# A Translation of the New Edition of the Suśrutasaṃhitā

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Draft of 18th April 2023 © Jason Birch and Dominik Wujastyk

## Contents

The manuscripts and editions used in the vulgate editions by	ίā−
davaśarman Trivikrama Ācārya	5
The sources of the 1915 edition	. 5
The sources of the 1931 edition	. 5
The sources of the 1938 edition	. 6
Evaluation	
The 1939 edition	
The sources for the Bhānumatī	
The sources for the Suśrutasaṃhitā	. 10
Evaluation	. 10
Features of the manuscript transmission	12
Palaeographical features	. 12
Chart of characters	. 12
Sūtrasthāna, adhyāya 1	13
Sūtrasthāna, adhyāya 2	20
Literature	. 20
Sūtrasthāna, adhyāya 13: On Leeches	21
Literature	. 21
Previous scholarship	
Translation	. 21
Sūtrasthāna, adhyāya 16	26
Sūtrasthāna, adhyāya 28	24
Kalpasthāna, adhyāya 1	25
Literature	-
Manuscript notes	_
Translation	
[Threats to the king]	

Kalpasthāna, adhyāya 2	36
Introduction	36
Translation	36
The effects of poisons	41
Symptoms of tuber poisoning	42
Slow-acting poison	44
The stages of toxic shock	45
Remedies for the stages of slow poisoning	46
The invincible ghee	48
Curing the 'slow-acting' poison	48
Kalpasthāna, adhyāya 3	49
Introduction	49
Translation	49
The origin of poison	53
Patients beyond help	55
Uttaratantra, adhyāya 16 (17 in the vulgate)	57
Literature	57
Translation	57
[Complications]	66
[Characteristics of the probe]	67
[Complications]	67
Uttaratantra, adhyāya 38	70
Introductory remarks	70
Translation	72
Editions and Abbreviations	75
Index of Manuscripts	79
References	79
Glossary	100
Materia Medica Reference Works	100

Glossary and Index of Medical Substances	103
On digital critical editions	126

## Sūtrasthāna, adhyāya 13: On Leeches

#### Literature

#### Previous scholarship

Meulenbeld offered an annotated overview of this chapter and a bibliography of studies on Indian leeches and their application.<sup>49</sup>

A Persian version of this chapter of the  $Su\acute{s}rutasamhit\bar{a}$  was included in  $Sikandar~Sh\bar{a}h's~Mine~of~Medicine~(Ma'din~al-shifa'~i~Sikandar-Shah\bar{a}h\bar{\iota})$  composed in 1512 by Miyān Bhūwah b. Khawāṣṣ Khān. 50

More recently, Brooks has explored the sense of touch in relation to leeching and patient-physician interactions.<sup>51</sup>

#### **Translation**

- 1 And now we shall explain the chapter about leeches.
- The leech is for the benefit of kings, rich people, delicate people, children, the elderly, fearful people and women. It is said to be the most gentle means for letting blood.
- 4 In that context, one should let blood that is corrupted by wind, bile or phlegm with a horn, a leech, or a gourd, respectively. Or, each kind can be be made to flow by any of them in their particular way.<sup>52</sup>
- 5x And there are the following about this:

There is an insertion in the text, printed in parentheses in the vulgate at 1.13.4 (Su 1938: 55) as विशेषतस्तु विस्राव्यं शृङ्गजलोकालानुभिगृह्णीयात्. This insertion is not included in the earlier edition of the vulgate, but is replaced by स्निग्धशीतरूक्षत्वात् (Su 1931: 54). Dalhaṇa noted that, "this reading is discussed to some extent by some compilers (नि-वन्यकार), but it is definitely rejected by most of them, including Jejjhaṭa."

<sup>49</sup> HIML: IA, 209; IB, 324, n. 131.

<sup>50</sup> Siddiqi 1959: 96–109; Azeez Pasha 1971; Storey 1971: 231–232; HIML: IB, 324, n. 128; Speziale 2019: 8–9.

<sup>51</sup> Brooks 2020*a,b,c*.

<sup>52</sup> This sentence is hard to construe grammatically, although its meaning seems clear. In place of विशेषस्त, Cakrapāṇidatta and Dalhaṇa both read विशेषतस, which helps interpretation (Su 1939: 95, Su 1938: 55). It is notworthy that the critical syllable स्तु is smudged or corrected in both MS Kathmandu NAK 1-1079 and in 1-1146, a much later Devanāgarī manuscript.

- 1.13.5 The horn of cows is praised for being unctuous, smooth, and very sweet. Therefore, when wind is troubled, that is good for bloodletting.<sup>53</sup>
- 1.13.5a Having a length of seven fingers and a large body the shape of a half moon, should first be placed into a cut. A strong person should suck with the mouth.<sup>54</sup>
  - 6 A leech lives in the cold, is sweet and is born in the water. So when someone is afflicted by bile, they are suitable for bloodletting.<sup>55</sup>
  - 7 A gourd is well known for being pungent, dry and sharp. So when someone is afficted by phlegm it is suitable for bloodletting.
  - 8 In that context, at the scarified location one should let blood using a horn wrapped in a covering of a thin bladder, or with a gourd with a flame inside it because of the suction.<sup>56</sup>
  - 9 Leeches are called "jala-ayu-ka" because water (jala) is their life ( $\bar{a}yur$ ). "Home" (okas) means "dwelling;" their home is water, so they are called "water-dwellers (jalaukas)."
  - There are twelve of them: six are venomous and just the same number are non-venomous.
  - 11 Here is an explanation of the venomous ones, together with the therapy:
    - Black (kṛṣṇā)
    - Mottled (karburā)
    - Sting-gush (alagarddā)<sup>58</sup>

<sup>53</sup> The vulgate replaced "smooth" with "hot."

This passage is not found in the vulgate, but it is similar to the passage cited by Palhaṇa at 1.13.8 (Su 1938: 56) and attributed to Bhāluki. Bhāluki was the author of a *Bhālukitantra* that may have predated Jejjaṭa and might even have been one of the sources for the *Suśrutasaṇhitā* (HIML: v. IA, 689–690 *et passim*). The editor Ācārya was aware of this reading in the Nepalese manuscripts; see his note 4 on 1.13.5 (Su 1938: 55, note 4).

Note that the particular qualities (*guṇas*) of the leech in this and the following verses counteract the quality of the affliction. See Brooks 2018: 113, table 1.

There are questions about the wrapping or covering of the horn. Other versions of the text, and the commentator, propose that there may be two coverings, or that cloth may be a constituent. Comparison with contemporary horn-bloodletting practice by traditional Sudanese healers suggests that a covering over the top hole in the horn is desirable when sucking, to prevent the patient's blood entering the mouth (PBS 2020). Our understanding of this verse is that the bladder material is used to cover the mouthpiece and then to block it, in order to preserve suction in the horn for a few minutes while the blood is let.

<sup>57</sup> This is a folk etymology.

<sup>58</sup> Treating गर्दो as गल्दा and translating as in RV 8.1.20, with Jamison and Brereton

- Rainbow (*indrāyudhā*)
- Oceanic (*sāmudrikā*)
- Cow-praising (*govandanā*)<sup>59</sup>

#### Amongst these,

- The one called a Black is the colour of kohl and has a broad head;
- The one called Mottled is like the Indian mottled eel, long with a segmented (*chinna*), humped belly.
- The one called Sting-gush is hairy, has large sides and a black mouth.
- The one called Rainbow is coloured like a rainbow, with vertical stripes.
- The one called Oceanic is slightly blackish-yellow, and is covered with variegated flower patterns.
- The one called Govandana is like a cow's testicles, having a bifurcated form on the lower side, and a tiny mouth.

When someone is bitten by them, the symptoms are: a swelling at the site of the bite, excessive itching and fainting, fever, a temperature, and vomiting. In that context the Great Antidote ( $mah\bar{a}gada$ ) should be applied in drinks and liniments ( $\bar{a}lepana$ ), etc.<sup>60</sup> A bite by the Rainbow leech is not treatable. These venomous ones have been explained together with their remedies.

- 12 Now the ones without venom.<sup>61</sup>
  - Tawny (*kapilā*)
  - Ruddy (pingalā)
  - Dart-mouth (*śańkumukhī* )
  - Mouse (*mūsikā* )
  - Lotus-mouth (puṇḍarīkamukhī)
  - Sāvarikā (*sāvarikā* )

#### Amongst these,

(2014: 1023, verse 20 and cf. commentary). But if गर्द is to be taken from  $\sqrt{\eta \dot{\xi}}$  then we might have "crying from the sting."

<sup>59</sup> The manuscripts all read गोवन्दना against the vulgate's गोचन्दना.

<sup>60</sup> The "Great Antidote" is described in the Kalpasthāna, at 5.5.61–63ab (Su 1938: 578). Palhaṇa and the vulgate included errhines in the list of therapies, and Palhaṇa added that "etc." indicated showers and baths too.

The translations of the names of these leeches are slightly whimsical, but give a sense of the original; *sāvarikā* remains etymologically puzzling.

- The one called Tawny has sides that look as if they are dyed with realgar and is the colour of glossy mung beans on the back. 62
- The one called Ruddy is a bit red, has a round body, is yellowish, and moves fast.
- The one called Dart-mouth is the colour of liver, drinks fast and has a long mouth.
- The one called Mouse is the colour and shape of a mouse and has an undesirable smell.
- The one called Lotus is the colour of mung beans and has a mouth that looks like a lotus.
- The one called Sāvarikā has the colour of a lotus leaf and is eighteen centimetres long. But that one is used when the purpose is an animal.

The non-venomous ones have been explained.

13 Their lands are Yavana, Pāṇḍya, Sahya, Potana and so on.<sup>63</sup> Those in

Some scholars have identified the name with modern Bodhan in Telangana (Sircar 1971: 189; Schwartzberg, Bajpai, et al. 1978: E6, p. 14, 140 *et passim*; Sen 1988: 102), but this implausible identification is traceable to a speculative suggestion by Raychaudhuri (1953: 89, n. 5, 143) based on a variant form "Podana" found in some early manuscripts of the *Mahābhārata*: "This name reminds one of Bodhan in the Nizam's dominions," "possibly to be identified with Bodhan."

Dalhaṇa on 1.13.13 (Su 1938: 57) anachronistically identified "Yavana" as the land of the Turks (京村) and "Pautana" as the Mathurā region. He also noted, as did Cakrapāṇidatta (Su 1939: 97), that this passage was not included by some authorities on the grounds that the habitats of poisonous and non-poisonous creatures are defined by

<sup>62</sup> The compound स्निग्धमुद्भवण्णों is supported by all the manuscript witnesses and is translated here. Nevertheless, the reading of the vulgate, that separates स्निग्धा, f., "slimy" as an adjective for the leech, seems more plausible: "it is slimy and the colour of a mung bean."

This passage is discussed by Karttunen (2015: 109–110, 388–389). At the time of the composition of the *Suśrutasaṃhitā*, Yavana would most likely have referred the Hellenistic Greek diaspora communities in Bactria and India (Law 1984: 136–137; Mairs 2013; 2014). Unproblematically, the Pāṇḍya country is the extreme south-eastern tip of the Indian subcontinent (Schwartzberg, Bajpai, et al. 1978: E8, p. 20 *et passim*), and Sahya refers to the Western Ghats (Schwartzberg, Bajpai, et al. 1978: D5–7, p. 20 *et passim*). The vulgate reading "Pautana" is not a known toponymn. Potana was the ancient capital of the Aśmaka Mahājanapada mentioned in Pali sources and in inscriptions at Ajāntā and elsewhere, and identified by Law (1984: 142, 179) and P. Gupta (1989: 18) with Pratiṣṭhāna, modern Paithan on the Godavari river. The recurring ancient epithet describing the Aśmaka kingdom is that it was on the Godāvarī, and Paithan is flanked to the south west and south east by this river.

- particular have large bodies and are strong, they drink rapidly, consume a lot, and are without venom.
- In that context, the venomous leeches are those originating in decomposing venomous insects, frogs, urine, feces and in polluted water. The , non-venomous ones originate in decomposing sacred lotus, blue water-lily, white water-lily, fragrant lotus, pondweed and in pure waters.
- 15 There is a verse on this:

These ones move about in sweet-smelling habitats that are abundant with water. Traditionally, they do not behave in a confused manner or lie in the mud.<sup>65</sup>

- 16 They can be caught with a fresh hide or after being caught in other ways. 66
- Then these should be put into a large new pot furnished with mud and the water from lakes or wells. One should provide what they need to eat. One should grind up pondweed, dried meat, and aquatic tubers, and one should give them grass and aquatic leaves to lie on, and every three days water and food. Every week, one should transfer them into a different pot.
- 18 And on this:

One should not nurture those that are thick in the middle, that are

other criteria.

<sup>64</sup> The vulgate on 4.13.14 (Su 1938: 57) includes fish in this list.

<sup>65</sup> Dalhaṇa on 1.13.14 (Su 1938: 57) discussed why the leeches would not "behave in a confused manner" (सङ्कीर्णचारिन), saying that they do not "eat a diet that is unwholesome because of poison etc." (विषादिवरुद्धाहारभुजः). The use of विरुद्ध is odd here, but cf. Dalhaṇa's suggestion at 4.23.4 (Su 1938: 485) that विरुद्ध refers to the chapter on wholesome and unwholesome foods (हिताहिताध्याय, 1.20 (Su 1938: 94–99)).

<sup>66 &</sup>quot;Fresh hide" (आर्द्रचर्मन) may suggest that the animal skin still includes meat or blood that is attractive to a leech.

The Nepalese witnesses all read गृहीत्वा "having (been) caught" for the vulgate's गृह्णीयात् "one may grasp (by other means)." This is hard to construe clearly.

Dalhaṇa on 1.13.15 (Su 1938: 57) quoted "another treatise" (तन्त्रान्तरवचनात) that said that autumn is the time to collect leeches. He also explained that "other methods" of collecting leeches included smearing a leg or other limb with cream, butter or milk, etc., or using a piece of flesh from a freshly killed animal.

injured,<sup>67</sup> or thin, those that are not born in the proper habitat, those that will not attach, that drink little or those that are venomous.

- 19 First of all, get the patient who has an ailment that is treatable by leech-bloodletting to sit or lie down. Then, dry any site that has a wound with powders of earth and cow-dung. Then make them free from impurities, with their limbs smeared with Indian mustard and turmeric and moving about in the middle of a cup of water. After all this, make them attach to the ailment. Now, for those that are not attaching, add a drop of milk or a drop of blood. Alternatively, make incisions. And if it still will not attach, make other ones attach.
- One can know that it is attached when it moves in, hunching its shoulders and making a mouth like a horse's hoof. Then, one should cover it with a wet cloth and keep it there.
- Now, when there is a bite, one may know from the appearence of pricking and itching that it is receiving cleanly. Take it off. Now, it does not release because of the scent of blood: one should sprinkle its mouth with powdered rock salt.
- Then one should smear them with rice, rice grains and wild sugarcane stalks, rub their mouths with sesame oil and salt, and cause them to vomit by holding their tails in one's left hand and very slowly rubbing them with the fingers of one's right hand in the proper direction as far as the mouth until they are properly purged. A properly purged leech placed in a goblet of water moves about, wanting to eat. If it sinks, not moving, it is badly purged; one should make it vomit once again. A badly purged leech develops an incurable disease called Indramada. One that suddenly wraps itself with an unhappy head, foot and body and makes hot pain is traditionally said to have Indramada. Thus, one should keep such a one as before. 69
- After observing the proper or improper condition of the person who has been bled, one should press or bind honey to the leech's mouth. One may smear it with ointments that are astringent, sweet, oily and

<sup>67</sup> Pace Dalhana on 1.13.18 (Su 1938: 57) who glossed अमनोज्ञदर्शन as "nasty looking."

<sup>68</sup> The word इन्द्रमद is a hapax legomenon. Some Nepalese witnesses read इन्द्रपद/इन्द्रापद as this name.

<sup>69</sup> The vulgate includes "well purged" as the object in this sentence, which makes better sense.

cold.70

## 24 There is one about this:

*†When it is just drunk by the leeches, one should moisten with ghee.* And by those that should be strengthened with blood one should moisten the blood.*†* 

25 Someone who knows habitats, the capture, feeding and bloodletting of leeches is worthy to treat a king

<sup>70</sup> The vulgate expands this passage with several other techniques.

### **Editions and Abbreviations**

Ah 1939 Kuṃṭe, Aṇṇā Moreśvara, Navare, Kṛṣṇaśāstrī, and Parādkar, Hariśāstrī (1939) (eds.), श्रीमद्वाग्भटविरचितम् अष्टाङ्गहृदयम्, श्रीमद्रुणदत्त्तविरचितया सर्वाङ्गसुन्दराख्यया व्याख्यया, हेमाद्रिप्रणीतया आयुर्वेद्रसायनाह्वया टीकया च समुल्लस्तितम् = The Astāngahṛidaya (6th edn., Muṃbayyām: Nirṇayasāgara Press), ark:/13960/t3tt6967d.

Anup Anup Sanskrit Library.

Apte Apte, Vaman Shivaram (1992), *The Practical Sanskrit-English Dictionary* (Kyoto: Rinsen Book Company), ISBN: 4-653-00038-7; Reprinted from Gode and Karve 1957–59.

AS Asiatic Society.

As 1980 Āṭhavale, Anaṃta Dāmodara (1980) (ed.), अष्टाङ्गसङ्ग्रहः श्रीमद्द्र-द्धवाग्भटविरचितः इन्दुव्याख्यासहितः [= Vāgbhaṭa's Aṣṭāṅgasaṅgraha with Indu's Commentary] (Puṇe: M. A. Āṭhavale, Śrīmad Ātreya Prakāśanam), ark:/13960/s25bwqsd0n7.

AyMahā Jośī, Veṇīmādhavaśāstrī, and Jośī, Nārāyaṇa Harī (1968), आ-युर्वेदीय महाकोशः अर्थात् आयुर्वेदीय शब्दकोशः संस्कृत–संस्कृत (Muṃbaī: Mahārāṣṭra Rājya Sāhityta āṇi Saṃskṛti Maṃḍaḷa), ark:/ 13960/t22c41g8t.

Bhela 1921 Mookerjee, Ashutosh, and Ananta Krishna Shastri, Vedantabisharad (1921) (eds.), *The Bhela Samhita. Sanskrit Text* (Calcutta: University of Calcutta), ark:/13960/t3sv3157j; Based on two copies made of the Thanjavur codex unicus (MS Thanjavur TMSSML 10773, Burnell 1880: 63–4, P. P. S. Sastri 1933: #11085).

Bhela 2000 Krishnamurthy, K. H. (2000), *Bhela-saṃhitā*. *Text with English Translation*, *Commentary and Critical Notes* (Haridas Ayurveda Series, 8; Varanasi: Chaukhambha Visvabharati).

BL British Library.

Ca. 1941 Ācārya, Yādavaśarma Trivikrama (1941) (ed.), महर्षिणा पुनर्वसुनोपदिष्टा, तच्छिष्येणाग्निवेशेन प्रणीता, चरकदृढबलाभ्यां प्रतिसं-स्कृता चरकसंहिता, श्रीचकपाणिदत्तविरचितया आयुर्वेददीपिकाव्याख्यया संविलता (3rd edn., Mumbayyām: Nirnaya Sagara Press), ark:/13960/t48q2f20n.

EWA Mayrhofer, Manfred (1986–2001), Etymologisches Wörterbuch des Altindoarischen (Heidelberg: Carl Winter, Universitätsverlag), ISBN: 3-533-03826-2.

HIML Meulenbeld, Gerrit Jan (1999–2002), A History of Indian Medical Literature, 5 vols. (Groningen: E. Forsten), ISBN: 9069801248.

IOLR Eggeling, Julius, et al. (1887–1935), Catalogue of the Sanskrit Manuscripts in the Library of the India Office (London: Secretary of State for India), ark:/13960/s2kbk5zcrg9.

KEWA Mayrhofer, Manfred (1953–72), Kurzgefaßtes etymologisches Wörterbuch des Altindoarischen; a Concise Etymological Sanskrit Dictionary (Heidelberg: Carl Winter, Universitätsverlag).

KL Kaiser Library.

MN1 Ācārya, Yādavaśarma Trivikrama (1920) (ed.), महामतिश्रीमाधवकरप्रणीतं माधवनिदानम् श्रीविजयरक्षित-श्रीकण्थदत्ताभ्यां विरचितया
मधुकोशाख्यव्याख्यया, श्रीवाचस्पतिवैद्यविरचितया आतङ्कदर्पणव्याख्याया
विशिष्टांशेन च समुल्लिसितम् = Mādhavanidāna by Mādhavakara
with the Two Commentaries, Madhukosha by Vijayarakshita
& Shrīkanthadatta and Ātankadarpaṇa by Vāchaspati Vaidya
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t9z08jn5j.

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मधुकोशाख्यव्याख्यया, श्रीवाचस्पितवैद्यविरचितया आतङ्कदर्पणव्याख्याया
विशिष्टांशेन च समुल्लिसितम् = Mādhavanidāna by Mādhavakara
with the Two Commentaries, Madhukosha by Vijayarakshita
& Shrīkanthadatta and Ātankadarpaṇa by Vāchaspati Vaidya
(3rd edn., Bombay: Nirnaya Sagara Press), ark:/13960/
t66452x0h; Reprinted Varanasi: Chowkhambha, 1986.

MW

Monier-Williams, Monier, Leumann, E., Cappeller, C., et al. (1899), *A Sanskrit–English Dictionary Etymologically and Philologically Arranged, New Edition* (Oxford: Clarendon Press); 1970 reprint.

**NAK** 

National Archives of Kathmandu.

**NCC** 

Raghavan, V., et al. (1949–), New Catalogus Catalogorum, an Alphabetical Register of Sanskrit and Allied Works and Authors, 39 vols. (Madras University Sanskrit Series; Madras: University of Madras); v.1: revised edition, 1968. Searchable at https://vmlt.in/ncc/.

**NGMCP** 

NGMCP (2014), "Nepal-german Manuscript Cataloguing Project. Online Title List and Descriptive Catalogue," Universität Hamburg and Deutsche Forschungsgemeinschaft, URL.

RORI

Rajasthan Oriental Research Institute.

Su 1889

Bhaṭṭācāryya, Jīvānanda Vidyāsāgara (1889) (ed.), सुश्रुतः. सूत्र-निदान-शारीर-चिकित्सा-कल्पोत्तर-तन्त्र-कल्पित आयुर्वेद. भगवता धन्वन्तरिणोपदिष्टः सुश्रुतनामधेयेन तच्छिष्येण विरचितः (3rd edn., Calcutta: Saratī Press), ark:/13960/t1nh6j09c; HIML: IB, 311, edition b.

Su 1915

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astrologer Śudhākaraśarman of the Varanasi Sanskrit Pāthaśālā.

## **Index of Manuscripts**

The numbers after the colon refer to pages in this document.

Kathmandu NAK 1-1079: 21 Kathmandu NAK 1-1146: 21

Thanjavur TMSSML 10773: 75

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## Glossary

cow-praising - govandanā: 23	- water-dwellers: 22	piṅgalā - ruddy: 23
alagarddā - sting-gush: 22 ālepana - liniments: 23 āyur - life: 22	kapilā - tawny: 23 karburā - mottled: 22 kṛṣṇā - black: 22	puṇḍarīkamukhī -lotus-mouth: 23 rainbow -indrāyudhā: 23 ruddy -piṅgalā: 23
black - kṛṣṇā: 22	life -āyur: 22	sāmudrikā - oceanic: 23 śańkumukhī
chinna - segmented: 23	liniments - ālepana: 23 lotus-mouth	- dart-mouth: 23 sāvarikā - sāvarikā: 23
dart-mouth - śaṅkumukhī : 23	-puṇḍarīkamukhī: 23	sāvarikā - sāvarikā : 23 segmented
govandanā - cow-praising: 23 great antidote - mahāgada: 23	mahāgada - great antidote: 23 mottled - karburā: 22	- chinna: 23 sting-gush - alagarddā: 22
indrāyudhā - rainbow: 23	mouse - mūṣikā : 23 mūṣikā	tawny - kapilā: 23
jala	- mouse: 23	water - jala: 22
- water: 22 jalaukas	oceanic - sāmudrikā: 23	water-dwellers - jalaukas: 22

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CIPP Pillay, V. V. (2010), "Common Indian Poisonous Plants," in D. A. Warrell, T. M. Cox, and J. D. Firth (eds.), Oxford Text-book of Medicine (5th edn., Oxford University Press), 1371–5.

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IGP Griffiths, Mark (1994), *The New Horticultural Society Index of Garden Plants* (London: Macmillan).

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K&B Kirtikar, K. R., Basu, B. D., and an I.C.S (1987), *Indian Medicinal Plants*, ed. E. Blatter, J. F. Caius, and K. S. Mhaskar, 8 vols. (2nd edn., Dehradun: International Book Distributors); First published in Allahabad, 1918.

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## Glossary and Index of Medical Substances

amaranth (taṇḍulīyaka) Amaranthus hypochondriacus, L. See King 321, NK: v. 1, #144, Potter<sub>rev</sub>: 15. Cf. AVS: v. 1, 121, 32

axlewood (*dhava*) Anogeissus latifolia (Roxb. ex DC.) Wall. ex Guill & Perr. See AVS: v. 1, 163 f, Chopra: 20, 51

bamboo leaves (*veṇupatrikā*) Bambusa bambos, Druce. See NK: v. 1, #307, 32

beautyberry (*priyaṅgu*) ← śyāmā. Callicarpa macrophylla, Vahl. See AVS: v. 1, 334, NK: v. 1, #420. Some say also Setaria italica Beauv. GVDB: 263–264. See also GVDB: 413,

beautyberry (*śyāmā*) Callicarpa macrophylla, Vahl. See AVS: v. 1, 334, NK: v. 1, #420, 30, 32

48, 52

beggarweed (aṃśumatī) Desmodium gangeticum (L.) DC (Dymock: v. 1, 428, GJM1: 602, NK: v. 1, #1192; ADPS: 382, 414 and

AVS: v. 2, 319, 4.366 are confusing), 48 beggarweed (*vidārigandhā*) → *śālaparṇī*. Desmodium gangeticum (L.) DC. See Dymock: v. 1, 428, GJM1: 602, cf. NK: v. 1, #1192; ADPS: 382, 414 and

AVS: v. 2, 319, 4.366 are confusing, 31 black creeper (*pālindī*) Ichnocarpus frutescens, (L.) R.Br. or Cryptolepis buchanani, Roemer & Schultes. See AVS: v. 3, 141, 3.145, 3.203, NK: v. 1, #1283, 1210, ADPS: 434, 32, 35, 47, 48

blackboard tree (*saptachada*) Alstonia scholaris R. Br. GVDB: 420, 31

blackbuck (*hariṇa*) Antilope cervicapra, L. See BIA: 270 IW: 95, 165, *et passim*, 35

blue water-lily (*utpala*) Nymphaea stellata, Willd. See GJM1: 528, IGP 790; Dutt: 110, NK: v. 1, #1726, 25, 30, 47, 48

cardamom ( $el\bar{a}$ ) Elettaria cardamomum, Maton. See AVS: v. 2, 360, NK: v. 1, #924, Potter<sub>rev</sub>: 66, 48, 52

cassia cinnamon (*patra*) Cinnamomum tamala, (Buch.-Ham.) Nees. See AVS: v. 2, 84, NK: v. 1, #589, 32, 48

castor oil tree (gandharvahasta)  $\rightarrow eranda$ . GVDB: 135, K&B: v. 3, 2277, 28

castor-oil (*eraṇḍa*) Ricinus communis, L. See NK: v. 1, #2145, Chopra: 214, 33

certain minerals (tārāvitāra) Unknown. It is not even certain that these are minerals. The variant reading in the vulgate, tāraḥ sutāraḥ was glossed by

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Dalhana on 5.3.14 (Su 1938: 568) as
   follows tāro rūpyam, sutārah pāradah,
   "tāra means silver; sutāra means
  mercury.", 52
chebulic myrobalan (harītakī) Terminalia
  chebula Retz. GVDB: 466, 31
cherry (elavālu) Prunus cerasus, L.?. See
   BVDB 58, NK: v. 1, #2037, GVDB: 58, 48
chital deer (prsata) Axis axis, Erxleben.
  See BIA: 292, IW: 93, 35
cobra's saffron (n\bar{a}gapuṣpa) \rightarrow n\bar{a}gakeśara.
  Mesua ferrea, L. See NK: v. 1, #1595,
  GVDB: 220, 48
corky coral tree (pāribhadra) Erythrina
  suberosa Roxb. See GVDB 245, 51
costus (kustha) Saussurea costus, Clarke.
                                                 #49, 30
  See NK: v. 1, #2239, 32, 48, 52
country mallow (atibalā) Abutilon
  indicum, (L.) Sweet, but may be other
  kinds of mallow, e.g., Sida rhombifolia,
  L.. See NK: v. 1, #11, IGP: 1080, NK: v. 1,
  #2300, ADPS: 71, 77, 31
country sarsaparilla (anantā)
  Hemidesmus indicus, (L.) R. Br. See
   ADPS: 434, AVS: v. 3, 141-5, NK: v. 1,
  #1210. But see GVDB: 13 for
  complications that may suggest that it
  is to be equated with sārivā, which may
  sometimes be Cryptolepis or
  Ichnocarpus fruitescens R. Rr.
   (GVDB: 429-431), 31, 37, 47, 48, 51
crape jasmine (nata) \rightarrow crape jasmine
  GVDB: 215, 104, 105
crape jasmine (tagara) Tabernaemontana
  divaricata (L.) R.Br. ex Roem. &
  Schultes. See GJM1: 557, AVS: v. 5, 232.
  Synonym of crape jasmine. But some
  say Valeriana jatamansi, Jones See
  GVDB: 173–174 for discussion (and
  charming comments on brain liquid
   testing). Some say tagara is Indian
   rose-bay or Indian valerian, but there
   remain many historical questions about
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the ancient and regional identities of

this plant See, e.g., AVS: v. 5, 334, 32,

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48, 104, 105
crimson trumpet-flower tree (pātalā)
  Stereospermum chelonides, (L. f.) A.
  DC. See GJM1: 573, AVS: v. 5, 192 ff,
  ADPS: 362 f, AVS: v. 3, 1848 f, IGP 1120,
  Dymock: v. 3, 20 ff, 51
cuscus grass (uśīra) Andropogon
  murcatus, Retz. Also "vetiver grass."
  See NK: v. 1, #180, 32
datura (dhattūra) Datura metel, L. See
   AVS: v. 2, 305 (cf. Abhidhānamañjarī),
  NK: v. 1, #796 ff. Potter<sub>rev</sub>: 292 f,
   ADPS: 132, 28
decanted liquor (surāmanda)
  K&B: v. 2, 502, NK: v. 2, appendix VI,
deodar (bhadradāru) Cedrus deodara,
   (Roxb.ex D.Don) G. Don. See AVS 41,
  NK: v. 1, #516, 48
dried meat (vallūra) MW: 929,
   AyMahā: v. 1, 730. The term is used,
  rarely, in both the CS (1.5.10) and SS
   (1.13. 16, 6.42.75–76). It is a Dravidian
  loanword and occurs in the Arthaśāstra
  etc. (KEWA: v. 3, 167), 25
elixir salve (ras\bar{a}\tilde{n}jana) \rightarrow a\tilde{n}jana. See
  Indian barberry, 33
embelia (vidanga) Embelia ribes, Burm. f.
  See ADPS: 507, AVS: v. 2, 368, NK: v. 1,
  #929, Potter<sub>rev</sub>: 113, 48
emetic nut (madana) Randia dumetorum,
   Lamk. See NK: v. 1, #2091, 30
false daisy (subhangura) (su) bhangura =
  bhrnga? Eclipta prostrata (L.) L. See
  GVDB: 288, 37
fermented rice-water (dh\bar{a}ny\bar{a}mla) \rightarrow k\bar{a}\tilde{n}j\bar{\imath},
  kāñjikā, sauvīra. GVDB: 458, NK: v. 2,
  appendix VI, #18, 30
fern (ajaruhā) Nephrodium species
  GVDB: 7, uncertain. Perhbaps
  Christella dentata(Forssk.) Brownsey
  & Jermy, which is reported to have folk
  applications against skin diseases in
  India, 34
fire-flame bush (dhātakī) Woodfordia
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fruticosa (L.) Kurz. See AVS: v. 5, 412,
                                                    crape jasmine and crape jasmine
   NK: v. 1, #2626, 31
                                                    (GVDB: 354), 52
fragrant lotus (saugandhika) A type of
                                                 Himalayan monkshood (ativiṣā)
   kumuda or utpala (GVDB: 457), 25
                                                    Aconitum heterophyllum Wall.
garjan oil tree (aśvakarna) Dipterocarpus
                                                    GVDB: 12, NK: v. 1, #39. Also "atis
   turbinatus Gaertn. f. See GVDB: 28,
                                                    roots", 33, 35, 52
                                                 hogweed (punarnavā) Boerhaavia diffusa,
   Chopra: 100, 51
giant potato (k \bar{s} \bar{\imath} r a v i d \bar{a} r \bar{\imath}) possibly \rightarrow
                                                    L. See ADPS: 387, AVS: v. 1, 281,
   ksīraśukla. Ipmoea mauritiana, Jacq.
                                                    NK: v. 1, #363, 33, 47
   See ADPS: 510, AVS: v. 3, 222, AVS: v. 3,
                                                 Holostemma creeper (j\bar{\imath}vant\bar{\imath}) \rightarrow
   1717 ff, 106–108
                                                    sūryavallī? Holostemma ada-kodien,
ginger (mahausadha) Zingiber officinale,
                                                    Schultes. See ADPS: 195, AVS: v. 3, 167,
   Roscoe. See ADPS: 50, NK: v. 1, #2658,
                                                    NK: v. 1, #1242, AVS: v. 3, 1619, 107
   IGP: 1232, 35
                                                 horned pondweed (śaivāla) also śaivāla,
gold (hema) gold, 48
                                                    śevāra. Zannichellia palustris L. The
gold and sarsaparilla (surendragopa)
                                                    uncertainties of this identification are
   Unknown. Dalhana on 5.3.15
                                                    discussed by Singh and Chunekar
   (Su 1938: 568) glossed surendra as
                                                    (GVDB: 409). Sometimes identified
   "gold" and gopā as "Indian
                                                    with scutch grass (d\bar{u}rv\bar{a}) (GVDB: 409).
   sarsaparilla." He also noted other
                                                    Identified as Ceratophyllum demersum
   opinions that surendra was "Tellicherry
                                                    Linn. ("hornwort") by
   bark", 52
                                                    AVS: v. 2, 56–57x, 105, 107
                                                 hornwort (jalaśūka) \leftarrow jalanīlikā.
golden shower tree (rājadruma) rājadruma
   = āragvadha. Cassia fistula L. See
                                                    Ceratophyllum demersum, L. See
   GVDB 37, 51
                                                    AVS: v. 2, 56, IGP: 232. Singh and
gourd (alābu) Lagenaria siceraria Standl.
                                                    Chunekar (GVDB: 166) suggest horned
   GVDB: 25. Some say Lagenaria
                                                    pondweed. Dalhana noted on 1.16.19
   vulgaris, Seringe (NK: v. 1, #1419) but
                                                    (Su 1938: 79) that some people
                                                    interpret it as a poisonous, hairy,
   this is not appropriate for blood-letting,
                                                    air-breathing, underwater creature, 31
   21, 22, 31
heart-leaf sida (balā) Sida cordifolia, Linn.
                                                 Indian barberry (a\tilde{n}jana) \rightarrow ras\bar{a}\tilde{n}jana,
                                                    dāruharidrā. Berberis aristata, DC.
   See ADPS: 71, NK: v. 1, #2297, 31, 48
                                                    Dymock: v. 1, 65, NK: v. 1, #335,
heart-leaved moonseed (amrt\bar{a}) \rightarrow gud\bar{u}c\bar{\iota}.
   Tinospora cordifolia, (Willd.) Hook.f.
                                                    GJM1: 562, IGP: 141, 33, 34, 104
                                                 Indian barberry (dāruharidrā) Berberis
   & Thoms.?. See ADPS: 38, NK: v. 1,
                                                    aristata, DC. See Dymock: v. 1, 65,
   #2472, 624, Dastur #229, 32, 47
heart-leaved moonseed (somavallī)
                                                    NK: v. 1, #685, GJM1: 562, IGP 141,
   Tinospora cordifolia (Thunb.) Miers.
                                                    47, 48
   GVDB: 456. Likely, but uncertain, 32
                                                 Indian barberry (k\bar{a}l\bar{\imath}yaka) \rightarrow d\bar{a}ruharidr\bar{a},
henna (madayantikā) Lawsonia inermis, L.
                                                    añjana. Berberis aristata, DC. See
                                                    Dymock: v. 1, 65, NK: v. 1, #685,
   See AVS: v. 3, 303, NK: v. 1, #1448,
   Potter<sub>rev</sub>: 151, 33
                                                    GJM1: 562, IGP: 141, 32
Himalayan mayapple (vakra)
                                                 Indian ipecac (payasyā) Uncertain.
   Podophyllum emodi, Wall.
                                                    Possibly Tylophora indica (Burm.f.)
   (NK: #1971). But perhaps a synonm of
                                                    Merr. Perhaps a synonym of panacea
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twiner, giant potato, purple roscoea,
and plants like asthma plant and Gulf
sandmat (GVDB: 237-238). Also
"curds" when not a plant, 31, 107
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Indian kudzu ( $vid\bar{a}r\bar{t}$ )  $\rightarrow payasy\bar{a}$ . Pueraria tuberosa (Willd.) DC. See ADPS: 510, AVS: v. 1, 792 f, AVS: v. 4, 391; not Dymock: v. 1, 424 f. See GJM2: 444, 451, AVS: v. 1, 187, but AVS: v. 3, 1719 = Ipmoea mauritiana, Jacq, 31

Indian madder (mañjisthā) Rubia cordifolia, L. See IGP, Chopra: 215, GVDB: 289, 28, 48

Indian mottled eel (varmimatsya) Almost certainly the mottled eel. MW: 962c noted that the *varmi* fish "is commonly called vāmi." The "vam fish," or "বান মাছ (bān māch)" in Bengal, is a marine and freshwater eel, *Anguilla bengalensis*. It is the most common eel in Indian inland waters and a prized food fish (Froese and Pauly 2022). However, some NIA languages identify the "vam" fish with the Indian Pike Conger, Congresox talabonides (Bleeker) (Talwar and Kacker 1984: 235, 236), 23

Indian mustard (sarṣapa) Brassica juncea, Czern. & Coss. See AVS: v. 1, 301, NK: v. 1, #378, 26

Indian sarsaparilla  $(s\bar{a}riv\bar{a}) \rightarrow anant\bar{a}$ . Hemidesmus indicus, (L.) R. Br. ADPS: 434, AVS: v. 3, 141-5, NK: v. 1, #1210; and black creeper, pālindī. Ichnocarpus frutescens, (L.) R.Br. or Cryptolepis buchanani, Roemer & Schultes AVS: v. 3, 141, 3.145, 3.203, NK: v. 1, #1283, 1210, ADPS: 434, 47, 48, 105

jambul (*jambū*) Syzygium cumini, (L.) Skeels. See ADPS: 188, NK: v. 1, #967, Potter<sub>rev</sub>: 168, Wujastyk 2003*a*, 31

jasmine (*mālatī*) Jasminium grandiflorum, L. See NK: v. 1, #1364, 32

jequirity (guñjā) Abrus precatorius, L. See AVS: v. 1, 10, NK: v. 1, #6, Potter<sub>rev</sub>: 168,

lac (lākṣā) Kerria lacca (Kerr.). See GJM1: 445, NK: v. 2, #32. Watt (Watt $_{Comm}$ : 1053–1066) is characteristically informative, and is definite about the antiquity of lac in India, 52

liquorice (?) (klītaka) Glycyrrhiza glabra, L.? GVDB: 123–124 discuss the many difficulties in identifying this plant, 37 liquorice (madhuka) see yastīmadhuka, 31, 35, 46, 48

liquorice (yaṣṭīmadhuka) Glycyrrhiza glabra, L. AVS: v. 3, 84, NK: v. 1, #1136, GVDB: 329 f., 33

lodh tree (lodhra) Symplocos racemosa, Roxb. See GJM1: 597, ADPS: 279 f, NK: v. 1, #2420. Singh and Chunekar (GVDB: 351–352) notes that there are two varieties, S. racemosa, qualified as śāvara, and S. crataegoides Buch.-Ham. for pattikā lodhra, 48

long pepper (māgadha) Piper longum, L. See NK: v. 1, #1928; but cf. AVS: v. 3, 245, 34

long pepper (pippalī) Piper longum, L. See ADPS: 374, NK: v. 1, #1928, 35, 48

luffa ( $kos\bar{\imath}tak\bar{\imath}$ ) =  $kos\bar{\imath}tak\bar{\imath}$ . Luffa cylindrica, (L.) M. J. Roem. or L. acutangula, (L.) Roxb. ADPS: 252–253, NK: v. 1, #1514 etc. GVDB: 121, 31, 47, 106

luffa gourd ( $kośavat\bar{\imath}$ ) =  $kos\bar{\imath}tak\bar{\imath}$ , luffa, 47 mango (āmra) Mangifera indica Linn. GVDB: 37, 31

marking-nut tree (bhallātaka) Semecarpus anacarium, L. See NK: v. 1, #2269, AVS: v. 5, 98, 34

medhshingi (vijayā2) Dolichandrone falcata (DC.) The Sauśrutanighanţu gives a number of synonyms for *vijayā* (Suvedī and Tīvārī 2000: 5.77, 10.143). But one of them, visānī (also *meṣaśrṅgī*), is sometimes equated with Dolichandrone falcata (DC.) Seemann (ADPS: 518; GVDB: 373 f, a plant used

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as an abortifacient and fish poison
   (NK: #862), 37
migraine tree (agnimantha) Premna
  corymbosa, Rottl. See AVS 1927,
   ADPS: 21, NK: v. 1, #2025,
  AVS: v. 4, 348; GJM1: 523: = P.
  integrifolia/serratifolia, L, 47
milk-white (kṣīraśuklā) An unidentified
  plant. GVDB: 126: see purple roscoea
  and giant potato, 31, 108
monitor lizard (godhā) Varanus
  bengalensis, Schneider. See
  Reptiles: 58, 31, 35
mung beans (māṣaka) Phaseolus mungo
   Linn. GVDB: 308, 32
myrobalan (abhayā) Terminalia chebula,
  Retz. See ADPS: 172, NK: v. 1, #2451,
  Potter<sub>rev</sub>: 214, 47, 52
natron (suvarcikā) Sodium carbonate.
  NK: v. 2, #45. Dalhana identifies
  suvarcikā with svarjikṣāra 4.8.50
   (Su 1938: 441), 48
neem tree (nimba) Azadirachta indica A.
  Juss. GVDB: 226, 28
nutgrass (kuruvinda) Unknown. Dalhana
  on 5.3.15 (Su 1938: 568) glossed the
  term as nutgrass, but noted other
  opinions that it was a whetstone or a
  very special metallic gem. Singh and
  Chunekar (GVDB: 108) added that it
  could be a variety of rice, sastika dhānya,
   52
nutgrass (mustā) Cyperus rotundus, L.
  See ADPS: 316, AVS: v. 2, 296, NK: v. 1,
  #782, 107
panacea twiner (arkapuṣp\bar{\imath}) \rightarrow arkaparn\bar{\imath},
  Tylophora indica (Burm. f.) Merr.
  GVDB: 23–24. Maybe identical to
  Indian ipecac, giant potato and similar
  sweet, milky plants. See GVDB: 24, 127,
  238, 441, 443 for discussion. For
  discussion in the context of
  Holostemma creeper, see ADPS: 195
  and AVS: v. 3, 171. The etymology of
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the name suggests Helianthus annus

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Linn., but this plant is native to the
  Americas, 47, 105
peas (harenu) harenu = satīna. Pisum
  sativum, L. Singh and Chunekar
   (GVDB: 419–420, 467–468) notes that
  two plants are usually meant under this
  name, but there is no agreement on the
  identity of the second, 47, 48, 52
peepul tree (aśvattha) Ficus religiosa, L.
  See ADPS: 63, 55
periploca of the woods (meṣaśṛṅga)
  Gymnema sylvestre (Retz.) R. Br. See
  AVS: v. 3, 107, NK: v. 1, #1173, 34
plants like asthma plant and Gulf
  sandmat (kṣīrinī) various milky plants,
  perhaps including Euphorbia hirta
  Linn. (asthma plant) and E.
  microphylla Heyne (Gulf sandmat)
   (GVDB: 127), 106
pointed gourd (patola) Trichosanthes
  dioica, Roxb. GVDB: 232-233, 47
poison berry (bṛhatī) Solanum violaceum,
  Ortega. See ADPS: 100, NK: v. 1, #2329,
  AVS: v. 5, 151, 47, 48
pondweed (paripelavā) Normally a neuter
  noun. Singh and Chunekar
  (GVDB: 238, 264–265, 409) argued that
  plava and śaivāla are the same thing, and
  may be either Zannichellia palustris, L.,
  or Potamogeton pectinatus, L, 48
pondweed (śevāla) Zannichellia palustris
  L. See horned pondweed, 25
prickly chaff-flower (apāmārga)
  Achyranthes aspera, L. See GJM1: 524 f,
  AVS: v. 1, 39, ADPS: 44 f, AVS: v. 3,
  2066 f, Dymock: v. 3, 135, 28, 31
purging nut (m\bar{u}sik\bar{a}) Jatropha curcas, L.
  See AVS: v. 3, 261, NK: v. 1, #1374, 34
purple calotropis (arka) Calotropis
  gigantea, (L.) R. Br. See ADPS: 52,
  AVS: v. 1, 341, NK: v. 1, #427,
  Potter<sub>rev</sub>: 57, Chopra IDG: 305–308, 31
purple roscoea (kṣīrakākolī) GVDB: 89
  notes that many physicians use Roscoea
  procera Wall. in this context. But the
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identification is uncertain. Possibly
   connected to milk-white or giant
   potato., 106, 107
rajmahal hemp (morața) \rightarrow m\bar{u}rv\bar{\iota},
   Marsdenia tenacissima (Roxb.) Wight
   et Arn. Good discussion at
   GVDB: 314-316, 324, 47
red chalk (gairika) gairika, 48
red gourd (bimbī) Coccinia indica, W. &
   A. See PVS 1994.4.715; NK: v. 1, #534, 31
rice (śāli) Oriza sativa, Linn.
   GVDB: 395-396, 26, 108
rice grains (taṇḍula) Oriza sativa, Linn.
   Same as rice (\hat{sa}li) GVDB: 174, 26
rock salt (saindhava) See NK: v. 2, M#48,
   Watt<sub>Comm</sub>: 963–971, 26
rosha grass (dhyāmaka) Cymbopogon
   martinii (Roxb.) Wats. See
   AVS: v. 2, 285, NK: v. 1, #177, 48
sacred lotus (padma) Nelumbo nucifera,
   Gaertn. See NK: v. 1, #1698, 25, 32
sage-leaved alangium (ankolla) Alangium
   salvifolium (Linn. f.) Wang.
   GVDB: 5-6, 31
sandalwood (candana) Santalum album,
   L. See ADPS: 111, NK: v. 1, #2217, 48
sappanwood (pattānga) Also pattanga.
   Caesalpinia sappan, L. AVS: v. 1, 323,
   K&B: v. 2, 847 f, GVDB: 234, 33
scarlet mallow (bandhujīva) Pentapetes
   phoenicea, L. NK: #1836, GVDB: 268, 33
scented pavonia (bālaka) Pavonia odorata,
   Willd. See ADPS: 498, NK: v. 1, #1822,
   48
scutch grass (dūrvā) Cynodon dactylon
   (Linn.) Pers. (GVDB: 205), 105
selu plum (śelu) Cordia myxa, L. non
   Forssk. See GJM1: 529 (2), IGP: 291b, cf.
   AVS: v. 3, 1677 f; cf. AVS: v. 2, 180 (C.
   dichotoma, Forst.f.), NK: v. 1, #672 (C.
   latifolia, Roxb.), 47
sesame oil (taila) Sesamum indicum L.
   GVDB: 183, 32
siris (śirīsa) Albizia lebbeck, Benth. See
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AVS: v. 1, 81, NK: v. 1, #91, 47

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siris seeds (śirīsamāsaka) Albizia lebbeck,
   Benth. See AVS: v. 1, 81, NK: v. 1, #91, 31
small-flowered crape myrtle (sidhraka)
  Lagerstroemia parviflora Roxb. See
  GVDB: 432, 51
spikenard (māṃsī) Nardostachys
  grandiflora, DC. See NK: v. 1, #1691, 48
spikenard (nalada) \rightarrow māmsī.
  Nardostachys grandiflora, DC. See
  NK: v. 1, #1691, 29
sugar (sitā) Dalhaṇa makes this equation
  at 1.37.25 (Su 1938: 162), 48
sunflower (s\bar{u}ryavall\bar{\iota}) \rightarrow \bar{a}dityavall\bar{\iota},
  sūryamukhī, Helianthus annūs Linn.
  GVDB: 35, 443, 47
sweet plants (madhuravarga) The sweet
  plants are enumerated at
  Suśrutasamhitā 1.42.11. See also
  GVDB: 127, 31
sweet-scented oleander (aśvamāraka)
  Nerium oleander, L. See ADPS: 223,
  NK: v. 1, #1709, 37
Tellicherry bark (kutaja) Holarrhena
   pubescens Wall. ex G.Don, with
  Wrightia tinctoria and W. arborea
  considered GVDB: 101-102,
   ADPS: 267-270, 105
thorn apple (karambha) Datura metel, L.
  See AVS: v. 2, 305 (cf.
  Abhidhānamañjarī), NK: v. 1, #796 ff.
  Potter<sub>rev</sub>: 292 f, ADPS: 132, 38
three heating spices (tryūṣaṇa) śuṇṭhī
   (Dried ginger) Zingiber officinale,
  Roscoe. ADPS: 50, NK: v. 1, #2658,
  AVS: v. 5, 435, IGP 1232, pippalī (long
  pepper) Piper longum, L.ADPS: 374,
  NK: v. 1, #1928, and marica (black
  pepper) Piper nigrum, L.ADPS: 294,
  NK: v. 1, #1929, 47
three-leaved caper (varuṇa) Crataeva
  magna (Lour.) DC. See AVS: v. 2, 202;
  cf. NK: v. 1, #696, 34
tree cotton (kārpāsa) G. arboreum L.
   ADPS: 231. Pace the identifications of
  Singh and Chunekar (GVDB: 92, 247),
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since G. barbadense L. is native to
                                                   (Roxb.) Benth. See GVDB 98, NK: v. 1,
   South America and G. herbaceum L.
                                                  #93, 47
   which is native to Africa, 28
                                               white water-lily (kumuda) Nymphaea
tree cotton (picu) See kārpāsa, 30, 33
                                                  alba, Linn. GVDB: 105, 25
turmeric (haridrā) Curcuma longa Linn.
                                               wild asparagus (bahuputr\bar{a}) \rightarrow nandana?
                                                  Asparagus racemosus, Willd. See
   GVDB: 465, 47, 52
turmeric (rajanī) Curcuma longa, L.
                                                  ADPS: 441, AVS: v. 1, 218, NK: v. 1,
                                                  #264, IGP: 103, AVS: v. 4, 2499 ff,
   ADPS: 169, AVS: v. 2, 259, NK: v. 1,
   #750, 26, 48
                                                  Dymock: v. 3, 482 ff, 33
                                               wild celery (agnika) \rightarrow may be bhal\bar{a}taka,
velvet-leaf (pāṭhā) Cissampelos pariera, L.
   See ADPS: 366, NK: v. 1, #592,
                                                  lāngalī, ajamodā, moraţa, or agnimantha,
   GJM1: 573, AVS: v. 1, 95; cf.
                                                  GVDB: 4. Uncertain, 47
   AVS: v. 2, 277, 47
                                               wild celery (ajamodā) Apium graveolens,
velvet-mite (indragopa) Kerria lacca
   (Kerr.). Lienhard 1978, 30
                                               wild sugarcane stalks (k\bar{a}nda) \rightarrow \acute{s}ara,
verbena (phañjī) Clerodendrum serratum,
                                                  muñja Saccharum munja Roxb.
   L. See AVS: v. 2, 121, ADPS: 87, 33
                                                  GVDB: 90, 391, 26
watered buttermilk (udaśvit) MW: 183, 31
                                               Withania (aśvagandhā) Withania
weaver's beam tree (muskaka) Schrebera
                                                  somnifera (L.) Dunal. See AVS: v. 5,
   swietenioides, Roxb. See AVS: v. 5, 88,
                                                  409 f, Dymock: v. 2, 566 f., Chevallier
   Lord, NK: v. 1, #2246, 51
white calotropis (alarka) Calotropis
                                               wood apple (kapittha) Limonia acidissima,
   procera, (Ait.) R. Br. See NK: v. 1, #428,
                                                  L. See AVS: v. 3, 327, NK: v. 1, #1021,
   Chopra: 46b, Chopra IDG: 305–308, 31
white clitoria (śvetā) \rightarrow giryāhvā. Clitoria
                                               woodrose (mūṣikakarṇī) Jatopha curcas, L.
   ternatea, L. See AVS: v. 2, 129, NK: v. 1,
                                                  AVS: v. 3, 261, NK: v. 1, #1374.
   #621, 32
                                                  GVDB: 317; ADPS: 23-25 discuss this
white cutch tree (somavalka) Acacia
                                                  issue well, 32
   polyacantha, Willd. See AVS: v. 1, 30,
                                               vellow-berried nightshade (ksudrā)
   IGP 7, GJM1: 602, AVS: v. 2, 935; pace
                                                  Solanum virginianum, L. See
   NK: v. 1, #1038, 33, 51
                                                  ADPS: 100, NK: v. 1, #2329,
white siris (kiṇihī) Albizia procera,
                                                  AVS: v. 5, 164, 47, 48
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## **Todo list**

Cf. Arthaśāstra 1.21.8	28
I'm still unhappy about this verse	31
Mention this in the introduction as an example of the scribe know-	
ing the vulgate	31
fn about sadyas+	31
Bear's bile instead of deer's bile	32
punarṇṇavā in the N & K MSS	33
śrita for śṛta	33
explain more	33
Medical difference from Sharma	34
example where the vulgate clarifies that these should be used sep-	
arately; appears to be a gloss inserted into the vulgate text	34
The two uses of prāpta are hard to translate. prāptā $h \rightarrow k$ ṣipra $m$ is	
an example of the vulgate banalizing the Sanskrit text to make	
sense of a difficult passage	34
$\sqrt{\text{vyadh not }\sqrt{\text{vedh (also elsewhere and for the ears)}}}$ , causative	
optative	34
opposite of the vulgate Same as 1.8.89 (As 1980: 79)	35
-> ativișa	43
Look up the ca. reference	43
Come back to the issue of "kalpa". Look up passages in the Kośa.	49
write footnote: don't repeat ativiṣā; vulgate similar to H	52
material corresponds to SS.1.45.205ab, where it describes how al-	
cohol affects the body.	55
where is cutting with a knife related to removing bile or phlegm	57
maṣī burned charcoal. Find refs	58
find ref	63
Check out these refs	64
meaning of kalpa	64
or a dual?	68