Considerable marine resources are contributing to the pharmaceutics of Siddha Medicine. Among them formulations prepared out of Palagarai (Cypraea moneta Linn.) are the choice of drug for many indications in Siddha medical practice. Literatures of ancient science and current available materials are reviewed to highlight the importance of Palagarai. This information may serve as an evidence to establish current research in traditional medical systems.

[Keywords: Palagarai, Parpam, Siddha, Minerals]

Introduction
Siddha medical practice one of the ancient traditional systems practiced predominantly in southern part of India. Siddha pharmaceutics comprises of medicinal plants, minerals and materials obtained from animal origin. Palagarai (Cypraea moneta Linn.) is one among the five marine resources mentioned in Siddha literatures (Kadalpadu Dravyangal). Preparations prepared out of Palagarai (English name Cowrie) are the choice of drug for many indications like liver disorders, lung diseases etc. in Siddha medical practice. In the present scenario, scientific validation and clinical evaluation in traditional medical systems are needed to bridge between traditional and contemporary science to reassure the facts said in the ancient literature. In order to distinguish the medicinal values of Palagarai, this literary review has been undertaken.

Description about Palagarai
It is found in the sea. It lives on rocky ground particularly in and around coral reefs. It is found in sea mainly in Indian and Pacific oceans. Table 1 shows the names given in different Indian languages. Shell-Good shells are in yellow in colour, convolute and possess circular lines on the dorsal side oblong oval shape varying in size from a tamarind seed to an almond and approximately 6 g in weight. It is collected from the animal by removing its fleshy part. The upper surface is smooth, shiny and convex.

Base is compressed with a cleft in the centre which runs longitudinally, toothed on both sides and channelled. The size varies up to 44 mm in length, typically about 20 mm (Fig. 1). Literatures say its taste is bitter in nature and potency is hot. It has actions like sedative, expectorant, anti-pyretic, rubefacient (external application). Table 2 shows the mineral composition of perforated cowries (mg/100g).

Evidences in Siddha literature
“manniya kavadi sogi varadiye palagaraip per”
A book named Nigandu verse indicates the variety of names given to Palagarai. They are Kavadi, Sogi, Varaadi, and Palagarai.

“sogiya malathaale yulagingache sorvara nee ariyappa”
The above said verse mentioned in Konganar kurunthirattu indicates the value of Palagarai.

“….kavadi venmai yanubanap padiyalithu nilaikachethe”
The above said poem coded in the book named Maapuranam says the therapeutic usage of Palagarai

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parpam as anti-dote for poisoning of animals and also mankind². "mantham thaagam kirani maavidach surankannoī thontham namach sooāikaya-mintha vulakaraiyai kalodivaiyodu naraiitha palagaraiyai kaaniniyam paar" 

The general core nature of the Palagarai is depicted in the book Gunapadan Jeeva vaguppu. The poem says that white variety is used in the treatment of indigestion, thirst, dysentery, virulent fever, eye diseases, painful conditions, kshayam (Tuberculosis), Vatha thontham and Kabavatham conditions².

Purification
The cowries are first purified by being soaked or macerated for three hours, lime juice or rice water and then calcined in covered crucibles. The process is repeated 10 or 12 times.

[They are insoluble in water. It is soluble in Hydrochloric acid with effervescence. They contain phosphate, fluoride and carbonate of calcium, magnesium phosphate, manganese and sodium chloride]⁵.

Pharmacological activities
An article on cowrie states that the presence of these minerals contributes to its medicinal value. The high content of calcium confirms its medicinal role in bone formation. Sodium is an extracellular cation involved in the regulation of plasma volume, acid-base balance, nerve and muscle contraction. Iron plays crucial roles in haemopoiesis, control of infection and cell mediated immunity⁴.

Palagarai Parpam
A white oxide (parpam) of Palagarai is prepared to treat certain pathological conditions in Siddha medical practice. Palagarai Parpam is pungently bitter, also alterative and expectorant. It is recommended in dyspepsia, jaundice, enlarged spleen and liver, asthma and cough. The parpam is given internally in scalding and gonorrhea in the dose of 5 to 10 grains. (325 mg-650 mg) (in a dose of 3 to 5 grains. It is used in colic and other abdominal pain). It is externally used as caustic in various skin disorders²,⁶,¹⁰.

Uses and Indications
Palagarai Parpam is used in indigestion, colic, peptic ulcer, eye diseases, dysentery, ear ache, ulcer. Calx is prepared from the shells is used as expectorant in Chronic bronchitis, White variety is considered to be good. It is diuretic, anti-diarrheal and of value in eye diseases if used in the form of Anjanam. Local application with Saltpetere (KNO₃) is good for Leucoderma and Skin diseases. Parpam is mixed with butter and used for curing blemishes and to improve complexion. Instillation of Parpam with lemon juice alleviates ear ache⁵.

Other therapeutic usages
Palagarai Parpam is used in syphilitic and other similar type of ulcers. It is also used in many dermatological conditions like impetigo, allergic rashes and to suppress the itching. It is mainly indicated as Anti-dote for Poisoning in animals and also mankind. It is also used as Anti ulcer in some different type of ulcers as external application with egg yolk of different birds. Its significance is highlighted as it revitalizes the health and restores the happiness. The above said usages have to be evaluated with adequate scientific parameters in the field of research.

Toxicity study on Palagarai Parpam:
An article states that the Kapardika (Cowry Shell-Cypraea moneta), bhasma is used in the treatment of Agnimandya (indigestion), Parinamshula
(Duodenal ulcer), Grahani (Malabsorption syndrome) etc. It also reveals the toxicity profile of the bhasma.

**Acute toxicity study**

Animals (mice) treated with Kapardika bhasma did not show any sign of toxicity in the acute toxicity study. No abnormal behavior and mortality was observed during 72 hrs after drug treatment in any experimental group.

**Sub chronic toxicity study**

The criteria for the assessment of effect of Kapardika bhasma administration in rats was based on the appearance of any kind of abnormal signs and symptoms feed and water intake and growth pattern. The haematological, biochemical parameters and biopsy were also taken into consideration for assessing the toxicity of above-mentioned drug.

It did not show any acute toxicity up to 5000 mg/kg dose in albino mice. Oral administration of all these drugs to albino rats at doses of 3 and 10 times higher than recommended dose also caused no toxicological effects. Acute and sub chronic toxicity studies of drugs used in the study clearly showed the non-toxic nature and high safety profile of Kapardika bhasma, in rodents.

**Siddha Medicines prepared out of Palagarai**

- Palagarai Parpam
- Palagarai Chenduram
- Vishnuchakkra Mathirai
- Kuttam kurai punkalakku Thylum

**Conclusion**

Palagarai (*Cypraea moneta* Linn.) plays important role in medical practice. The usage mentioned in Siddha literatures has to be reviewed for scientific validation. More Clinical trials have to be conducted to reassure the facts claimed in the literatures. Thus the economic marine sources of drugs have to be scientifically explored to strengthen the traditional values.

**References**

3. Anonymous, *Inventory of animal products used in Ayurveda Siddha and Unani*, Part II (Publisher:Central Council for Ayurveda and Siddha ), 2008, 422- 426
10. Uthamarayan CS & Kuppusamy Mudaliar KN,Siddha Vaithiya Thirattu, (Directorate of Indian medicine and Homeopathy,Chennai),1998,123