rat was first placed in the cage and then two female rats in estrous phase were introduced. An initial period of 15 minutes was considered as acclimatization period. After 15 minutes, the test drugs were administered and the activity of male rat in each group was recorded individually for 1 hour, after 30 minutes of drug administration. To determine the aphrodisiac activity of the extracts, several parameters were observed. These include measuring and observing the mount frequency (Mount frequency is the number of mounts made in one hour by the male rats after introducing the female rats), mount latency (Mount latency is the time interval between the introduction of female and first mount by the male), intromission frequency (introduction of one organ to another), intromission latency (Intromission latency is the interval from the time of introduction of the female to the first intromission by the male), genital grooming and ano-genital sniffing [8].

4.2 Time Schedule of activities giving milestones through BAR diagram. (Maximum of 1/2 pages)

S. No	Activity/ mile stolen	1st Year			
1	Literature review	**1-3 month**			
2	Analysis of existing work	-	**4-6 month**		
3	Designing & work initiated	-	-	**7-9 month**	
4	Statistics & Discussion with results	-	-	-	**10-12 month**


Month
3
6
9
12
1
2
3
4
Duration

4.3 Expected outcome within the time period of See Money Scheme

From the results, it was concluded that, ethanolic leaf extract of Ipomea sepiaria showed dose dependent increase in sexual desire in male Wistar albino rats. Further studies on phytochemical constituents, isolation of active principle and characterization may be required to explore the potent herbal aphrodisiac.

5. Suggested Plan of action stating the name of funding agency where the project will be communicated for financial support within the time period of project.

Nil

6. Bibliography: Nil

Nil

7. List of Projects submitted/implemented by the Investigators (Separate for Pi and Co-PI)

7.1 Details of Projects submitted to various funding agencies:

S. No	Title	Cost in Lakhs	Month of Submission	Role as PI/Co-PI	Agency	Status
	NA	NA	NA	NA	NA	NA

7.2 Details of Projects under implementation

Sl. No.	Title	Cost in lakhs	Duration	Role as PI/ Co-PI	Agency
	NA NA	NA	NA	NA	NA

7.3 Details of Projects completed during the last 5 years

Sl. No.	Title	Cost in lakhs	Duration	Role as PI/ Co-PI	Agency
	NA	NA NA	NA	NA	NA

8. List of publications published by the Investigators, if any:

a) Principal Investigator

S. No	Author names	Title of paper	Name of Journal	Vol (Issue)	Page no.	Year
1.	Somasundaram G1, Israel Raja Johnley I2, Sengottuvelu S3, **Jaikumar S1**	Effect of Pistia stratiotes Leaf Extract on Hepatic Functions against Paracetamol Induced Liver Damage in Rats	Scholars Academic Journal of Pharmacy	6(1)	1-3	2017
2.	Sridhar VR1, Jayakumar P2, Arun Seetharaman1, **Jaikumar S3***	Sedative effect of Lawsonia inermis root extract on phenobarbitone induced sleeping time in mice	European Journal of Molecular Biology and Biochemistry	3(3)	113-115	2016
3.	Sridhar VR1, Jayakumar P2, Arun Seetharaman1, **Jaikumar S3***	Influence of tabernae corymbosa root extract on Central nervous system mediated muscle Coordination in experimental animal	Acta Biomedica Scientia	3(4)	223-226	2016
4.	Sridhar VR1, Arun Seetharaman1 Jayakumar P2 and **Jaikumar S3***	Anticonvulsant Activity Of Oleogum Resin Extract Of Commiphora Wightii Against Pentylenetetrazole Induced Convulsion In Mice	International Journal of Pharmacy & Therapeutics	7(2)	53-56	2016

b). Co-Principal Investigator

S. No	Author names	Title of paper	Name of Journal	Vol (Issue)	Page no.	Year
1.	**Somasundaram G1,** Israel Raja Johnley I2, Sengottuvelu S3, **Jaikumar S1**	Effect of Pistia stratiotes Leaf Extract on Hepatic Functions against Paracetamol Induced Liver Damage in Rats	Scholars Academic Journal of Pharmacy	6(1)	1-3	2017
2.	Asokan BR1, Jaikumar S2*, **Somasundaram G2**	Anti-Diarrhoeal Activity of Ethanolic Leaf Extract of Luffa Acutangula against Castor Oil Induced Diarrhoea in Rats	Scholars Academic Journal of Biosciences	5(11)	809-811	2017

9. Budget

SI. No	Head	Amount (Rs.)
1	BP Apparatus, Stethoscopes, Body weight weighing machine, SPSS version 16 Chicago, IL, USA, ECG machine	50000
2	Consumables (gels bottles, cotton, sprit, testing charges, tools, etc.)	5000
3	Travel support for the purpose of research work.	10000
4	Contingency	25000
5	Others consumables	10000
	Total	**1,00,000**

*In case of any joint proposal for purchasing a same equipment, each of the associated PLs is also required to give separate budget (without any clubbing) to avoid any ambiguity, if all the associated projects are not awarded by committee.

10. Name of at least two subject experts from the Institute and one from the outside Institute with their contact details:

1. **Dr. B R Ashokan** Professor in Pharmacology, Aarupadi Veedu Medical College and Hospital, Puducherry **Mobile No**: 82485 60347 **E-mail id:** brashokan@gmail.com	2. **Dr. S. Sengottuvelu** Professor in Pharmacology Department, Nandha College of Pharmacy, Erode - 638052 **Mobile No**: 9994426689 **E-mail id:** sengt@rediffmail.com

CERTIFICATE FROM THE INVESTIGATOR

Project Title: Effect of ethanolic leaf extract of ipomoea sepiaria on sexual behaviour in male wistar albino rats

It is certified that

1. I do hereby agree to submit a complete proposal for financial support to the external funding agency within the time period of SMS-2018.
2. I undertake that spare time on equipment procured in the project will be made available to other users.
3. I agree to submit a certificate from Institutional Biosafety Committee, if the project involves the utilization of genetically engineered organisms. I also declare that while conducting experiments, the Biosafety Guidelines of Department of Biotechnology, Department of Health Research, GOI would be followed in to.
4. I agree to submit ethical clearance certificate from the concerned ethical committee, if the project involved field trails/experiments/exchange of specimens, human & animal materials etc.
5. I agree to abide by the terms and conditions of SMS-2018, BIHER, and Chennai.

Name and signature of
Principal Investigator

Name and signature of
Co-Principal Investigator

Date: 29.01.2018
Place: Pondicherry

Forwarded by Head of the Department

Signature of the Head

DEAN
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES
OSUDU, AGARAM VILLAGE,
KOODAPAKKAM POST,
PUDUCHERRY - 605 502

PROJECT EVALUATION FORMAT

Recommendation sheet

Name of the Principal Investigator	Dr. S. Jaikumar
Name of the Co-Principal Investigator	Dr. Somasundaram G
Name of the Department	Pharmacology
Title of project	Effect of ethanolic leaf extract of Ipomoea sepiaria on sexual behaviour in male wistar albino rats
Recommendation of the evaluation committee (Recommended/Revision/Not Recommended)	Recommended
Financial allocation recommended	Rs. 1,00,000/-

SI. No.	Head	Amount
1	BP Apparatus, Stethoscopes, Body weight weighing machine, SPSS version 16 Chicago, IL, USA, ECG machine	50000
2	Consumables- Gel bottles, cotton, sprit, testing charges, tools, etc.	5000
3	Travel support for the purpose of research work.	10000
4	Contingency	25000
5	Other's consumables	10000
	Total	**1,00,000**

Name and Signature of the Research Advisory Committee members with date

Internal Quality Assurance Cell ★SLIMS★ IQAC Pondicherry-02

(Dr. A. Suguna)