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Myth, Mystique, Truth and Spices!

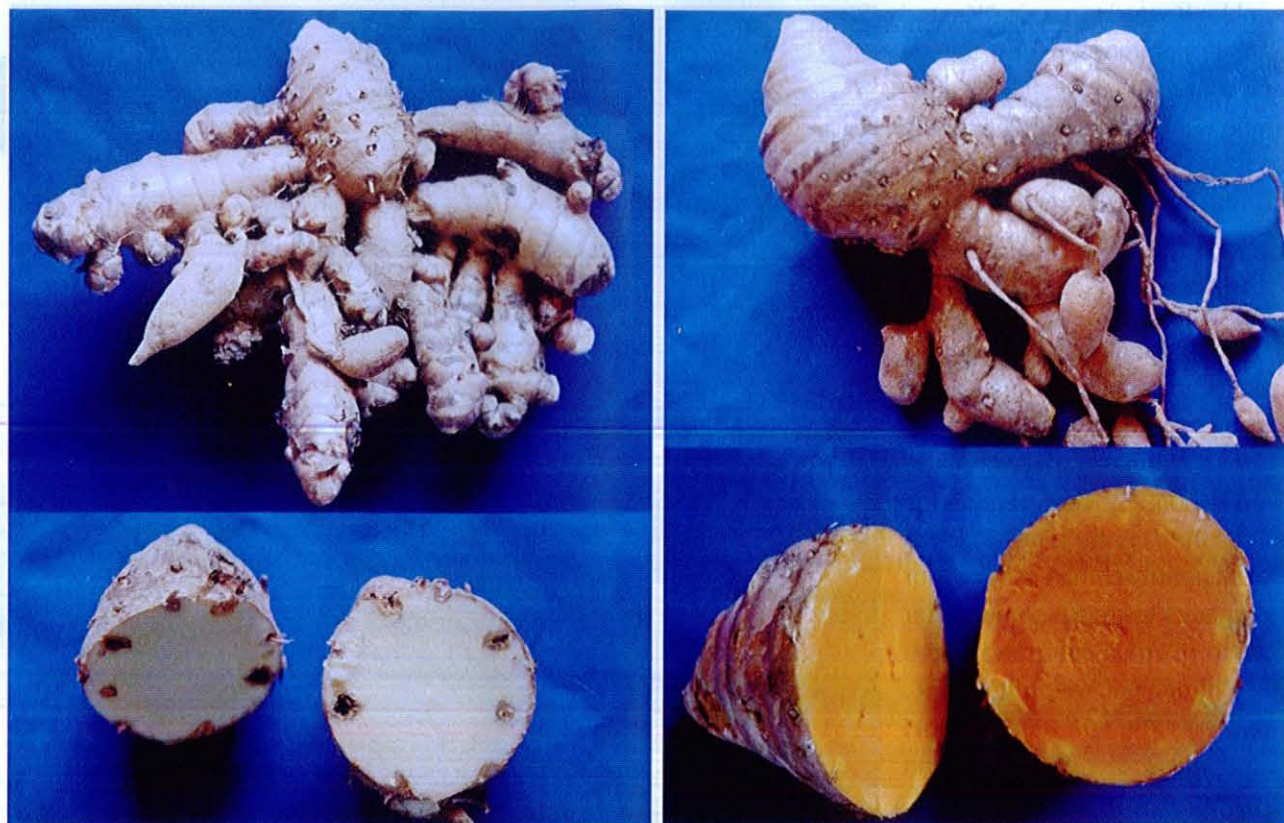
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'Truth is not a diet but a spice', so goes the adage! Whatever be the premise of this axiom, superstition, sheer ignorance and mere belief, often assuming the proportion of a 'sumptuous diet', are not uncommon in the real realm of spices! A myth vs. truth check regarding some common spices may be surprising, if not rewarding.

1. Kasturi Turmeric caught in beauty trap

Given the social or cultural back drop where beauty is part of the daily ritual of damsels and laymen alike, be it enhancing the skin complexion or the craze for a fair skin, there is every chance of unscrupulous elements or knaves exploiting the gullible public for quick buck in the name of beauty products. The

*Curcuma aromatica**Curcuma zedoaria***Fig.1. Genuine *Curcuma aromatica* and its counterfeit entity, *C.zedoaria*****Table1.Important distinguishing features of the two *Curcuma* species**

Species	Corolla colour	Rhizome colour	Aroma of rhizome	Taste of rhizome	Leaf midrib colour	Rhizome essential oil(%)	Curcumim(%)
<i>C.aromatica</i>	White	Pale yellow	Camphoraceous	Bitter	Green	4.8	0.01-0.04
<i>C.zedoaria</i>	Light purple	Light orange yellow	Camphoraceous	Slight bitter	Purple	3.2	1.24

Table2. Composition of rhizome essential oil in *Curcuma aromatica* and *C.zedoaria*—major compounds

Species	Compound
<i>Curcuma aromatica</i>	1,8-cineole(5.5-9.3%), camphor(25.58-32.3%), germacrone(10.6%), isoborneol(8.2%), camphene(7.4%), curzerenone(11%), ar-curcumene(18.6-14.6%), beta curcumene(25.5%), xanthorrhizole(25.7%), alpha pinene(4.8%), alpha camphene(2.7%), beta pinene(5.8%), l-zingiberene(10.7%), 1-ar-curcemene(14.6%), 1-beta-curcumene(33.8%), alpha terpineol(7.8%), cuminyl alcohol(5.5%), de-borneol(5.3%), zingiberol(3.5%), alpha termerone(6.7%), ar-turmerone(6.3%) etc.
<i>C.zedoaria</i>	Xanthorrhizol(38.92%), camphor(10.26%), curzerene(8.84%), beta sesquiphellandrene (12.85), germacrone(8.68%), curzerenone(2.83%), epicurzerenone(4.68%) etc.

humble Kasturi turmeric ('Kasturi manjal'), commonly used in toiletry articles, especially facial creams, is one such commodity caught in the 'beauty trap'. Scientifically, Kasturi turmeric is *Curcuma aromatica*, with a creamy yellow camphoraceous rhizome and camphoraceous bitter taste. However, many other *Curcuma* species are passed off as Kasturi turmeric in the busy streets, places of worship, markets and even in some government shops across the country! The craze for instant beauty comes in handy for the quacks to trade some other common *Curcuma* rhizomes in the guise of original Kasturi turmeric. The most common turmeric sold in the guise of genuine Kasturi turmeric is an yellow rhizome entity, *Curcuma zedoaria* (Yellow shotty, *Kachura*, *Manjakuva*), though both the species can be easily distinguished (Fig1).



Fig.2. Black turmeric

Important distinguishing features of the two species are given in Table1.

Camphor (25.58-32.3%) is the highest observed compound in *C.aromatica* while it is xanthorrhizol (38.92%) in *C.zedoaria*. In the genuine *C.aromatica*, curcumin is in traces only.

It is high time that we recognize the unfair means in the 'fair skin' market, aware of the fake entity and root for the genuine root, putting a full stop for the cosmetic ride by quacks.

2. Black Turmeric - superstition rule the roost!

'Please leave us alone, there is no any eerie quality or divine attributes in us', the meek black turmeric would have pleaded with folded hands, had it could speak for itself! Given the social mooring of superstition laced with ignorance, black turmeric is much sought after entity for sorcery, magic rites, tantric sadhana and many other clandestine activities

akin to the bizarre rice puller, white owl, double headed boa snake, star tortoise etc.! Vested interests disseminate many myths such as keeping a piece of black turmeric in the house usher in instant wealth, a black turmeric traversing steel needle become soft and flexible like plastic needle, pad lock will unlock itself in presence of black turmeric, inflammable petrol or diesel impregnated with a piece of black turmeric will become fire proof, camphor will go aflame in the vicinity of black turmeric, etc.! And these 'supernatural powers' of black turmeric are exploited by the knaves charging the gullible public exorbitantly for the not so rare turmeric.

However, it is true that in some tribal cultures, black turmeric is auspicious. In Chhattisgarh and Madhya Pradesh, certain tribes believe that a person possessing 'Kali haldi' or black turmeric never experiences shortage of cereals or food!



Fig.3. Kaempferia parviflora

Black turmeric or Kali Haldi' is scientifically *Curcuma caesia* (Fig.2). As the name suggests, the inner core colour of the rhizome is blue black, not the familiar yellow or pale yellow colour, one is commonly familiar with turmeric. Rhizome contain 3.6% oil and very less curcumin (0.01-0.05%). 1,8 cineole (22.24%), alpha pinene (0.4%), beta pinene (0.6%), beta ocimone (E and Z) (2.1%), camphor (7.73%), linalool (0.995), caryophyllene (3.15%), borneol (4.3%), camphene (1.67%), anethole (1.79%), *cis*-beta-ocimene (14.54%) etc. are the major constituents of the rhizome oil. The rhizomes are aromatic (camphoraceous), bitter in taste, stimulant, carminative and rubifacient used topically for sprains and bruises. Dry rhizome extracted in water, taken internally relieves asthma. Fresh rhizomes are also used against tonsils, leucoderma, dyspepsia, as stomach and liver tonic etc. in folk medicine. Black turmeric is occasionally used as substitute of common turmeric in some parts of West Bengal.

3. Black ginger - a blockbuster ginger

Layman is ignorant while erudite think this blockbuster ginger is a myth!. However, black ginger is a reality

and not at all elusive. Two distinct species are known as black ginger, namely *Zingiber malaysianum* ('Midnight Black' or Midnight Ginger), an ornamental plant with blackish red foliage and *Kaempferia parviflora* (Thai black ginger, Thai ginseng or *krachai dum*, *Durik Ada*, 'Karkashur /Yaimu') with bluish black rhizome (Fig.3), the latter being more important for its medicinal uses. In Thai traditional medicine, black ginger has been claimed to cure allergy, asthma, impotence, gout, diarrhea, dysentery, peptic ulcer and diabetes besides improving vitality.

Black ginger does not have the taste or pungency of ginger.

It is grown in some parts of India including Kerala and northeastern states.

4. Red Ginger - Red herring

Red ginger (*Zingiber officinale* var. *rubra*), common in Indonesia, Malaysia and West Africa, is now available in our country as well. This ginger is blessed with attractive pinkish red colour and can be used like normal ginger in recipes and medicine. However, widespread myth exists about its exaggerated properties and the ginger is priced exorbitantly! Nothing very special about it to justify the unreasonable price.

Red ginger has been prescribed as an analgesic for arthritis pain in Indonesian traditional medicine.



Fig.4. Dried slices of black ginger (*Kaempferia parviflora*)

5. Peppers of different berries

In the guise of 'pepper', there exists more than one pepper, all traded as spice or medicinal herbs. The word 'pepper' instantly brings to mind the perfect black and white pepper berries or the green berries of the vine *Piper nigrum*, the spice with the moniker 'black gold'. However, there are some other species of spices or medicinal plants with the suffix 'pepper' such as Sichuan pepper (*Zanthoxylum piperitum* / *Z. simulans*-Rutaceae) also known as Japanese pepper and Korean pepper; Timut pepper (*Zanthoxylum armatum*) or Nepalese pepper; Pink pepper (*Schinus molle*, *Schinus terebinthifolius* – Anacardiaceae); Tailed pepper (*Piper cubeba*) otherwise popular as Java pepper or cubeb pepper; Ashanti pepper (*Piper*



Fig. 5. Red ginger

guineense) a.k.a Benin pepper, False cubeb, Guinea cubeb; Adi pepper (*Piper relictum*); false black pepper (*Embelia ribes*) family Myrsinaceae; Wild pepper of Madagascar (*Piper borbonense*) aliases Voatsiperifery or Tsiperifery; Jamaica pepper (*Pimenta dioica*-Myrtaceae) also called Myrtle pepper, False black pepper, Pimento, Jamaica pimento, Jamaica pepper, Pimenta etc.; Monks pepper (*Vitex agnus-castus*), otherwise known as Chaste tree/Chaste berry, family Lamiaceae; Selim pepper (*Xylopi aethiopica*), family Annonaceae well known as Kani pepper, Senegal pepper, Ethiopian pepper and Guinea pepper etc., either of the genus *Piper* itself or non *Piper* genus, apart from the ubiquitous chilli pepper (*Capsicum* sp.), valued as functional foods or medicine.



Fig.6. Sichuan pepper

6. Rosemary-Belief rosy!

Rosemary (Fig.7), the memory herb of the mint family, is one spice rich with many myths! This perennial plant has been used by the Chinese and Greeks as a health conditioner since very ancient days. The herb has an age

old reputation for improving memory and has been used as a symbol of remembrance (during weddings, war commemoration and funerals) besides bonding conjugal relationship in Europe and Australia. In Hungary, ornaments made of rosemary were once used as a symbol of love, intimacy and fidelity of a couple. The presence of rosemary in one's body is believed to enhance clarity of mind and memory. Hungary water, an infusion of rosemary in spirits of wine was first prepared by the Queen of Hungary to renovate vitality of paralysed limbs and is considered to be a revitalizing agent.

There are many more myths and folklores associated with rosemary. It is believed that placing rosemary sprigs under the pillow is auspicious and would ward off evil spirits and stall nightmares and that the aroma of rosemary would keep old age at

bay. During the Middle Ages, it was believed that burning rosemary leaves and twigs would disinfect the surroundings and arrest epidemics. In Europe, wedding parties burned rosemary as incense. Judges burned it to protect against illness brought in by prisoners. Another belief associated with rosemary is related to women supremacy! If rosemary thrives in a home garden, the belief is that the house is ruled by woman! Greeks, who wore rosemary wreaths in their hair, believed rosemary strengthened the brain and enhanced memory. However, some of these myths and beliefs have an underlying scientific logic behind it, as present day studies reveal. Now it is clear that the essential oil and tannins present in rosemary leaves produce an aromatic smoke of cleansing and purifying properties! However, the scientific logic of certain other customs and myths surrounding rosemary is yet to be unravelled.



Fig.7. Rosemary

