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In vivo Organoleptic (*Rasapanchaka*) Assessment of *Dhauila Phindawri* (*Nothosaerva brachiata* Linn. Wight)

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ABSTRACT

Ayurveda motivates to live a healthy and prosperous life. In disease condition many procedures and treatments are mentioned to regain state of health. For this various drugs from plant, animal and mineral origin are used; all these drugs are mentioned along with their properties. But there are continues involvement in the drugs in the evolving world. There are various drugs, herbs which are not mentioned in *Ayurveda* and hence there qualities are not mentioned. Such drugs need to be work on identification and evaluation of their *Rasapanchaka* on the basis of *Ayurveda*. After the proper knowledge of *Rasapanchaka* of a drug its pharmacodynamics and pharmacokinetics can be explained on the grounds of *Ayurveda*. So one of such drug *DhauilaPhindawri* has been studied on certain subjects for evaluation of its *Rasapanchak*.

Key Words

DhauilaPhindawri, *Nothosaerva brachiata*, *Rasapanchaka*

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INTRODUCTION

Many herbs are introduced in the flora of Indian sub-continent due to Tuglaks, Mughals, Britishers, Portugal's and Dutches. The increase in the flora were noted in the text and lexicons of specific era. Many of the plants remained untouched but they were in use by the local tribes and peoples for treatment purposes. In the course of time knowledge of drugs increased, that was seen in the lexicons like *Raj Nighantu*, *Bhavprakash Nighantu*, *Shaligram Nighantu* and many more.

The inclusion of drug started the controversy in the genuine drug that was mentioned in the classical texts. This creates a global need to explore in the field of research for extra-pharmacopeia drug. "*Dhauila Phindawri*" identified as *Nothosaerva brachiata* has been used as lithotriptic drug since past centuries beneficiating mankind. "*DhauilaPhindawri*" has fewer references in the literatures. There is no such direct reference about its properties (*Rasa*, *ViryaVipaka* etc.) in available literatures.



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The *Gunadharm* of *Nothosaerva brachiata* Linn. Wight. are as per the drug *Aerva lanata* Linn i.e. *Gorakshaganja*, it is mentioned in the book- “A scientific study on controversial drugs (with special reference to *Pashanbheda*)” written by Dr. Jharkhanday Ojha from B.H.U.. No doubt that the *Rasapanchak* of drug *Dhauila Phindawri* compared to *Aerva lanata*, since there is controversy for *Rasapanchak* of *Aerva lanata*, it is the need of time to focus on either of the drug for its own identification and genuine. Here in this work we are going to focus on the *Rasa*, *Guna*, *Karma*, *Virya*, *Vipaka Nirdharan* of the drug *DhauilaPhindawri*, so that further researches can be carried with the view of *Ayurveda*. This article is an attempt to explore the *invivo* evaluation of *Rasapanchaka* of minimally known herb *DhauilaPhindawri* (*Northosaerva brachiata* linn. Wight.) which is widely used in the treatment of urinary calculi.

MATERIALS AND METHODS

Various texts including different floras, *Dravaguna* books and articles from internet were reviewed for the literary search of the herb *DhauilaPhindawri* (*Northosaerva brachiata* Linn. Wight.).

Table 1 Composition of *Rasa*

SR.No.	Rasa	Charaka	Sushruta	Vagbhata	Nagarjuna
1.	Kashaya	Vayu + Prithvi	Prithvi + Vayu	Vayu + Prithvi	Agni + Vayu
2	Tikta	Vayu + Akash	Vayu + Akash	Vayu + Akash	Akash + Vayu
3	Madhura	Aap + Prithvi	Prithvi + Aap	Prithvi + Aap	Prithvi + Aap

Table 2 Formation of *Rasa* According to season

Sr.No.	Season	Mahabhuta composition	Produced Rasa
1	Vasant Ritu	Vayu + Prithvi	Kashaya
2	Shishira Ritu	Vayu + Akash	Tikta
3	Hemant Ritu	Prithvi + Aap	Madhura

OBSERVATIONS AND DISCUSSION

GunakarmadiAdhyayan-

RasaVivechana

Rasais something that is experienced by an individual while consuming a *Dravya*.

Definition of *Rasa-*

Rasa is the special sense known through the *Rasana* or *Rasanendriya* (tongue or taste buds).Modern physiology defines taste as the direct action of a drug on the nerve endings in the mucous membrane of the mouth.

Characteristics of *Rasa-*

Taste perception is the characteristic feature of *Rasa*. It is basically provided by two *Bhutas* viz. *Jala* and *Prithvi*.

***KashayaRasa* (Astringent taste)-**

Composition (Table no 1 & 2)-

Kashaya Rasa predominates in *Prithvi* and *Vayu*.

Characteristics-

It cleans the mouth but causes heaviness of tongue, there is difficulty in swallowing, obstruction in the pharyngeal passage and flabbiness of tissues and various joints.

The character which causes discomfort to the throat or which adversely affects the taste reception.



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Attributes and Action (Table No 3, 4, 5, 6, 7 & 8)-

Table 3 Classification of *Rasa*

Sr.No.	<i>Soumya</i>	<i>Aagneya</i>
1	<i>Kashaya</i>	----
2	<i>Tikta</i>	----
3	<i>Madhura</i>	----

Sr.No.	<i>Dhosh</i>	<i>Prakopaka</i>	<i>Shamaka</i>
1	<i>Vata</i>	<i>Kashaya, Tikta</i>	<i>Madhura</i>
2	<i>Pitta</i>	-----	<i>Kashaya, Tikta, Madhura</i>
3	<i>Kapha</i>	<i>Madhura</i>	<i>Tikta, Kashaya</i>

Table 5 *Vidahi and Avidahi Rasa*

Sr.No.	<i>Vidhahi-</i>	<i>Avidahi</i>
1	----	<i>Kashaya</i>
2	----	<i>Tikta</i>
3	----	<i>Madhura</i>

Table 6 *Rasa- Guna Relation*

Sr.No.	<i>Rasa</i>	<i>Guna</i>
1	<i>Kashaya</i>	<i>Ruksha, Sheeta, Guru</i>
2	<i>Tikta</i>	<i>Ruksha, Sheeta, Laghu</i>
3	<i>Madhura</i>	<i>Snigdha, Sheeta, Guru</i>

Table 7 *Rasa Tara-Tamata*

Sr.No.	<i>Guna</i>	<i>Uttama</i>	<i>Madhyama</i>	<i>Avara</i>
1	<i>Ruksha</i>	<i>Kashaya</i>	----	<i>Tikta</i>
2	<i>Snigdha</i>	<i>Madhura</i>	----	----
3	<i>Ushna</i>	----	----	----
4	<i>Sheeta</i>	<i>Kashaya</i>	<i>Madhura</i>	<i>Tikta</i>
5	<i>Guru</i>	<i>Madhura</i>	<i>Kashaya</i>	----
6	<i>Laghu</i>	<i>Tikta</i>	----	----

Table 8 *Kopan and Shaman Rasa*

Sr.No.	<i>Rasa</i>	<i>Effect on Prakopaka</i>	<i>Tridosha-Shamana</i>	<i>Effect on Dhatu</i>
1	<i>Kashaya</i>	<i>Vata Prakopana</i>	<i>Kapha-Pitta Shamaka</i>	<i>Dhatu Kshaya</i>
2	<i>Tikta</i>	<i>Vata Prakopana</i>	<i>Kapha-Pitta Shamaka</i>	<i>Dhatu Kshaya</i>
3	<i>Madhura</i>	<i>Kapha Vardhana</i>	<i>Vata-Pitta Shamaka</i>	<i>Dhatu Vriddhi</i>

Guna- *Guru, Sheeta, Ruksha,*

Vipaka-*Katu,*

Virya- *Sheeta,*

Karma- Alleviates *Kapha* and *Pitta*, aggravates *Vata*.

Dhatu- Obstruction to the flow of *Dhatu* due to *Strotorodha*, acts as a styptic agent and heals wounds.

Malas- Constipation.

Other Actions-

Sangrahi- Acts as *Sangrahi* by absorbing moisture by its *Ruksha* and *Sheeta* qualities.

Sandhanakara- Causes union of tissues and acts as a styptic by its *SheetaVirya*.

Vranaropana- It helps wounds by removing secretions from them.

Kledopashoshna- It absorbs *Kleda* from *Dhatu* by its *RukshaGuna*.

Stambhana- It retards movement of *Doshas* and *Malas*.

Lekhana- It scrapes excess of *Kapha* and *Malas* by its *RukshaGuna*.

Aama-Stambhana- It prevents movement of *Aama* due to its *Stambhana* action.

Prashaman- It pacifies *Rakta-Pitta* and *Kapha*.

Twakaprasadana- It removes *Doshas* residing with the skin and nourishes it.

Atiyoga-(Disease due to excessive use)

Constant and excessive intake of *KashyaRasa* aggravates *Vata* and produces dryness of mouth, *Hritshoola, Adhmana, Swarabheda, Strotorodha, Shyavata*, lack of fertility in males, obstruction to



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excretion of *Mala*, *Mutra*, *Sweda* and *Shukra*; *Krishata*, *Glani*, *Trishna*, *Pakshaghata*, *Manyastambha*, *Apatanaka*, *Ardita*, *Aakshepaka* and *Malavashtambha*.

TiktaRasa- (BITTER TASTE)

Composition

Tikta-Rasa predominates in *Vayu* and *Akasha*.

Signs & Symptoms

That *Rasa* which is not relished, which obliterates other tastes for some time, cleanses the mouth, dries it up, but ultimately brings back taste to mouth is called *TiktaRasa*.

Characteristics

The character which spreads all over the tongue with in no time.

Attributes and Action

Guna-*Laghu*, *Sheeta*, *Ruksha*,

Vipaka - *Katu*,

Virya -*Sheeta*,

Karma -Alleviates *Kapha* and *Pitta*, increases *Vata*.

Dhatus - Increases tissue fire whereby it acts as *Katu-Paushtika* (Bitter tonic).

Upadhatus -Acts as *Stanyashodhana* and eliminates *RaktajaStanyadhushti*.

Malas -Acts as a binding agent by its *RukshaGuna*, overcomes *KaphajaMutradushti* by eliminating *Kleda*, but acts as *Swedapanayana*, due to its *Sheeta* and *RukshaGunas*.

Other Actions-

Rochan- Through unpalatable by itself, by cleansing the mouth and tongue by its *Laghu*, *Ruksha* and *VishadaGunas*, it increases taste.

Vishghna-By eliminating vitiation of *Rakta*. It acts as *Vishghna*.

Krimighna-Vitiation of *Kapha* causes accumulation of *Kleda* in the intestine which acts as Favorable medium for growth of worms. *TiktaRasa* acts as *Krimighna* by its anti- *Kapha* and *Anti-kledaJanana* actions.

Moorchchha- Dahaprashamana- Aggravation of *Pitta* generates *Moorchchha* and *Daha*. *TiktaRasa* overcomes them by its *SheetaGuna*.

Kushta-Kandughana- Aggravation of *Kapha* causes obstruction which gives rise to *Kushta* and *Kandu*. *Tiktatrasa* removes *Strotorodha* by its *Ruksha*, *Laghu* and *Vishada* attributes.

TrishnaShamana- It overcomes *Aamaja* and *PittajaTrishna* by causing *Aamapachana* and *Pitta-Shamana*.

Aamapachana -It eliminates *Aama* by its *Laghu* and *Vishada* attributes.

Agnideepan- It stimulates *Agni* by causing *Aamapachana*.

Aamapachana-It cause *Aamapachana* by stimulating action of *Agni*.

It purifies *Twacha* and *Amansa* by bringing about *Kapha-Pitta* and *Raktashodhana*.

Jwarghna- It is the best *Jwaraghna* agent. It is useful in various types of *Jwaras* by *Aama* in digesting the *Rasa* and by causing *Agnideepana*.

Lekhana- It causes *Lekhana* of *DushtaKapha-Mansa* and *Meda* by its *Ruksha*, *Laghu* and *VishadaGunas*.

Shodhana- It absorbs *Kleda*, *Meda*, *Vasa*, *Majja*, *Lasika*, *Pooya*, *Rakta*, *Pitta*, *Sweda* and *Kapha* by its *Ruksh*, *Laghu* and *VishadaGunas*.



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Vranashodhana- It cleanses wounds by its *Kleda-KaphaShodhana* action. It exerts a soothing action on the throat by removing excess of *Kapha*.

Atiyoga-(Disease due to excessive use)

If *TiktaRasa* is taken in excess or for a long time, it causes wasting of tissues by its *Ruksha* and *Vishada* qualities and makes *Strotsas* hard. This causes loss of strength, fainting, vertigo, dryness of mouth and other *Vataja* diseases such as *Gatrastambha*, *Aakshepaka*, *Ardita*, various types of pains in the body, headache, *Kampa*, *Moorchchha* and *Katiprishthashoola*.

MadhuraRasa- SWEET TASTE

Composition-

MadhuraRasa predominates in *Prithvi* and *Jala*.

It has *Guru* and *MandaGunas* of *Prithvi* and *Sheeta*, *Mridu* and *SnigdhaGunas* of *Jala*.

Characteristics-

Madhura rasa can be understood from the following *Lakshanas*-

Causes sweetness of mouth and coats the tongue and is liked by ants and flies.

The character which tempts an individual to consume the material is known as *Madhura-Bhava*. It indicates that people are attracted towards it owing to sweet nature.

Attributes and Action-

Guna -*Guru*, *Sheeta*, *Snigdha*, *Pichchhila*.

Vipaka -*Mashura*

Virya -*Sheeta*,

Karma -Alleviates *Vata* and *Pitta*, aggravates *Kapha*.

Dhatus -Nourishes and increase all tissues because of its *Guru*, *Snigdha* and *Pichchhila*

attributes; *Tarpana* and *Brimhana*. It also causes *Dhatuposhana*, *Ojavardhana* and *Stanyajanana*, etc.

Malas -Facilitates expulsion of *Malas* due to predominance of *Prithvi* and *Jala*.

Other Actions-

Aajanmasatmya - Well digested and assimilated since birth and beneficial to children, in old age and to debilitated person.

Aayushya and Jeevaneeya- Provides nourishment and gives stability to all tissues and prolongs life. Improves functions of seven organs - By its nutrient and *Jeevaneeya* action it nourishes organs of special senses and mind.

Balya -By nourishing seven *Dhatus*, it gives strength to the body.

Varnya -It purifies *Rakta* and *Pitta* and thus improves complexion.

Vishaghna -By nourishing *Dhatus* it increases *Oja* and thus acts as *Vishghna*.

Alleviates thirst -By causing alleviation of *Pitta* it overcomes thirst and burning sensation.

Twachya -By alterative action, it cleanses the blood and improves quality of skin.

Keshya -It nourishes *Majja* and thus gives strength to hair roots.

Kanthya -It gives strength to throat by nourishing *Rasa-Majja-Mansa* and by alleviation of *Vata*.

Tarpana -It gives vigour to body and the mind by nourishing all tissues and *Ojus*.

Preenana-It refreshes body.

Brimhana -By *guru*, *Pichchhil* and *SheetaGunas* it nourishes *Mamsa Dhātu*.



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Sthirata -Because of predominance of *Prithvi*, it gives stability to the body.

Sthirakara-Removes debility - *Madhura* rasa nourishes tissues and eliminates fatigue and weakness.

Kshata-Nashana -Prevents wasting, loss of strength and depletion of *Dhatus* in *Urakshata*. *MadhuraRasa* helps in healing cavities in lungs by nourishing *Dhatus*.

Sandhanakara -It causes union of torn tissues and also heals fractures by its *Guru*, *Snigdha* and *PichchhilaGuna*.

Pralhadana -It refreshes mouth and the buccal mucosa by nourishing organs and refreshing mind.

Moorchha-Prashamana -It overcomes fainting attacks caused by *Pittaprakopa*. By carrying out alleviated *Pitta* and also by causing *Dhatuposhana* and *RasaPreenana*.

Pipilikadipriya -It is relished by ants, flies.

Chakshushya -By nourishing eyes, correcting function of *Aalochakapitta* and nourishing *Majjadhatu* it acts as *Chakshushya*.

Krimikara -Excessive use of *Madhura* rasa increases *Kapha* and cause *Agnimandya* which helps formation of worms.

Atiyoga-(Disease due to excessive use)

Constant and excessive intake of *MadhuraRasa* causing *Medoroga*, *Aruchi*, *Agnimandya*, *Angagaurava*, *Aalasya*, *Atinidra*, *Shwasa*, *Prameha*, *Galarogas*, *Mukhamandhurya*, *Netrabhishyandya*, *Galarbuda*, *Gandamala*, *Chhardi*, *Udarda*, *Pinasa*, *Krimi*, *Shleepada*, *Jwara*, *Praseka*, various *Kapha-Medoja* diseases, *Aalasya*, *Sanyasa*, *Pratishyaya*, *Aanaha*,

SandnyaNasha, *Swarabheda*, *Galashosha*, *Dhamani* and *Mutrakshaya*and *Kaphaja* disease.

Vipaka Vivechana

As mentioned earlier “*Dhauila Phindawri*” has fewer references in the literatures. There is no such direct reference about its properties (*Rasa*, *Virya Vipaka* etc.) in available literatures.

The end product of a *Dravya* which is the outcome of digestion / metabolism is known as *Vipaka*. It is believed that *Vipaka* is the bio transformative phase of *rasa*.

Acharya Vagbhata exclusively defined *Vipaka* as “the factor which is the final outcome of the bio transformation of *Rasa* through the action of *Jatharagni* (digestive enzymes).

The change in the *Rasa* of a substance which occurs at the end of alimentary digestion by the action of *Jatharagni* is called as *Vipaka*.

Vipaka is understood from the action of a substance taking place on the body (at the end of alimentary digestion).

Vipaka is understood from the effect of a substance on the body.

Numbers & Nature of *Vipaka* (See Table no 9, 10 & 11)-

Though there are five different opinions about the number and the nature of *Vipaka* viz. *Dwividha*, *Trividha*, *Panchavidha*, *Shadvidha* and *Asthvidha*. But, only two of them viz. *Dwividha* and *Trividha* are tenable.

Dwividha Vipakavada----

Sushruta and *Nagarjuna* postulate two *Vipakas* viz. *Guru*&*Laghu*.

View of *Acharya Sushruta*—



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Table 9 Vipaka view of different Acharyas

Sr. No.	Vipaka	Charaka	Yogendranath, Chakrapani, Shivadas Sen	Gangadhara, Yadavji Trikamji
1	Madhura Vipaka	Guru	Guru	Guru
2	Amla Vipaka	Laghu	Guru	Laghu
3	Katu Vipaka	Laghu	Laghu	Laghu

Table 10 Effects on Dosh, Dhatu, Mala

Sr. No.	Vipaka	Properties	Effect on Doshas	Effect on Dhatus	Effect on Malas
1	Madhura	Snigdha, Guru	Enhance Kapha, decreases Vata-Pitta	Improve Dhatus, Shukrala	Increases the quantity of stools & urine
2	Amla	Snigdha, Laghu	Enhance Pitta, subsides Vata	Shukrahara	Increases the quantity of stools & urine
3	Katu	Ruksha, Laghu	Enhance Vata, subsides Kapha	Shukrahara	Decreases the quantity of stools & urine

Table 11 Functions of Vipaka

Sr. No.	Vipaka	Mahabhuta	Effect on Doshas	Effect on Malas
1	Guru	Prithvi & Aap	Kapha Vardhaka & Vata- Pitta Hara	Shrishta Vit-Mutra
2	Laghu	Vayu, Agni & Akasha	Kapha Hara & Vata-Pitta Vardhaka	Bhaddha Vit-Mutra

Two Vipaka- 1) Madhura or Guru—(Prithvi & Aap)

2) Katu or Laghu—(Agni, Vayu & Akasha)

View of Acharya Nagarjuna—

Two Vipaka- 1) Guru-(Guru, Sheeta, Snigdha & Pichchhila Gunatmaka)

2) Laghu-(Laghu, Ruksha, Tikshna and Vishada Gunatmaka)

Trividha Vipaka----

(Rasa Vipaka)

Charaka & Vagbhat, The author of Ashtanga Hridaya have put forth Trividha Vipaka theory which is based on Rasas .

1) Madhura Vipaka of Madhura & Lavana Dravya.

2) Amla Vipaka of Amla Dravya.

3) Katu Vipaka of Katu, Tikta & Kashaya Dravya.

Methods of Vipakadnyana (Understanding Vipaka)

Rasa is understood directly by Rasanendriya, while Virya is understood by Nipata (i.e. by contact with tongue or skin as in the case of Maricha or from the effects a substance produces on the body till it remains in the system, e.g. SheetaVirya of Draksha is inferred from its Pitta-Shamaka action.). However, Vipaka is understood from the effects a substance produced on the body after its alimentary digestion, e.g. from the Vrishya action of Pippli which has Katu rasa, its Madhura Vipaka is understood. Thus, Katu Vipaka of Chitraka is understood from its scraping action on Kapha and Meda and Amla Vipaka of Chinchha from its Pitta-Kara action.

VIRYA VIVECHANA

As mentioned earlier “Dhauila Phindawri” has fewer references in the literatures. There is no such direct reference about its properties (Rasa, Virya Vipaka etc.) in available literatures.

Etymology—(Nirukti)



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An attribute (property) due to which a substance is able to exert its action is *Virya*.

Definition-

The attribute due to which a substance brings about its action is called. *Virya* There is no action that takes place without *Virya* and all the actions are caused by *Virya*.

Nature of *Virya* -

There are three opinions as under about nature of *Virya* viz. *Shakti*, *Guna* and *Karma*.

- ***Shakti Matra-Viryavada-***

According to *Charaka*, the potency or power (*Shakti*) inherent in a *Dravya* is responsible for its actions.

- ***Paribhashika- Viryavada-***

Sushruta opines that out of the eight prominent *Gunas* (*Gurvadi*), the one which is the most powerful is called as *Virya*; hence he has named these eight *Gunas* as *Virya* (*Ashtavidha-Viryavada*).

Vagbhata opines same as *Sushruta* i.e. *Gurvadi* eight *Gunas* as *Virya*.

- ***Karma-Viryavada-***

According to *Nagarjuna* & *Shivadas Sen-* *Virya* is a type of energy which is located in abundance in the essence of *Bhautic* constitution of a substance. There are various opinions about nature of *Virya* as mentioned above. *Charaka* has laid stress on *Shakti*, whereas *Shakti* being *GunaSushruta* and *Vagbhata* has laid stress on *Guna*. *Nagarjuna* has attributed *Virya* to action, since *Virya* is the cause of various actions. But to correlate these entire

opinions one may conclude that *Virya* is the most active *Guna* and is present in essence of a *Dravya*. According to *Dwarakanatha-* *UshnaVirya* represents kinetic energy derived from food substances in bio-chemical reactions, while *SheetaVirya* represents potential energy stored in different tissues either as a part of their structure or as a reserve fuel depot.

Number of *Virya* -

- 1) ***Ashtavidha Virya-*** *Guru-Laghu*, *Snigdha-Ruksha*, *Ushna-Sheeta* & *Mridu-Tikshna*.
- 2) ***Dwividha Virya-*** *Ushna* & *Sheeta*.

Functions of *Virya-*

1) ***Sheeta Virya-***

Predominance- *Prithvi* & *Jala*

Rasa- *Madhura*, *Tikta* & *Kashaya* are progressively *Sheeta*

Grahyata- Can be felt by the skin.

Actions-

On *Dosha* -*Aggravates Kapha-Vata*, *Alleviates Pitta*.

On *Dhatus* -*Raktaprasadana*, *Saptadhatuwardhana*, *Ojovardhana*, *Jeevaneeya*.

On *Malas* -*Stambhana* (*Kutaj*), *Mutral* (*Gokshura*) & *Swedapanayana*.

Other actions -*Agnimandya*, *Vishyandana*, *Pralhadanan*, *Shirikaran*, *Kledana*, *Preenana*, *Balya*, *Daha-Trishana-Shamana*, *Strotorodha* etc.

2) ***Ushna Virya-***

Predominance- *Vayu* & *Agni*

Rasa- *Katu*, *Amla* & *Lavana* are progressively *Sheeta*

Grahyata - Can be felt by the skin.

Actions-



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On *Dosha* - Alleviates *Vata-Kapha*, Aggravates *Pitta*.

On *Dhatu*- *Raktavardhana*, causes tissue loss of *Shukra* & other tissues along with *Ojokshayakara*

On *Malas* -*Sangrahi* (*Chitraka*), *Mutrasangrahi* (*Bhallataka*) & *Swedajanana*.

Other Actions-*Agnideepan*, *Aamapachana*, *Vranapachana*, *Kaphavilayana*, *Raktapittakara*.

Causes *Bhrama*, *Trishna*, *Glani*, *Timira*.

Viryopalabdh- *Virya* of a substance is understood on its contact with the body or till it remains in the body.

- (i) *Nipata*,
- (ii) *Adheevasa* &
- (iii) *Nipata&Adheevasa*

Virya Nishchiti-

Those substances which have *Madhura Rasa-Vipaka* have *Sheeta Virya* and those with *Katu* and *Amla Rasa* have *Ushna Virya*. Substance with *Katu*, *Amla* & *Lavana Rasas* are progressively *Ushna* and those with *Tikta*, *Kashaya* & *Madhura Rasa* are progressively *Sheeta*. Thus, from the knowledge of *Rasa* and of those substances whose *Virya* is consistent with *Rasa*, one can have knowledge of their *Virya* and other attributes.

pH value of “Dhaua Phindawri” is 7.11.

Substance having their pH value >7 are usually of SheetaVirya& pH value <7 are usually of UshnaVirya.

Estimation of Virya (see table no 12)-

Dr. S.C. Dhyani has mentioned some *Parikshana* for estimation of *Virya*.

Table 12 Estimation of *Virya*

No.	Parikshana	Ushna Virya	Sheeta Virya
1	Reaction with distilled water	Exothermic	Endothermic
2	Reaction with artificial gastric juice	Exothermic	Endothermic
3	Appetite	Increases	Decreases
4	Sleep	Decreases	Increases
5	Blood pressure	Increases	Decreases
6	Stool	Hard	Soft
7	Urine	Decreases	Increases
8	B.M.R.	Increases	Decreases

GUNA VIVECHANA

As mentioned earlier “*DhauaPhindawri*” has fewer references in the literatures. There is no such direct reference about its properties (*Rasa*, *Virya Vipaka* etc.) in available literatures.

Characteristic of Guna-

Guna is defined as the characteristic by which people are attracted towards a particular substance. In other words *Guna* is meant as quality, mode, property, predicament etc. *Charaka* defined *Guna* as the character or property which will remain in *Dravya* with inherent relationship. At the same time it will remain inactive and maintain a non-inherent relationship with the karma. *Badhanta Nagarjuna* had considered the innumerable number of qualities or properties of different substances as *Gunas*. **KARMA VIVECHANA**

Etymology—(Nirukti)

The element which is responsible for the action drug is known as *Karma*.

Definition—

The factor which is responsible for the association (*Samyoga*) and dissociation (*Vibhaga*) and which



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resides in the drug (*Dravya*) with inherent relation is known as *Karma*.

Classification of Gunas & number of Gunas-

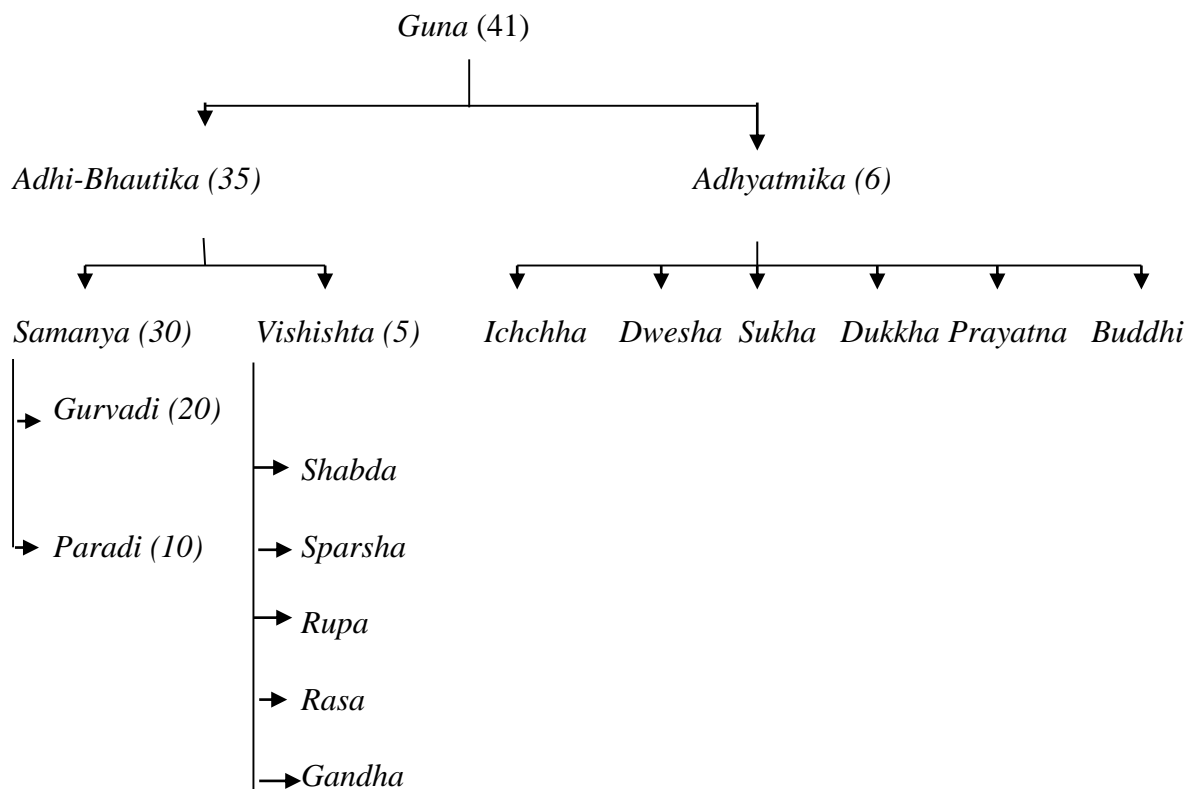


Chart-Classification of Guna

Badhanta Nagarjuna considered action as the main property of *Karma*.

Pharmacological action of a drug is defined as the action which is aimed to obtain a specific therapeutic effect.

Characteristics of Karma-

Activity or action is the characteristic feature of *Karma*. In other words, *Karma* is the cause and *Karya* is the effect.

Types of Karma-

- 1) *Dravya Prabhava* (natural property of a drug)
- 2) *Guna Prabhava* (property of ingredient of a drug)

- 3) *Dravya Guna Prabhava* (a combination of both factors)

Drug action/ Karma may be assessed on the basis of their effects/ actions on *Doshas, Dhatus, Malas, Strotas* etc.

On the *Doshas* the drug action may be either *Kopana (Vardhana)* or *Kshapana (Shamaka)*. On the *Dhatus* and *Malas* also the drugs may act either as *Vriddhikara* or *Kshayakara*. While the action of a drug on the *Strotasa* is more important since it provides a comprehensive effect.

Charaka explained that a drug may act either by means of “natural property” (*Dravya Prabhava*) or by means of “individual characteristics “*Guna*



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Prabhava". Sometimes both may help together in drug action.

Chakrapani in this context elaborated that *Parthiva Dravyas* are usually explained on the basis of their properties like *Guru, Khara* etc. But it is not sufficient to claim all its actions are due to *Guna Prabhava*.

The final target achieved by administering a drug is considered as *Uddeshya* or *Sadhya*. The means of achieving a particular *Phala* is known as *Karma*.

As already explained every drug (*Dravya*) will possess constituent's viz. *Rasa, Guna, Virya, Vipaka* and *Prabhava*. All these five will perform their individual actions.

Mode of drug action according to Ayurveda-

Ayurveda explained the structural and functional aspects of the human body on the basis of *Panchabhutas*. Similarly the drugs are considered as the composite units of *Panchabhutas*.

Mutravirechaniya drugs:

The drugs, which increase the frequency and volume of urine, are called *Mutravirechaniya* drugs. *Charaka* has mentioned one separate group of *Mutravirechaniya* drugs.

Mode of Action:

According to *Ayurveda* the *Mutravirechaniya* drugs causes diuresis by various mechanisms.

1. Drugs, which contains "*Jala Mahabhuta*" in excess, causes diuresis by increasing water (*Jala*) in urine.

e.g. water, sugarcane juice, coconut water, milk, etc.

2. Those drugs, which possess *Madhura Rasa, Madhura Vipaka* and *Sheet Virya* causes diuresis by increasing *Kleda* in the body. This excess *Kleda* formed in the body is taken towards *Basti* by means of *Mutravaha Strotas* and thus causes increase in urinary output.

e.g. *Gokshur, Shali, Kush, Kash, Darbha*, etc.

3. Sometimes because of *Kaphadushti* excess of *Kleda* is accumulated which causes obstruction in the flow of urine in such disorders; drugs of following properties are used.

- *Guna* : *Lahu, Ushna, Ruksha*.
- *Rasa* : *Katu, Tikta*.
- *Vipaka* : *Katu*.
- *Virya* : *Ushna*.

These drugs remove the *Dushta Kapha, Kleda* and clear the pathway of urine (urinary tract) and form the normal urinary flow. These drugs are mostly used in renal calculus, which causes obstruction in the urinary system. They break the stone in to pieces gives the way to the urine, so are called as *Mutravirechaniya*. e.g. *Pashanabhed, Punarnava* and *Kulattha*.

Some of the substances like meat from *Anupa Desh*, called *Anupa Mansa* causes *Kapha, Meda Dushti* and subsequently causes polyuria. But these type of drugs are not used therapeutically

Drug absorption-

According to Ayurveda-

- *Aamashaya* is the place for *Kapha*.
- *Grahani* is the place for *Pitta*.
- *Pakwashaya* is the place for *Vata*.

Receptor Theory in Ayurveda-



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The drug will act either by *Guna* or *Prabhava* or by both by taking required time and by acting on respective site of action by respective means of action. It is also postulated that the site of action is nothing but the receptor (*Adhikarana*).

It is generally accepted that the *Dosha-DushyaSammurchana* (etiopathogenesis) occurs in the *Strotasa* in a disease process.

Therefore, a drug may act in either of the following ways-

- 1) Action of the drug on *Strotasa*.
- 2) Effect on *Poshaka Dhatu*.
- 3) Effect on *Poshya Dhatu*.
- 4) Effect on *Dhatwagni*.

Different tests of Drug action—

According to philosophy of *Ayurveda* the mode of action may be assessed by three means viz, *Pratyksha* (direct observation), *Anumana* (inference) & *Aaptopdesha* (classical references).

Usually the drugs will be utilized for human administration and basing upon their therapeutic

effect the pharmacological properties are inferred, e.g. increased urination will indicates the diuretic effect & decreased in size of urinary calculus will indicates anti-lithiatic property

OBSERVATIONS

Inclusion Criteria-

- 1) Whose *Rasanendriya* was proper in its *Karma* (i.e. *Rasa Parikshana*),
- 2) Those who don't have any *Aama-Janya* disease.
- 3) Whose digestion is proper (No *Agnimandya*),
- 4) Those that do not had any type of food at least 30 minutes before,
- 5) Told them to gargle with plane water before administration of *Kwatha* and *Churna* of "*Dhauila Phindawri*".

Evaluate *Rasa* of "*Dhauila Phindawri*" below mentioned test was carried out under proper observation (See Table no 13 &14)-

Table 13 Observation of *Rasa* interpretation by Volunteers

Volunteer's No.	<i>Kwatha</i>		<i>Churna</i>	
	<i>Pradhan Rasa</i>	<i>Anurasa</i>	<i>Pradhan Rasa</i>	<i>Anurasa</i>
1	<i>Tikta</i>	----	<i>Tikta (Alpa)</i>	----
2	<i>Kashaya</i>	<i>Tikta (Alpa)</i>	<i>Tikta(Alpa)</i>	----
3	<i>Kashaya</i>	----	<i>Tikta (Alpa)</i>	----
4	<i>Tikta (Alpa)</i>	----	<i>Tikta (Alpa)</i>	----
5	<i>Madhura</i>	<i>Tikta</i>	<i>Madhura</i>	<i>Kashaya</i>
6	<i>Kashaya</i>	<i>Tikta</i>	<i>Kashaya</i>	<i>Tikta</i>
7	<i>Kashaya</i>	----	<i>Kashaya</i>	----
8	<i>Kashaya (Alpa)</i>	<i>Tikta (Alpa)</i>	<i>Kashaya</i>	<i>Tikta</i>
9	<i>Kashaya</i>	<i>Tikta (Alpa)</i>	<i>Kashaya (Alpa)</i>	----
10	<i>Madhura</i>	<i>Kashaya</i>	<i>Madhura</i>	<i>Kashaya</i>
11	<i>Kashaya</i>	<i>Tikta (Alpa)</i>	<i>Kashaya (Alpa)</i>	<i>Tikta (Alpa)</i>
12	<i>Kashaya</i>	----	<i>Kashaya</i>	----
13	<i>Kashaya (Alpa)</i>	<i>Tikta</i>	<i>Kashaya</i>	----
14	<i>Madhura (Alpa)</i>	<i>Kashaya</i>	<i>Madhura</i>	<i>Kashaya</i>
15	<i>Kashaya</i>	<i>Madhura</i>	<i>Kashaya</i>	<i>Tikta</i>
16	<i>Madhura</i>	<i>Kashaya</i>	<i>Madhura</i>	----
17	<i>Kashaya</i>	----	<i>Kashaya</i>	----
18	<i>Kashaya</i>	----	<i>Kashaya</i>	----



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19	<i>Kashaya</i>	<i>Tikta (Alpa)</i>	<i>Tikta</i>	<i>Madhura</i>
20	<i>Kashaya</i>	----	<i>Kashaya</i>	----
21	<i>Madhura</i>	<i>Kashaya</i>	<i>Madhura</i>	<i>Kashaya</i>
22	<i>Tikta</i>	----	<i>Tikta</i>	----
23	<i>Madhura</i>	<i>Kashaya</i>	<i>Madhura</i>	<i>Kashaya</i>
24	<i>Tikta</i>	----	<i>Tikta</i>	<i>Kashaya</i>
25	<i>Kashaya</i>	<i>Madhura</i>	<i>Kashaya</i>	<i>Madhura</i>
26	<i>Kashaya (Alpa)</i>	----	<i>Madhura</i>	----
27	<i>Kashaya</i>	<i>Madhura</i>	<i>Kashaya</i>	<i>Madhura</i>
28	<i>Kashaya</i>	<i>Tikta (Alpa)</i>	<i>Kashaya</i>	<i>Tikta</i>
29	<i>Tikta</i>	----	<i>Tikta (Alpa)</i>	<i>Kashaya</i>
30	<i>Tikta (Alpa)</i>	----	<i>Tikta (Alpa)</i>	<i>Kashaya</i>

Table 14 Interpretation of *Pradhana Rasa* and *Anu-Rasa*

Sr.No	Kalpa	No.	Pradhana Rasa			Anurasa		
			<i>Kashaya</i>	<i>Tikta</i>	<i>Madhura</i>	<i>Kashaya</i>	<i>Tikta</i>	<i>Madhura</i>
1	<i>Kwatha</i>	Of	18	6	6	5	9	3
2	<i>Churna</i>	Volunteers	14	9	7	8	5	3

CONCLUSION

From the above carried out test on volunteers for *Rasa Mapana* of *Dhauila Phindawri*-(*Kwatha* & *Churna*) following inference was drawn-

Pradhana Rasa- Kashaya Rasa

Anurasa-Tikta & Madhura Rasa

According to *Rasa Parikshana* done by 30 volunteers, the “*Dhauila Phindawri*” has *Kashaya Rasa* as *Pradhan Rasa* & *Tikta* and *Madhura Rasa* as *Anurasa*. *Kashaya* & *Tikta Rasatmaka Dravya* usually have *Katu Vipaka* & *Madhura Rasatmaka Dravya* have *Madhura Vipaka*. From the above charts as per *Ayurvedic* literature- the *Dravya* which increases quantity of stool & urine usually have *Madhura Vipaka (Guru Vipaka)* & those that decrease the stool & urine quantity have *Katu Vipaka (Laghu Vipaka)*. *Vipaka* is understood from the action a *Dravya* exerts on the body and hence it is *Anumanagamy* & hence it is difficult to confirm. According to the above charts & effect on patients the “*Dhauila Phindawri*” may have *SheetaVirya*, but it is difficult to confirm.

According to effect on patients “*Dhauila Phindawri*” may have *Guru&SheetaGuna*. But it is difficult to confirm. By the above discussion it is difficult to explain the action of *DhauilaPhindawri* due to its uncertain *Gunadi* properties. But, it is clinically proved that it has *Mutravirechaniya* action.



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