

Grasses and their Varieties in Indian Literature

KG Sheshadri

Plot No. 30, “Lakshmy Nivas”, Railway Colony, RMV Extension, Lottegollahalli, Bangalore 560094, Karnataka, India
(email: kg_sheshadri@yahoo.com.)

Abstract

Grasses have been widely distributed all over the planet. They have been in use for various purposes since time immemorial and held sacred by our ancestors. Although grass is a general term there are several species that are still not recognized by the common man. Even astounding is that the efficacy and special uses of grasses unknown to us are discussed widely in ancient Indian texts. The present article tries to bring out the different grasses mentioned in these texts. It would be good to study, identify, and research the uses of these grasses as given in these texts.

Grasses occupy wide tracts of land in the world. They occur in all types of soil and under all climatic conditions. The grass family exceeds all other plant classes in its economic value and service to man and animals. Recognition of various types of grass and their uses have come down from immemorial times of humanity. The grass family (*Gramineae*) comprises of more than 10000 species of different grasses classified broadly under two series – *Panicaceae* and *Poaceae* (Dabadghao and Shankaranarayan, 1973). Grasses are great survivors, toughest, able to withstand being burnt, frozen, drowned, parched, grazed, or trampled upon, and regenerate fast. The values of grasses have been revered by ancient civilizations all over the world.

Grasses in the Vedas

From Vedic times, grass has been upheld to be most sacred that it was used for various

purposes. Grass was used to construct an altar (*Vedi*), to make seat, used as amulets or charms, for religious ceremonies and so on. Ancient sages have identified several types of grasses. The Rigveda (RV) identifies several types of grasses giving their qualities and uses (Arya and Joshi, 2005). Some of them are:

- *Darbha* (*Imperata cylindrica*): It has two varieties – *Kharadarbha* (*Desmostachya bipinnata*) and *Mridudarbha* (*Eragrostis ciliaris*) (RV 1.191.3). The Atharvaveda (AV) cites that its efficacy is to calm anger (AV 6.43); it is rich in roots, has 1000 leaves and 100 stalks (AV 19.32.1). It is identified with Soma as king of plants (AV 8.7.20). Botanically it has been found that it is the hardiest grass whose roots penetrate deep up to 5 feet.
- *Kusha* (*Desmostachya bipinnata*): It is termed as *kushara* (RV 1.191.3) and is generally equated with *Kharadarbha*.

- *Durva* (*doorva*; *Cynodon dactylon*): It grows on damp ground and is a species of bent grass (RV 10.16.13, 10.134.5).
- *Ulapa*: It is referred in RV 10.142.3 and AV 7.66.1.
- *Kasha* (*Saccharum spontaneum*): It is used for mats (RV 10.100.10).
- *Sara* (*Saccharum sara*): It is referred in RV 1.191.3 and AV 4.7.4. It is a reed generally used for making arrow shafts.
- *Shashpa* (young sprouting grass): It is referred in Yajurveda Samhita (YV) (19.13.81).
- *Balvaja* (*Eleusine indica*): Baskets are made out of it (RV 8.55.3). It is also referred in AV 14.2.22.
- *Sairya*: It is mentioned in RV 1.191.3. It is a species of grass infested by insects.
- *Sada*: It is referred in RV 9.15.6 and YV 25.1. It is a special species.

There are some other species of grass identified and glorified by other Vedic texts like the *Brahmanas* and *Samhitas*. Most of these are found in *Taittiriya Brahmana* (TB), *Shatapatha Brahmana* (SB), *Aitareya*

Brahmana (AB), *Taittiriya Samhita* (TS), *Maitrayani Samhita* (MS), and *Kathaka Samhita* (KS). They are:

- *Sugandhitejana* (fragrant grass): AB (1.28.28), SB (13.5.2.17), TS (6.2.8.4)
- *Veerana* (*Andropogon muricatus*; syn. *Vetiveria zyzaniodes*): SB (13.8.1.15)
- *Balvaja* (*Eleusine indica*): SB (14.1.3.11), TS (2.2.8.2), KS (10.10), MS (2.2.5)
- *Gavedhuka* (*Coix barbata* or *Coix lacryma-jobi*): SB (14.1.2.19)
- *Munja* (*Saccharum sara*): TB (3.8.1.1.), SB (6.6.1.23), TS (5.1.9.5)
- *Isheeka* (reed grass): SB (4.3.4.16), TB (3.8.4.3)
- *Barhis* (sacrificial grass): SB (1.9.2.29)
- *Ashvavala* (*Saccharum spontaneum*): SB (3.4.1.17)
- *Shumbala* (straw): Harisvamin's commentary of SB (12.5.2.3)

Grasses in the epics and Puranas

Sage Valmiki in his Ramayana mentions grass in several contexts used as seat for sacred purposes (1.3.2) and as a charmed missile (5.38.29). He also mentions *kusha* grass used for rituals (3.15.5) and for thatching cottages at *Panchavati* along with *kasha* and *shara* (3.15.22). Tulasidasa in his Ramayana states that Devi Sita speaks to Ravana after holding a straw as a screen in between.

Trinadhari ota rahata vaidehi

From Vedic times, grass has been upheld to be most sacred that it was used for various purposes. Grass was used to construct an altar (Vedi), to make seat, used as amulets or charms, for religious ceremonies and so on. Ancient sages have identified several types of grasses.

Many varieties of grass and their uses are extolled in several *Puranas*. An additional feature in *Puranas* is that the efficacious values of various grasses are mentioned. Some of these are:

- *Damanaka* (*Phragmites karka*): *Skandha Purana* (II.2.38.13) mentions this grass sprung from a place where a demon of the same name was killed by Lord Vishnu.
- *Darbha* (*Imperata cylindrica*): The *Skandha Purana* (VI.221.46) mentions that they are a must for *Shraddha* (ritual of manes). The *Garuda Purana* (II.19.19) also mentions that the Trinity dwell in the blades of *darbha*. *Agni Purana* (266.12) states that *darbha* should be used in initiation and other rituals.
- *Doorva*: The *Vamana Purana* (18.9) mentions two varieties of this grass – white and dark based on shades of green. The *Garuda Purana* (I.131.1-2) extols the virtues of worshipping this grass in *Shukla Paksha* of *Bhadrapada* as *Doorvashtami*. This is also upheld by *Bhavishya Purana*.
- *Kusha* (*Desmostachya bipinnata*) and *kasha* (*Saccharum spontaneum*): *Brahma Purana* (219.41) says that these grasses have been ‘born’ from body hairs of Lord Vishnu for protection of *Shraddha* (ritual of manes).
- *Balvaja* (*Eleusine indica*): *Vayu Purana* (75.51-52) states that this species is not liked by cattle.
- *Varana*, *lava*, and *lavavarsha*: Species of grass quoted in *Vayu Purana* (75.51-52); it is also mentioned that these

grasses are progeny of *Valli*, daughter of *Ira* (69.338-341).

Grasses in post-Vedic literature

Several *kavyas* in the Vedas, epics, and *Puranas* have immense references to the species of grasses. Kalidasa in his *Ritusamhara* (I.25, VI.25, III.1) refers to the various grasses *darbha*, *doorva*, *niladoorva*, *kasha*, *kusha*, and *shara*. *Mudrarakshasa* quotes the *kasha* grass.

The *Sushruta Samhita* (*Sutrasthana*, 38) refers to several grasses like *darbha*, *doorva*, *kasha*, *kusha*, and *shara*. Some additional grasses mentioned by Sushruta in *Sushruta Samhita* are:

- *Dhyamaka* (*Andropogon lamgier*): Used in treating *vayu* and *kapha doshas* (38.12).
- *Gundra* (*Typha angustifolia*; syn. *T. elephantina*): Known as elephant grass and used in treating urinary diseases (37.3).
- *Musta* (*Cyperus rotundus*): Known as nutgrass (10.3, 38.13, 38.26).
- *Usheera* and *nalada* (*Andropogon muricatus*; syn. *Vetiveria zizanioides*): Known as Cuscus grass (38.12).

The *Ashvavaidyaka* of Jayadatta dated to 15th century AD states that a vicious horse is to be fumigated with the fragrant grass *khus* (*Andropogon muricatus*; syn. *Vetiveria zizanioides*). Likewise an entire list of grasses to be given to elephants is enlisted in the *Yavasadyaya* of *Palakapya's Hastayurveda* (IV.24ff). The text identifies several types of grasses eaten by elephants

some of which grow in the wild. An attempt is made below to identify these grasses with available data.

Verses 24–27a

Trinavastha maharaja vijantavya vicakshanaihi | surabhi kuruvindaa va pramoda shvetapatrika|| mridushunti kareeram cha तथा vanarapucchika|| sauvastika vicitika tathalohitapatrika| rasadani giritrinam तथा parnaguha rasa| etanimadhuranyahurvipake katukani cha|| vatakopeeni bhuyishtam shleshmapittaharani cha|

The grasses *surabhi* (fragrant grass – *Boswellia serrata*), *kuruvindam* (*Vigna mungo*), *pramoda* (*Lennea grandis*), *shvetapatrika* (*Pistia stratiotes*), *mridushunti* (dry ginger – *Zingiber officinale*), *kareeram* (*Capparis aphylla*), *vanarapucchika* (*Heteropogon contortus* or *Perotis latifolia*), *sauvastika* (may be *Sauveerika* meaning a variety of *kshudrabadaribhedah* – *Madanapala Nighantu* V.6; or *vastuki* meaning *shvetacillishakah* according to *Rajanighantu* V.7), *vichitika*, *lohita-patrika* (*Leptochloa filiformis* or *shalincashaka*), *rasadani* (*Boswellia serrata* or *rasanirgundi* according to *Vaidya Nighantu*; else *prasadhani* known as *kankatika* in *Amarakosha*), *giritrina* (hill grass), *parnaguha* (grass of caves), and *rasa* (*Boswellia serrata*) are sweet and bitter on drying. They remove *vata*, *shleshma*, and *pitta* disorders.

Verses 27b–30a

Girikakshi vamshaptri nrityakandi तथाiva cha|| icchagu gankapatri ca

trinapallavikapi cha| arjunashcopalam caiva dandashookapramodakah|| trinaparnamritashchaiva तथा kakaparooshaka| etani madhuranyahurvipake tu manishinah|| pittashleshmaanilartebhyo vaaranebhya pradeeyate|

The grasses namely *girikakshi* (may be *girinimba* according to *Vaidya Nighantu* or *Balamushika* according to *Amarakosha*), *vamshaptri* (*Coccinum fenestretum*), *nrityakandi* (*Coriandrum sativum*), *icchagu* (may be *icchuka* meaning *matulunga vriksha* according to *Shabdachintamani*), *gankapatri* (*Triticum sativum*), *trinapallavika* (*Striga asiatica*), *arjuna* (*Terminalia arjuna*), *upalam* (*sharkaravaaluka* according to *Medinikosha* or *dadrughnavriksha*), *dandashooka* (*Bambusa arundinacea*), *pramodaka* (*Lennea grandis*), *triparna*, *amrita* (*Cynodon dactylon*), and *kakaparushaka* (*Clianthus puniceus alba*) are sweet and remove disorders of *pitta* and *shleshma* in elephants.

Verses 30b–35a

Ardrapatri marubaka m joornamarthavibhanjikam|| sthalajam raktadandam cha kumpalaamschaiva patrikam|kangurvarakalonikakarenu-supacheetrinam|| suparnavarivellam cha kasham kushatrinam तथा|| ulukhalam pratirasam तथा pucchakameva ca|| purusham varasomam cha तथाiva charupatrikam|| sutam cha bilvajashcaiva cikkini raktakundakam|| rookshani madhuranyahurvipake katukani cha| vatakopeeni bhuyishtam shleshmapittaharani cha|| etajjangalamuddishtam trinajaatamasamshayam||

Grasses such as *ardrapatri* (*Zingiber officinale*), *marubakam* (*Marjorana hortensis*), *joornam* (*Sorghum vulgare*), *vibhanjika* and those that are *sthalaja* grasses such as *raktadanda*, *kumpala* (may be *kushmanda* – *Benincasa hispida*), *patrika* (*Borassus flabellifer*), *kangu* (*Panicum miliaeceum* or *kaigu* grain according to *Amarakosha*), *varaka* (*Panicum miliaceum*), *lonika* [*Portulaca oleraceae* or *Patrashaaka* variety according to *Bhavaprakasha* (*Poorva Bhaga*)], *karenu* (probably a poisonous plant known generally as *karnikaphalam*; a special plant in *Sushruta Samhita* Cik.30.5), *supacheetrina*, *suparna* (*Wattakaka volubilis* or *nagakesaravriksha* according to *Paryayamuktavali*), *vaarivella* (*vaarivalli* meaning *Kaaravalli* according to *Madanapala Nighantu*; *kaarivella* meaning *kathillakavriksha* according to *Hemacandra*), *kasha* (*Saccharam spontaneum*), *kusha* (*Desmostachya bipinnata*), *ulukhala* (*Commiphora wightii*), *pratirasa*, *puchhaka* (*langoolam* according to *Amarakosha*; or may be *badarivriksha* according to *Paryayamuktavali* or *mashaparni* according to *Vaidya Nighantu*), *purusha* (*Calcophyllum inophyllum*), *varasomam* (probably *Solanam nigrum* and *Pterocarpus santalinus*), *charupatrika* (*Prumes puddum*), *sutam* (*Salvinia cucullata*), *bilvaja* (*Aegle marmelos*), *cikkiini* (*Centipeda orbicularis*), and *raktakundaka* (red variety of *Iscoemum pilosum* or *Croccus sativus* or *Nerium indicum*) are dry, sweet, and remove disorders of *vata*, *shleshma*, and *pitta* in elephants. They are mostly found growing in *Jangala* regions where there is little water and grass while heat is more).

Verses 35b–39

*Anupajam pravakshyam
rasadoshaavipakata|| shyamakam
joornapadam chashilpikam karabhitrinam|
tilaparni manjarika mahamridulika
tatha|| mahashyamakamevatha
tathaiva shakatatrinam|| prashantika
manjarika ikshuparni nalastatha||
shlakshnakarapara caiva tatha
parushapatrika|| peethakaaralagudakam
kalaayam shatapatrika|| mritaveerakapatri
cha tatha meshavishanika|| guccham
trinam shlakshnaguccham tatha
chaivekshuchaalika||*

Now narrating the grasses that grow in *Anupa* tract (low-lying regions abounding in water and marshy plants like canes, bamboos and so on) such as *shyamakam* (*Panicum frutescens*), *joornapadam* (*Sorghum vulgare*), *shilpika* (known as *kareya shimpige* in Kannada) *kaarabhitrina* (*Peucedanum graveolens*), *tilaparni* (*Cleome gynandra* or *shriveshtam* according to *Rajanighantu*), *manjarika* (*Ocimum basilicum*), *mahamridulika* (*Indigo paurifolia* or *Aloe barbadensis*), *mahashyaamaka* (*Ichnocarpus frutescens*), *shakatatrina* (*Anogeissus latifolia* or *dhavavriksha* according to *Ratnamala*), *prashantika*, *manjarika* (*Ocimum basilicum*), *ikshuparni* (leaves of sugarcane), *nala* (reed – *Phragmites*

The Ashvavaidyaka of Jayadatta dated to 15th century AD states that a vicious horse is to be fumigated with the fragrant grass khus.

roxburghii), grasses which are smooth, *parushapatrika* (*Grewia asiatica*), *pitha* (*Boswellia seratta*), *kaarala* (probably *Hyoscyamus niger*), *gudaka* (molasses rich medicine according to *Paribhasha Pradeepa*), *Kalaya* (a variety of rice or *gandadoorva* according to *Vaidya Nighantu*), *shatapatrika* (*Rosa centifolia*), *mritaveerakapatri* (*Cannabis sativa*), *meshavishanika* (*Cassia auriculata* or *Daemia extensa*), *guccha* (*Samadera indica* or *Ruta graveolens*), *Shlakshnaguccha* (soft variety of the *guccha* grass), and *ikshuchaalika* (*Asteracantha longifolia*).

The text also highlights the efficacies of grass. Grass quenches thirst, is satisfying, nourishes the mind, strengthens *grahani* (place of *Agni*), helps in equalizing imbalance of the three *doshas* as well as of blood, and nourishes the organs of sense. It states that in the rainy season one should feed elephants with the *Sthalaja* variety of grasses, in cold season those of *Jangala* and *Sthalaja* varieties, in autumn one should feed them with grasses of marshy regions, in spring with grass and bitter *kashayas*, in summer with molasses and ginger with grass.

Another Tamil work, attributed to *Gorakhar*, disciple of *Machindrar* (*Matsyendranatha*) mentions a fluorescent grass *Jyotiphul* that turn's cow milk red when immersed in it (Venkatarajan, 1960).

Some special uses of grasses

Some strange uses of special grasses are found in Sage Bharadwaja's texts *Vaimanika Shastra* and *Amshubodhini Shastra*. In the

Vaimanika Shastra (Josyer, 1973), he quotes an ancient text *Ashana Kalpa* under *Sutra* 12 stating:

Doorvashtakam munjashtakam kushashatkam tathaiva hi

(For food) there exists six kinds of *durva* grass, six kinds of hemp, and six kinds of *kusha* grass.

Strangely the *Vaimanika Shastra* also mentions various uses of grass in making equipment for aeroplanes. Some of them are:

- *Munja* and *darbha* grass used in preparation of artificial cloth *Pataprasarana yantra* as quoted in an ancient text *Kriyasara*.
- *Kusha* grass, about 38 parts, used in making a special artificial crystal called *shabdaphenamani*.
- *Kuruvinda* – Used in preparation of a special mud glass *Sunda* quoted by *Parthiva Pakakalpa*.
- A special grass *jambalika* used to make an anti-lightning glass and for a crystal *rucikamani*.
- A special grass *trinaiga* used in making cold proof glass stated by *Darpana Prakarana*.
- Acid made from grass *trinottpannadravaka* used in electric *yantra* (instrument) of *Sundara vimana*.

The *Amshubodhini* (Sharma, 1931) also quotes that a salt was extracted from white variety of *doorva* grass.

Shvetadoorvakamalapushpaksharaa shtakamatahparam||

Quoting, another text *Yantrasarvasva*, Sage Bharadwaja also describes construction of an equipment (*Indrani yantra*) out of grasses. Under this section it refers to various classes of grass, thus indicating that there was an elaborate identification and classification process of grasses. It states that the 3rd, 9th, 11th, 22nd, 30th, and 42nd classes of grass are known as *Pishangamunja*, *Pingalamunja*, *Rajjumunja* and so on. However the nature of these grasses is unknown.

Grasses in pre-modern literature and culture

Several varieties of grasses have also been recorded in the various folk literature, travel diaries, and memoirs of different European travelers who visited India. Of these some special types of grasses have been discussed below. Van Rheedee's "*Hortus Malabaricus*" (Manilal, 2003) mentions about *camapullu* (*Leptochloa malabarica*) that is eaten during times of scarcity or famine. The Kondh tribe of Orissa use the grass *jaragade* (*Coix lacryma-jobi*) as sacred food and China grass (*cheena*; *Panicum miliaceum*) as food in marriage (Pal, 1986). The Hos and Birhors have legends as to origin of *sabai* grass (*Ischeamum angustifolium*) while the Baiga tribe has legends of spear grass (*Andropogon contortus*) and thatching grass. The "Memoirs on History, Folklore and Distribution of the races of North Western Provinces of India" records several species of grass known by vernacular names (Henry, 1869) (Table 1).

In Tamil literature some special annual grasses such as *kuruthupullu* (*Chloris barbata*; feather finger grass), *nassiampullu* (*Panicum antidotale*; blue panic grass), *kuduraival pullu* (*Perotis indica*; Indian comet grass), *amaripullu* (*Setaria verticillata*; bristly foxtail grass) and some perennial grasses like *iravanpullu* (*Spinifex littoreus*) are mentioned.

Other Ayurvedic lexicons and texts recognize annual grasses such as *venupatrika* (*Oplismenus burmannii*; wavy leaf basket grass), *canikatrina*, *vrittagundatrina*, *panyandhaatrina*, *karpooratrina* (*Cymbopogon flexuosus*), *jambeeratrina* (*Cymbopogon citratus*), *markatahastrina* (*Dactyloctenium aegyptiatium*) and perennial grasses like *niladoorva* (*Cynodon dactylon*), *chorapushpi* (*Chrysopogon aciculatus*), and *garmotika* (*Coix gigantea*; aquatic Job's tears).

Conclusions

From the above discussion it is clear that the identification and study of grasses was known from ancient times. Although grass may seem to be insignificant compared to the large trees, fruit and flowering species, it remains a wonderful biological study involving the process of identification, its medicinal and other uses and its significance in religious customs. Some of the grasses mentioned in ancient literature still remain unidentified because of lack of these names in well known *Nighantu* and lexicons. Especially the grasses mentioned in the texts of *Palakapya's Hastayurveda* and the uses of grass in Sage *Bharadwaja's* texts do deserve much attention as they portray the rich scientific knowledge

Table 1. Grasses in North Western Provinces of India.

Vernacular name	Uses and qualities	English name
<i>Bekas</i>	Fodder for horned cattle; injurious to horses	Unidentified
<i>Bhada</i>	Kind of grass in poor soil	Unidentified
<i>Bisakhapara</i>	Grass used in medicine	<i>Trianthema pentandra</i>
<i>Banacari</i>	High jungle grass	Unidentified
<i>Ciracitta</i>	Grass resembling young <i>bajra</i> (<i>Pennisetum glaucum</i>); one does not feel hungry for 21 days after eating it	<i>Setaria verticillata</i>
<i>Gandara</i>	Thatching grass	<i>Andropogon muricatus</i>
<i>Gadichata</i>	Grass growing with <i>darbha</i> , three times larger	Unidentified
<i>Gandhela</i>	Sweet smelling grass	<i>Andropogon muricatus</i>
<i>Ganela</i>	Long species of thatching grass	<i>Avena fatua</i>
<i>Gargava</i>	Checks growth of rice fields; buffaloes fond of it	Unidentified
<i>Jhojhuru</i>	Known as wild indigo; eaten by camels	Unidentified
<i>Jharuva</i>	Nutritious grass for cattle to improve milk quality	<i>Panicum crusgalli</i>
<i>Jaraga</i>	Fodder especially for horses	<i>Andropogon annulatus</i>
<i>Janeva</i>	Fragrant grass cultivated with <i>kharif</i> crops	<i>Andropogon ischaemum</i>
<i>Gojha</i>	Thorny grass used as medicine	Unidentified
<i>Ganteela</i>	Knotty grass	<i>Eleusine flagellifera</i>
<i>Saravala</i>	Head bearing grass	<i>Heteropogon contortus</i>
<i>Palava</i>	Large straw	<i>Andropogon pertusus</i>
<i>Girjee</i>	Grass that grows one yard high	<i>Andropogon foveolatus</i>

known to our ancient seers. Further research on various grasses in other ancient literature such as the vast poetical and Ayurvedic texts in various regional languages may give us a wonderful database of the grass knowledge

prevalent in India. Knowing this one must appreciate and try to conserve these rich species of the home land before they are long lost to future generations.

Grass quenches thirst, is satisfying, nourishes the mind, strengthens grahani (place of Agni), helps in equalizing imbalance of the three doshas as well as of blood, and nourishes the organs of sense.

Especially the grasses mentioned in the texts of Palakapya's Hastayurveda and the uses of grass in Sage Bharadwaja's texts do deserve much attention as they portray the rich scientific knowledge known to our ancient seers.

Acknowledgment

I would like to thank the Director, MS University and Oriental Institute, Baroda for providing a photocopy of the mss. of *Amshubodhini of Maharshi Bharadwaja* and also the Secretary, Mythic Society, Bangalore for providing the necessary references.

Bibliography

Arya Ravi Prakash and Joshi, KL. 2005. *Rigveda Samhita* (with English translation according to HH Wilson and *Sayanacharya Bhashya*). Vols. I–IV. Parimal Publications, New Delhi, India.

Bhatt GP. 1993. *Skandha Puranam* (with English translation). 20 Vols. Motilal Banarsidass Publishers Private Limited, New Delhi, India.

Bhishagratna KK, Mitra J, and Dwivedi L. (Eds.) 1999. *Sushruta Samhita* (text with English translation). Vols. I–III. Chowkhambha Sanskrit Series, Varanasi, India.

Choudhury T. 1945 and 1946. *Paryayamuktavali of Haricharanasena*. Journal of Bihar and Orissa Research Society, Supplement in Vol. 31 and Vol. 32.

Chunekar KC and Pandey GC. 1998. *Bhavaprakasha of Bhavamishra*. Chowkhambha Sanskrit Series, Varanasi, India.

Dabadghao PM and Shankaranarayan KA. 1973. *The Grass Covers of India*. Indian Council of Agricultural Research, New Delhi, India.

Elliot HM. 1869. *Memoirs on History, Folklore and Distribution of the Races of North West Provinces of India*. Rearranged by John Beames. Vol. 2. Trubner and Co. Publishers, London, UK.

Griffith TH Ralph. 1990. *Shukla Yajurveda Samhita* (with English translation). Nag Publishers, Delhi, India.

Gupta Umeshchandra. 1887. *Ashvavaidyaka of Jayadatta*. Bibliotheca Indica Vol. 108. Asiatic Society, Kolkata, India. English translation by Majumdar Nripendranath in *Indian Veterinary Journal* 15(7):411, 1938–39.

Josyer GR. 1973. *Maharshi Bharadwaja's Vaimanika Shastra with Bodhananda Bhashya*. International Academy of Sanskrit Research, Mysore, India. pp. 65, 69, and 74.

Joshi KL. 2001. *Agni Puranam* (text and translation by Dutt MN). Vols. 1–2. Parimal Publications, New Delhi, India.

Joshi KL. 2004. *Atharvaveda Samhita* (with Sanskrit text, English translation according to WD Whitney and *Sayanacharya Bhashya*). Parimal Publications, New Delhi, India.

Kale MR. 2002. *Ritusamhara of Kalidasa*. Motilal Banarsidass Publishers Private Limited, New Delhi, India.

Kambhoj Jiyalal. 2003. *Vamana Puranam*. Nag Publishers, New Delhi, India.

Kashyap RL. 2004. *Krishna Yajurvediya Taittiriya Samhita*. Vols. I–III. Sri Aurobindo Kapali Shastry Institute of Vedic Culture, Bangalore, India.

Kumar Pushpendra. 1998. *Krishna Yajurvediya Taittiriya Brahmana* (with *Sayanacharya Bhashya*). Vols. I–III. Nag Publishers, New Delhi, India.

Madhyandin Vajasaneyi. 1990. *Shatapatha Brahmana* (according to *Madhyandina* recension with *Bhashya* of *Sayanacharya* and *Harisvamin*). Vols. I–V. Nag Publishers, New Delhi, India.

Manilal KS. 2003. *Hortus Malabaricus* by Henry Van Rheede. Vols. I–XII. University of Kerala, Thiruvananthapuram, India (see Vol. XII, 83.t.45).

Mudholakara Srinivasa Katti. (Ed.) 1991. *Srimad Valmiki Ramayana* (with commentaries – *Tilaka* of Rama, *Ramayana Shiromani* of Shivasahaya and *Bhushana* of Govindaraja). Parimal Publications, New Delhi, India.

Pal BC. 1986. Folklore and myths about some Indian grasses. *Quarterly Journal of Mythic Society*, Vol. LXXVII, No. 4, pp. 424–431.

Rajavaidya Pt. Ramprasad. 1990. *Madanapala Nighantu*. Khemraj Shri Krishnadass Publishers, Mumbai, India.

Satvalekar Sripada Damodar. 1985. *Kathaka Samhita*. Svadhyaya Mandal, Paradi, India.

Sharma Pt. Shivadutta. 1894. *Palakapya Hastayurveda*. Anandashram Sanskrit Series No. 26. Poona, India.

Sharma RN. 1997. *Brahma Puranam*. Nag Publishers, New Delhi, India.

Sharma TV. 1931. *Maharshi Bharadwaja's Amshubodhini Shastra* with commentary of

Bodhananda. Faredun Kershap Dadachanji and Ratanlal Mody, Kalyan, India. pp. 73 and 77 (Mss. at Baroda).

Shastri JL. 1985. *Garuda Purana* (English translation). Motilal Banarsidass Publishers Private Limited, New Delhi, India.

Shastri JL, Tagare GV, and Bhatt GP. 2003. *Vayu Purana*. Ancient Indian Tradition and Mythology Series Vol. 37–38. Motilal Banarsidass Publishers Private Limited, New Delhi, India.

Sri Santvalekar. 1942. *Maitrayani Samhita*. Svadhyaya Mandal, Oudh, India.

Tripathi Indradev. 2006. *Raja Nighantu of Narahari*. Chowkhambha Sanskrit Series, Varanasi India.

Venkatarajan S. 1960. Notes on manuscripts – *Malai Vakadam*. *Journal of Tanjore Sarasvati Mahal Library*, Vol. XIV, No. 1, 1960, pp. 1–7.