

Kshara Formulation of *Orthosiphon Thymiflorus* Panchang

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Abstract

Ksaras are the derivatives of plant drug ashes in the form of solutions or crystals all of which have the basic quality of being alkaline. Because of its corrosive nature (Ksaranat), it is known as Kshara (alkali), Kshara is not having rasa, this is manifested by the combination of many rasas and it possesses itself many rasas dominated by katu and lavana rasas. It is the object of many senses and it involves a special method of preparation. In the present study, we have prepared *Orthosiphon thymiflorus* panchang Kshara under standard laboratory conditions and studied about the organoleptic and qualitative characteristics of *Orthosiphon thymiflorus* Kshara. The Phytochemical parameters for the *Orthosiphon thymiflorus* panchang were also studied with the aim of drawing the phytochemical standards for this species. The present study includes phytochemical standardization of *Orthosiphon thymiflorus* aerial parts first time. The present study includes preparation and evaluation of *Orthosiphon thymiflorus* kshara first time.

Keywords *Orthosiphon thymiflorus*, Ksaranat, Kshara, rasas, evaluation

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Introduction

Orthosiphon is a genus of plants in the Lamiaceae family native to Africa, Southern Asia and Queensland, with one species (*O. americanus*) in Colombia. It is an herbaceous shrub which grows to a height of 1.5 m (5 ft). *Orthosiphon* is a popular garden plant because of its unique flower, which is white and bluish with filaments resembling a cat's whiskers. In the wild, the plant can be seen growing in the forests and along roadsides. *Orthosiphon thymiflorus* is a medicinal plant, slightly aromatic sub-shrub commonly seen in

India, It is grown in Hills above 600m on the slopes, in crevices of rocks; more numerous by arable lands, etc. (Kavimani S. *et al.*; 1998) It have a number of pharmacological uses as, aqueous extract of leaves is reported to have diuretic activity in rats and acetylcholine antagonistic activity in frog skeletal muscle contraction, also have antioxidant activity (Sundarammal S *et al.*; 2012).

As per our knowledge there is no phytochemical study carried on aerial parts of the *Orthosiphon thymiflorus*. Therefore we focused our study on the phytochemistry of *Orthosiphon thymiflorus*.

As the plant is very potential in pharmacological uses the hypothesis were made that its Kshara preparation may prepared and evaluated. As kshara preparation rich in inorganic elements and it may use as diuretic, electrolyte replenisher etc. the aim draws in this study 'preparation and evaluation of *Orthosiphon thymiflorus* panchang kshara'.

Materials and Methods

Plant Materials

Panchang (leaf, flower, stem, root, bark) of *Orthosiphon thymiflorus* was collected from Toranmal forest, at an altitude of 1800 m (Satpuda valley) Maharashtra, India, in the month of Aug–Sep 2015. Botanical identification of plant was authenticated at Dept. of Dravyguna, Yashwantrao Chavan Ayurved Medical College, Beed Bypass, Nipani, Bhargaon, Aurangabad.

Chemicals and Instruments

Solvents and reagents were procured from Loba Chemicals Pvt. Ltd., Mumbai, India. Some common laboratory apparatus, glassware and instruments used for the study.

Phytochemical Study

The successive extractive values carry out as per the procedure (Kokate CK;1994 and Khandelwal KR; 2005). Physical Evaluation-Moisture content of the powdered determined based on the loss of drying method. The ash values were determined, to find out about the physiological state and level of extraneous matter. Extractive values were determined according to the official methods prescribed in

Ayurvedic Pharmacopoeia (Anonymous; 1985). TLC Finger Print Profile-Thin layer chromatography of the ethanolic extract was studied and Rf values were determined (Harborne JB; 1984 and Brain KR; 1975).

Preparation of Kshara

The *Orthosiphon thymiflorus* kshara prepared as per general procedure mentioned for kshara in Bhaishajya Kalpana Vijnanam (Rao GP; 2008). The dried whole plant of *Orthosiphon thymiflorus* powdered. Burn to ash (Bhasma). Add 4 parts of water to the Bhasma stir well and keep overnight. Next morning decant the clear liquid and filter through a three-layered muslin cloth. Repeat the filtering process till a colorless filtrate is obtained. Transfer filtered material to a stainless steel vessel and heat to evaporate the water. Collect kshara deposited as flakes from the bottom of the vessel and grind it to a fine powder. Pack it in tightly closed containers to protect from light and moisture (Anonymous; 2016).

Results and discussion

The moisture content seems to be lower than necessary to support the growth of microbes to bring any change in the composition of the drugs. Physical constant as ash value of the drug gives an idea of the earthy matter or the inorganic composition and other impurities present along with the drug. Extractive values are useful for the determination of exhausted or adulterated drugs (Table 1). The Phytochemical Investigation revealed the presence of primary and secondary

metabolites as amino acids, flavonoids, tannins, terpenoids, keto steroids, phenols and carbohydrates. Thin layer chromatography of the ethanolic extracts was carried out using Ethanol: Ethyl acetate (6:4) as mobile phase, silica gel GF254 as stationary phase and the R_f were recorded as 0.01, 0.11, 0.19, 0.53 and 0.95. The total Ash Value was found to be for *Orthosiphon thymiflorus* is 07.32 w/w (Table 1). During study 500gm panchang powder of *Orthosiphon thymiflorus* were take which gave 36.6g of ash (Bhasma). And from that ash (Bhasma) finally 3.63g *Orthosiphon thymiflorus* panchang kshara obtained. The 10% solution has the p^H value 9.8 which is alkaline. The formulation is fine powder, passing smoothly through sieve number 100, hygroscopic, odor faint and taste saline, freely soluble in water. The qualitative Investigation revealed the presence of elements as sodium (Na²⁺), Potassium (K⁺), Iron (Fe²⁺), Sulphates (So₄) etc (Table 2).

Table 1: Evaluation of *O. thymiflorus* Panchang

Physical Parameter	% w/w
Ash Values	
Total	07.32
Acid - insoluble	02.57
Water – soluble	03.28
Extractive Values	
Pet. Ether Soluble (40-60o)	00.76
Ethanol Soluble (95%)	08.81
Water Soluble	09.42
Moisture content	06.17

Table 2: Qualitative Evaluation of *O. thymiflorus* Panchang Kshara

Inorganic Elements	Inference
Calcium	--
Magnesium	--
Sodium	++
Potassium	++
Iron	++
Sulphate	++
Phosphates	--
Chloride	++
Carbonates	++
Nitrates	--

++ presence; -- absent

Reference(s)

1. Kavimani S. *et al.*, The effect of aqueous extract of orthosiphon thymiflorus on isolated skeletal muscles, Ancient Science of Life, July 1998, Vol. No 18(1), 1-3.
2. Sundarammal S *et al.*, Chemical composition analysis and antioxidant activity evaluation of essential oil from Orthosiphon thymiflorus (Roth) Sleesen, Asian Pacific Journal of Tropical Biomedicine, 2012, S112-S115.
3. Kokate CK. Handbook of Practical Pharmacognosy. Vallabh Prakashan, New Delhi, Edition 4, 1994:58-136.
4. Khandelwal KR. Practical Pharmacognosy techniques and experiments. Nirali Prakashan, Pune, Edition 13, 2005:130-149.
5. Anonymous, The Ayurvedic Pharmacopoeia of India. Government of India, Ministry of

Health and Family Welfare, Controller of Publication, New Delhi, Part-I, Vol. I, 1985: 24-28, 143-44.

6. Harborne JB. Phytochemical methods. Chapman and Hall, London, Edition 3, 1984: 88, 203.

7. Brain KR, Turner TD. The practical Evaluation of Phytopharmaceuticals. Wright-Scientifica, Bristol, 1975:81 -86.

8. Rao DP. A text book of Bhaisajya Kalpana Vijnanam. Chaukhambha Publications, New Delhi, Edition 1st, 2008: 180-182.

9. Anonymous,

<http://www.bimbima.com/health/post/2015/11/27/apamarga-kshara.aspx>; retrieved on 14.10.2016.