

A Translation of the New Edition of the  
*Suśrutasamhitā*

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## Sūtrasthāna, adhyāya 1

- 1 Now I shall narrate the chapter on the origin of this knowledge.<sup>23</sup>
  - 2 Now, as is well-known, Aupadhenava, Vaitaraṇa, Aurabhra, Puṣkalāvata, Karavīra, Gopurarakṣita, Bhoja, Suśruta and others addressed Lord Divodāsa, king of Kāśi, the best of the immortals, who was in his ashram surrounded by an entourage of sages.<sup>24</sup>
  - 3 “O Lord, distress arose in our minds after witnessing people thrashing about with cries, assailed by different kinds of pain and injury (*vedanā-bhigāta*), feeling helpless in spite of having friends, because of diseases arising from the body, the mind and external sources.
  - 4 “To quell the illnesses of those who seek happiness and for our own purpose of prolonging life, we desire the science of life (*āyurveda*) that is being taught. Welfare, both in this world and in the next, depends upon it. Therefore, we have come to the Lord in pupillage.”
  - 5 The Lord said to them:  
“Welcome to you! My children, all of you are beyond reproach and worthy to be taught.
  - 6 “As is well known, Ayurveda is the name of what is said to be the subsidiary part of the Atharvaveda. Before creating people, Svayambhū composed it in hundreds of thousands of verses and a thousand chapters and, after observing the short lifespan and low intelligence of people, he presented it again in eight parts.<sup>25</sup>
  - 7 “Surgery, treatment of body parts above the clavicle, general medicine, knowledge of spirits, care of children, and the disciplines of antidotes,
- 
- 23 Ḍalhaṇa understood the word “knowledge (*veda*)” as specifically “medical knowledge.” He said that the word “longevity” (*āyur*) had been elided. After this opening statement, later manuscripts and commentaries include the attribution, “as the venerable Dhanvantari stated.” The absence of this statement in the early Nepalese manuscripts is highly significant because it removes the outer narrative frame of the *Suśrutasaṃhitā* (Wujastyk 2013b: 148; Klebanov 2021a: § 3.1.2; Rai 2019; Birch, Wujastyk, Klebanov, Parameswaran, et al. 2021). On the figure of Dhanvatari in medical literature, see HIML: IA 358–361.
  - 24 On these persons, see HIML: IA 361–363, 369 ff. The authority Bhoja does not appear in the list as published in the vulgate edition (Su 1931: 1), and was not included in HIML amongst “authorities mentioned in the *Suśrutasaṃhitā*.” Meulenbeld gathered textual evidence about Bhoja at HIML: IA 690–691. Klebanov (2021b) has discussed these authors in the context of an anonymous commentary on the *Suśrutasaṃhitā* that cites them.
  - 25 Svayambhū is another name for Brahmā, the creator.

- rejuvenation and aphrodisiacs.
- 8 “Now, a collection of the characteristics of each component of Āyurveda.
- 9 “Among them, [the component] called surgery has the goal of extracting various grasses, wood, stone, dust, iron (?), soil, bone, hair, nails, discharge of pus, malignant wounds and foreign bodies inside the womb, and of determining the application of surgical instruments, knives, caustics and fire by means of sixty definitions.
- 10 “[The component] named the doctrine of treating body parts above the clavicles has the aim of curing diseases situated above clavicles that is, diseases located in ears, eyes, mouth, nose and so on.
- 11 “[The component] called general medicine has the goal of curing illnesses established in the whole body and [diseases] such as fever, tumour, swelling, hemorrhagic disorders, insanity, epilepsy, urinary diseases, diarrhoea and the like.
- 12 “[The component] called knowledge of spirits is for appeasing demons by pacification rites and making food offerings for those whose minds have been possessed by gods, their enemies,<sup>26</sup> Gandharvas, Yakṣas, demons, deceased ancestors, Piśācas, Vināyakas,<sup>27</sup> Nāgas and evil spirits that possess children.
- 13 “[The component] called care of children is for bearing children and purifying defects in a wet-nurse’s milk, and curing diseases that have arisen from bad breast milk and demons.
- 14 “[The component] called the discipline of toxicology is for [knowing] the signs of poison from snake and insect bites and for neutralising various combinations of poisons.<sup>28</sup>
- 15 “[The component] called the discipline of rejuvenation is maintaining youth, bringing about a long life and mental vigour and for curing diseases.

26 Dānavas. The insertion marks (*kākapadas*) below the text at this point appears to be by the original scribe.

27 The vulgate doesn’t have *vināyakas* but does add *asuras*, probably under the influence of Ḍalhaṇa. Cite Paul Courtright, Ganesha book.

28 The scribal insertion marks (crosses) above the line at this point in MS K appear to be in a later hand and their referent is lost in the damaged part of the folio. Although MSS MS Kathmandu NAK 1-1079 and MS Kathmandu NAK 5-333 include spiders (*lūtā*) and creepy-crawlies (*sarīsrpa*) in the list, it does seem that MS K had a shorter list, and the vulgate edition adds rodents (*mūṣika*).

- 16 “[The component] called the discipline of aphrodisiacs brings about the increase, purity, accumulation and production of semen for those whose semen is minimal, bad, depleted, and dry [respectively] and for inducing an erection.
- 17 “Thus, this Āyurveda is taught with eight components.”  
“Among these [components], tell us which is for whom.”
- 18 They said, “After you have conveyed the knowledge of surgery, teach us everything.”
- 19 He said, “so be it.”
- 20 They then said, “Having considered the view of all of us, when we are unanimous, Suśruta will question you. We too will learn what is being taught to him.”
- 21 He said, “so be it.
- 22 “Now, as is well-known, the aim of Āyurveda is eliminating the disease of one who have been assailed by disease and protecting the healthy; āyurveda is [that knowledge] in which they find a long life, or that by which long life is known. Learn its best component (i.e., surgery), which is being taught in accordance with tradition, perception, inference and analogy.
- 23 “For this component is first, the most important, because it is referred to first; it cures wounds and joins together the most important thing, Yajña’s head. For, just as it has been said of old, ‘the head that had been cut off by Rudra was joined again by the two Aśvins.’
- 24 “And also, of the eight disciplines of Āyurveda, [surgery] alone is the best because of the quick action of its procedures (*kriyā*), its application of blunt instruments, knives, caustics and fire, and it is common to all disciplines.
- 25 “Therefore, [surgery] is eternal, meritorious, leads to heaven, brings renown, bestows a long life, and affords a livelihood.
- 26 “Brahmā said this, ‘Prajāpati learned it. From him, the Aśvins. From the Aśvins, Indra. From Indra, I. In this world, I will transmit to those who desire it for the benefit of people.’  
[There a verse about this.].<sup>29</sup>
- 27 *For, I (i.e., Brahmā) am Dhanvantari, the first god, the remover of old age, pain and death of mortals.*

29 This is an expansion of the scribe’s abbreviation *bha* for *bhavati cātra ślokaḥ* “There is a verse about this” (sometimes plural).

*Having understood surgery, the best of the great knowledge systems,  
I arrived on earth again to teach it here.*

- 28 In this context, as far as this discipline is concerned, a human being (*puruṣa*) is called an amalgam of the five elements and the embodied soul. This is where procedures (*kriyā*) apply. This is the locus.

Why?

Because of the duality of the world, the world is twofold: the stationary and the moving. Its nature (*ātmaka*) is twofold, depending on the preponderance of Agni and Soma.<sup>30</sup> Alternatively, it can be considered as being fivefold. The multitude of beings in it are fourfold: they are termed “sweat-born, stone-born, caul-born and egg-born”.<sup>31</sup> Where they are concerned, the human being is the main thing; others are his support. Therefore, the human being (*puruṣa*) is the locus.

- 29 Diseases are said to be the conjunction of the person and suffering (*duḥkha*). There are four of them: invasive, bodily, mental and inherent. The invasive ones are caused by an injury. The bodily ones are based on food, caused by irregularities (*vaiṣamya*) in wind, bile, phlegm and blood.<sup>32</sup>

The mental (*mānasa*) ones, caused by desire (*icchā*) and hatred (*dveṣa*), include: anger (*krodha*), grief (*āśoka*), misery (*dainya*), overexcitement (*harṣa*), lust (*kāma*), depression (*viśāda*), envy (*īrṣyā*), jealousy (*asūyā*), malice (*mātsarya*), and greed (*lobha*).

The inherent (*svābhāvika*) ones are hunger, thirst, old age, death, sleep and those of the temperament (*prakṛti*).

These too are located (*adhiṣṭhāna*) in the mind and body.

Scarification (*lekhana*), nourishment (*bṛṇhana*), purification (*saṃśodhana*), pacification (*saṃśamana*), diet (*āhāra*) and regimen (*ācāra*), properly employed, bring about their cure.

- 30 Furthermore, food is the root (*mūla*) of living beings as well as of strength (*bala*), complexion (*varṇa*) and vital energy (*ojas*). It depends on (*āyatta*) the six flavours (*rasa*). Flavours, furthermore, have substances as their substrate (*āśrayin*). And substances are remedies (*oṣadhī*).<sup>33</sup> There are two types: stationary (*sthāvara*) and moving

30 See Wujastyk 2004.

31 This fourfold classification of beings is paralleled with closely-related vocabulary in *Bhelasamhitā* 4.4.4 (Bhela 2000: 206; Bhela 1921: 81).

32 Note that four humoral substances are assumed here.

33 Pāṇini 6.3.132 provides that the final vowel of the noun *oṣadhi* may be lengthened



- (*jaṅgama*).
- 31 Of these, there are four types of stationary ones: fruit trees (*vanaspati*), flowering trees (*vrkṣa*), herbs (*oṣadhi*) and shrubs (*vīrudh*).<sup>34</sup> Amongst these, the “fruit trees” have fruit but no flowers.<sup>35</sup> The “flowering trees” have flowers and fruit. The “herbs” die when the fruit is ripe. “Shrubs” put out shoots.
- 32 As is well known, moving remedies are also of four types: those born in in a caul (*jarāyuja*), those born from eggs (*aṇḍaja*), those born of sweat (*svedaaja*), and shoots (*udbhid*). Amongst these, those born in a caul include animals (*paśu*), humans, and wild animals (*vyāla*). Birds, creepy-crawlies (*sarīrpa*) and snakes are “born of eggs.” Worms (*kṛmi*), small insects (*kunta*) and ants (*pipīlika*) and others are born of sweat.<sup>36</sup> Shoots include red velvet mites (*indragopa*) and frogs (*maṇḍūka*).<sup>37</sup>
- 33 In this context, among the stationary remedies, skin (*tvak*), leaves (*patra*), flowers (*puṣpa*), fruits (*phala*), roots (*mūla*), bulbs (*kanda*), sap (*kṣīra*), resin (*niryāsa*), essence (*sāra*), oil (*sneha*), and juice extract (*svarasa*)<sup>38</sup> are useful; among the moving remedies pelt (*carman*), hair, nails, and blood (*rudhira*) and so forth.
- 34 And earth products (*pārthiva*) include gold and silver.<sup>39</sup>
- 35 The items created by time (*kālakṛta*) are clusters (*samplava*) as far as wind and no wind (*nivāta*), heat and shade, darkness and light and the cold, hot and rainy seasons (*varṣā*) are concerned. The divisions of

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(→*oṣadhī*) under certain conditions. These conditions require that the word be used in a Vedic mantra and not in the nominative. Neither condition is met in this passage, yet the author uses the form *oṣadhī*. This form is in fact not uncommon in medical literature as well as in epics, purāṇas, smṛtis, and other parts of Sanskrit literature.

34 Ca.sū.1.71–72 also describes these four types of medicinal plant in similar terms but with slightly differing names: *oṣadhi* is a plant that ends after fruiting, *vīrudh* is a plant that branches out, *vanaspati* is a tree with fruit, and *vānaspatya* is a tree with fruit and flowers.

35 The MSS agree in reading *phalavantyaḥ* “having flowers” which is grammatically non-standard. This form is also found in the *Viṣṇudharmottarapurāṇa* (1.92.27, 1.92.27 *Viṣṇudh.*: 56r).

36 The word *kunta*, though marked as “lexical” in most dictionaries, is in fact found in literature, commonly as a compound with *pipīlika*; the compound sometimes seems to be understood a type of ant (*tatpuruṣa* compound) rather than as a pair of insects (*dvandva* compound).

37 On *indragopa*, see Lienhard 1978.

38 On juice extract (*svarasa*) see CS 1.1.73, 1.4.7; Ḍalhaṇa on 4.10.12 (*Su* 1938: 450).

39 The flow of concepts in the treatise seems to be interrupted here.

time are the blink of the eye (*nimeṣa*), a trice (*kāṣṭhā*), minutes (*kalā*), three-quarters of an hour (*muḥūrta*), a day and night (*ahorātra*), a fortnight (*pakṣa*), a month (*māsa*), a season (*ṛtu*), a half-year (*ayana*), a year (*saṃvatsara*), and yuga (*yuga*).<sup>40</sup>

36 These naturally cause accumulation (*sañcaya*), irritation (*prakopa*), pacification (*upaśama*) and alleviation (*pratīkāra*) of the humours (*doṣa*). And they have practical purposes (*prayojanavat*).

[There are verses about this:]<sup>41</sup>

37 *This fourfold category is taught by physicians as a cause for the agitation and quelling of bodily diseases.*<sup>42</sup>

38 *There are two kinds of invasive diseases. Some certainly<sup>43</sup> affect (ni√pat) the mind, others the body. Their treatment (kriyā) is of two kinds too.*

39 *For those that affect the body there is physical (śārīravād) therapy, whereas for those that affect the mind there is the collection (varga) of desirable sensory experiences like sound that bring comfort (sukha).*

40 Along these lines (*evam*), this brief explanation of the four factors (*caturṣṭaya*) is given:

- human being (*puruṣa*),
- disease (*vyadhi*),
- remedies (*oṣadhi*),
- the time for therapies (*kriyākāla*).

In this context,

- from the mention of the word “human,” the collection of substances that arise from it, such as the elements, and the particulars (*vikalpa*) of its major and minor parts (*aṅga*) such as skin (*tvak*),

40 These units are presented at 1.6.5 (Su 1938: 24) and discussed by Hayashi (2017: § 59).

41 See footnote 29.

42 On the topic of the “group of four,” the commentator Ḍalhaṇa considers them to be “food, behaviour, earthen products and items created by time.” He refers to the author of the lost commentary entitled *Pañjikā*, and to Jejjāṭa (HIML: IA, 372–3, 192). In his view, these early commentators do not agree that the fourfold grouping (*caturvarga*) refers to the quartet of stationary (*sthāvara*), moving (*jaṅgama*), earthen products (*pārthiva*) and items created by time (*kālakṛta*) (Su 1938: 9a).

43 The text uses an archaic interjection here, *ha*.

flesh (*māṃsa*), ducts (*sirā*), sinews (*snāyu*), bones (*asthi*) and joints (*sandhi*) are meant.

- From the mention of “diseases,” all diseases caused by wind, bile, phlegm, congested humours (*sannipāta*), external factors (*āgantū*) and inherent factors (*svabhāva*) are intended (*vyākhyāta*).
- From the mention of “remedies,” there is the teaching of substances, tastes, potencies, post-digestive tastes.
- From the mention of “procedures (*kriyā*),” therapies (*karman*) such as oiling and excision (*chedya*) are taught.
- From the mention of the word “time,” every single teaching about the times for procedures is meant.

[There is a verse about this:]<sup>44</sup>

41 *This seed of medicine has been declared in brief. Its explanation will be given in one hundred and twenty chapters.*<sup>45</sup>

42 There are one hundred and twenty chapters in five sections (*adhyāya*).<sup>46</sup> In that regard, having divided them, according to their subject matter, into the Ślokaśthāna, the Nidāna, the Śārīra, the Cikitsita and the Kalpa, we shall mention this in the Uttaratantra.<sup>47</sup>

[There is a verse about this:]<sup>48</sup>

43 *Someone who reads this eternal proclamation of the King of Kāśī, that was declared by Svayambhu, will have good karma on earth, will be respected by kings and upon death will achieve the world of Śakra.*

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44 See footnote 29.

45 This is the number of chapters in the first five sections of the work, namely the *Sūtra*-, *Nidāna*-, *Śārīra*-, *Cikitsā*- and *Kalpa*-*sthānas*. These have 46, 16, 10, 40 and 8 chapters respectively. The *Uttaratantra* has 66 chapters.

46 On *viṃśa* in the sense of “greater by 20” see P.5.2.46 *śadantaviṃśateś ca*.

47 The end of this sentence reads oddly. The vulgate edition adds an object: “[we shall mention] the remaining topics [in the Uttara]” which smooths out the difficulty, but this is supported in none of the Nepalese MSS. At the start of the *Uttaratantra* (**susr-trikamji3**) there is indeed a statement that picks up the point about there being 120 chapters.

48 See footnote 29.

## 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 *Suśrutasamhitā* was included in *Sikandar Shāh's Mine of Medicine* (*Ma'dīn al-shifā' i Sikandar-Shāhī*) composed in 1512 by Miyān Bhūwah b. *Khawāṣṣ Khān*.<sup>50</sup>

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.
- 3 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 made to flow by any of them in their particular way.<sup>52</sup>
- 5x And there are the following about this:

49 HIML: IA, 209; IB, 324, n. 131.

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

51 Brooks 2020a,b,c.

52 This sentence is hard to construe grammatically, although its meaning seems clear. In place of विशेषस्तु, Cakrapāṇidatta and Ḍalhaṇa both read विशेषतस्, which helps interpretation (Su 1939: 95, Su 1938: 55). It is noteworthy 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.

There is an insertion in the text, printed in parentheses in the vulgate at 1.13.4 (Su 1938: 55) as विशेषतस्तु विस्त्रव्यं शृङ्गजलौकालाबुभिर्गृहीयात्. This insertion is not included in the earlier edition of the vulgate, but is replaced by स्निग्धशीतरूक्षत्वात् (Su 1931: 54). Ḍalhaṇa noted that, “this reading is discussed to some extent by some compilers (निबन्धकार), but it is definitely rejected by most of them, including Jejjhaṭa.”

- 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 afflicted 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 (*āyur*).<sup>57</sup> “Home” (*okas*) means “dwelling;” their home is water, so they are called “water-dwellers (*jalaaukas*).”
- 10 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>

53 The vulgate replaced “smooth” with “hot.”

54 This passage is not found in the vulgate, but it is similar to the passage cited by Ḍalhaṇa at 1.13.8 (Su 1938: 56) and attributed to Bhāluki. Bhāluki was the author of a *Bhālukitantra* that may have predated Jeṇḍaṭa and might even have been one of the sources for the *Suśrutasaṃhitā* (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).

55 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.

56 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.

57 This is a folk etymology.

58 Treating गर्दा 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 (*mahāgada*) should be applied in drinks and liniments (*ālepana*), 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 (*piṅgalā*)
- Dart-mouth (*śaṅkumukhī*)
- Mouse (*mūṣikā*)
- Lotus-mouth (*puṇḍarīkamukhī*)
- Sāvarikā (*sāvarikā*)

Amongst these,

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

59 The manuscripts all read गोवन्दना against the vulgate's गोचन्दना.

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

61 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.<sup>62</sup>
- 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

62 The compound *स्निग्धमुद्गवर्णा* 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.”

63 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 toponym. 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.

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.”

Ḍalhaṇa on 1.13.13 (Su 1938: 57) anachronistically identified “Yavana” as the land of the Turks (तुरुष्क) and “Pautana” as the Mathurā region. He also noted, as did Cakra-pāṇidatta (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

particular have large bodies and are strong, they drink rapidly, consume a lot, and are without venom.

- 14 In that context, the venomous leeches are those originating in decomposing venomous insects, frogs, urine, feces and in polluted water.<sup>64</sup> The , non-venomous ones originate in decomposing sacred lotus, blue water-lily, white water-lily, fragrant lotus, horned pondweed and in pure waters.

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>

- 15 They can be grasped with a fresh hide or in other ways.  
Having grasped them,  
16 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. After grinding up horned pondweed, dried flesh, and aquatic roots, every three days one should give them grass to lie on, aquatic leaves water food. Every week, one should make them crawl into a different pot.

Dalhana?

jalabhakta

17

other criteria.

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

65 Dalhana on 1.13.14 (Su 1938: 57) explains सङ्कीर्णचारिन्, “behaving in a confused manner” as विषादिविरुद्धाहारभुजः that presumably means that they do not eat unwholesome foods like poisons. Cf. Dalhana’s gloss of विरुद्ध as अहित at 4.23.4 (Su 1938: 485).



## Editions and Abbreviations

- Ah 1939 Kumṭe, Aṇṇā Moreśvara, Navare, Kṛṣṇaśāstrī, and Parādkar, Hariśāstrī (1939) (eds.), श्रीमद्वाग्भटविरचितम् अष्टाङ्गहृदयम्, श्रीमदरुणदत्तविरचितया सर्वाङ्गसुन्दराख्यया व्याख्यया, हेमाद्रिप्रणीतया आयुर्वेदरसायनाह्वया टीकया च समुल्लसितम् = *The As-tāṅgahṛidaya* (6th edn., Mumbayyām: Nirṇayasāgara Press), [ark:/13960/t3tt6967d](http://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 श्रीमद्द्ववाग्भटविरचितः इन्दुव्याख्यासहितः [= *Vāgbhaṭa's Aṣṭāṅgasaṅgraha with Indu's Commentary*] (Pune: M. A. Āṭhavale, Śrīmad Ātreya Prakāśanam), [ark:/13960/s25bwqsd0n7](http://ark:/13960/s25bwqsd0n7).
- Bhela 1921 Mookerjee, Ashutosh, and Ananta Krishna Shastri, Ved-antabisharad (1921) (eds.), *The Bhela Samhita. Sanskrit Text* (Calcutta: University of Calcutta), [ark:/13960/t3sv3157j](http://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, श्रीचक्रपाणिदत्तविरचितया आयुर्वेददीपिकाव्याख्यया संवलित्ता (3rd edn., Mumbayyām: Nirṇaya Sagara Press), [ark:/13960/t48q2f20n](http://ark:/13960/t48q2f20n).

HIML	Meulenbeld, Gerrit Jan (1999–2002), <i>A History of Indian Medical Literature</i> , 5 vols. (Groningen: E. Forsten), ISBN: 9069801248.
IOLR	Eggeling, Julius, et al. (1887–1935), <i>Catalogue of the Sanskrit Manuscripts in the Library of the India Office</i> (London: Secretary of State for India), <a href="http://13960/s2k5zcrg9">ark:/13960/s2k5zcrg9</a> .
KL	<i>Kaiser Library</i> .
MN <sub>1</sub>	Ācārya, Yādavaśarma Trivikrama (1920) (ed.), महामतिश्री-माधवकरप्रणीतं माधवनिदानम् श्रीविजयरक्षित-श्रीकण्ठदत्ताभ्यां विरचितया मधुकोशाख्यव्याख्या, श्रीवाचस्पतिवैद्यविरचितया आतङ्कदर्पणव्याख्या विशिष्टांशेन च समुल्लसितम् = <i>Mādhavanidāna by Mādhavakara with the Two Commentaries, Madhukosha by Vijayarakshita &amp; Shrikanthadatta and Ātānkadarpaṇa by Vāchaspati Vaidya</i> (1st edn., Bombay: Nirnaya Sagara Press), <a href="http://13960/t9z08jn5j">ark:/13960/t9z08jn5j</a> .
MN <sub>3</sub>	Ācārya, Yādavaśarma Trivikrama (1932) (ed.), महामतिश्री-माधवकरप्रणीतं माधवनिदानम् श्रीविजयरक्षित-श्रीकण्ठदत्ताभ्यां विरचितया मधुकोशाख्यव्याख्या, श्रीवाचस्पतिवैद्यविरचितया आतङ्कदर्पणव्याख्या विशिष्टांशेन च समुल्लसितम् = <i>Mādhavanidāna by Mādhavakara with the Two Commentaries, Madhukosha by Vijayarakshita &amp; Shrikanthadatta and Ātānkadarpaṇa by Vāchaspati Vaidya</i> (3rd edn., Bombay: Nirnaya Sagara Press), <a href="http://13960/t66452x0h">ark:/13960/t66452x0h</a> ; Reprinted Varanasi: Chowkhambha, 1986.
MW	Monier-Williams, Monier, Leumann, E., Cappeller, C., et al. (1899), <i>A Sanskrit–English Dictionary Etymologically and Philologically Arranged, New Edition</i> (Oxford: Clarendon Press); 1970 reprint.
NAK	<i>National Archives of Kathmandu</i> .
NCC	Raghavan, V., et al. (1949–), <i>New Catalogus Catalogorum, an Alphabetical Register of Sanskrit and Allied Works and Authors</i> , 39 vols. (Madras University Sanskrit Series; Madras: University of Madras); v.1: revised edition, 1968. Searchable at <a href="https://vmlt.in/ncc/">https://vmlt.in/ncc/</a> .

- 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 Ācārya, Yādavaśarma Trivikrama (1915) (ed.), सुश्रुतसंहिता, सुश्रुतेन विरचिता, वैद्यवरश्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया समुल्लसिता, आचार्योपाह्वेन त्रिविक्रमात्मजेन यादवशर्मणा संशोधिता = *The Sushrutasamhita of Sushruta, the Nibandhasangraha Commentary of Shri Dalhaṇāchārya* (Mumbayyām: Nirṇaya-sāgaramudrāyantrālaye), [ark:/13960/t3sv0mt50](#), accessed 29/07/2020; [HIML](#): IB, 312 edition \*v.
- Su 1931 Ācārya, Yādavaśarma Trivikrama (1931) (ed.), सुश्रुतसंहिता, वैद्यवरश्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया समुल्लसिता, महर्षिणा सुश्रुतेन विरचिता, सूत्र-निदान-शारीर-चिकित्सा-कल्पस्थानोत्तरतन्त्रात्मकः. आचार्योपाह्वेन त्रिविक्रमात्मजेन यादवशर्मणा संशोधिता = *The Sushrutasamhitā of Sushruta with the Nibandhasangraha Commentary of Shree Dalhaṇāchārya* (2nd edn., Mumbayyām: Pāṇḍuraṅga Jāvajī at the Nirṇayasāgaramudrāyantrālaye), [ark:/13960/t9j41sg94](#), accessed 09/06/2020; [HIML](#): IB, 312 edition \*v.
- Su 1938 Ācārya, Yādavaśarma Trivikrama, and Ācārya, Nārāyaṇa Rāma (1938) (eds.), श्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीगयदासाचार्यविरचितया न्यायचन्द्रिकाख्यपञ्जिका-व्याख्यया च समुल्लसिता महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता (3rd edn., Bombay: Nirṇayasāgara Press), [ark:/13960/t09x0sk1h](#); [HIML](#): IB, 313, edition cc ('the vulgate').
- Su 1938<sup>2</sup> Ācārya, Yādavaśarma Trivikrama, and Ācārya, Nārāyaṇa Rāma (2004) (eds.), महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता,

- श्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्या निदानस्थानस्य श्री-  
गयदासाचार्यविरचितया न्यायचन्द्रिकाख्यपञ्जिकाव्याख्या च समुल्लसिता  
(Vārāṇasī: Caukhambhā Kṛṣṇadāsa Akādamī); Reprint of  
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Bhānumatī Commentary by Chakrapāṇi Datta with Introduction  
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= Shrī Swāmī Lakshmī Rām Trust Series, 1; [Jaipur]:  
Śyāmasundara Śarman), [ark:/13960/t54g0d12m](#); Printed  
at the Nirṇayasāgara Press, Bombay.
- Su 1945 Ācārya, Yādavaśarma Trivikramācārya, and Ācārya, Nārāya-  
ṇa Rāma (1945) (eds.), महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता (मू-  
लमात्रा). पाठान्तर-परिशिष्टादिभिः संवलिता = *the Suśrutasaṁhitā of Su-  
śruta with Various Readings, Notes and Appendix etc.* (Mumbāi:  
Nirṇayasāgarākhyamudraṇālaye), [ark:/13960/t8kd4jh7n](#).
- TMSSML *Tanjore Maharaja Serfoji Saraswati Mahal Library.*
- Viṣṇudh. Śarman, Madhusūdana, and Śarman, Mādhavaprasāda  
(1912) (eds.), विष्णुधर्मोत्तरपुराणम् = [*Viṣṇudharmottarapurāṇa*]  
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- Kathmandu NAK 1-1079: 14, 21  
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Thanjavur TMSSML 10773: 75

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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,  
48, 52  
beautyberry (*śyāmā*) Callicarpa  
macrophylla, Vahl. See [AVS](#): v. 1, 334,  
[NK](#): v. 1, #420, 30, 32  
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*) → *śālāparṇī*.  
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 (*pāṇḍī*) 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*) *Antelope 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 (*elā*) *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*) → *eraṇḍa*.  
[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  
Ḍalhaṇa on 5.3.14 ([Su 1938](#): 568) as  
follows *tāro rūpyam, sutāraḥ pāradaḥ*,  
“tāra means silver; sutāra means  
mercury.”, 52  
chebulic myrobalan (*haritakī*) *Terminalia*  
chebula Retz. [GVDB](#): 466, 31  
cherry (*elavālu*) *Prunus cerasus*, L.?. See  
[BVDB](#) 58, [NK](#): v. 1, #2037, [GVDB](#): 58, 48  
chital deer (*pr̥ṣata*) *Axis axis*, Erxleben.  
See [BIA](#): 292, [IW](#): 93, 35  
cobra’s saffron (*nāgapuṣpa*) → *nāgakeśara*.  
*Mesua ferrea*, L. See [NK](#): v. 1, #1595,  
[GVDB](#): 220, 48  
corky coral tree (*pāribhadra*) *Erythrina*  
suberosa Roxb. See [GVDB](#) 245, 51  
costus (*kuṣṭha*) *Saussurea costus*, Clarke.  
See [NK](#): v. 1, #2239, 32, 48, 52  
country mallow (*atibālā*) *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 frutescens* R. Br.  
([GVDB](#): 429–431), 31, 37, 47, 48, 51  
crape jasmine (*nata*) → crape jasmine  
[GVDB](#): 215, 107, 108  
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 the ancient and regional identities of this plant See, e.g., *AVS*: v. 5, 334, 32, 48, 107, 108
- crimson trumpet-flower tree (*pāṭalā*) *Stereospermum chelonides*, (L. f.) A. DC. See *GJM*: 573, *AVS*: v. 5, 192 ff, *ADPS*: 362 f, *AVS*: v. 3, 1848 f, *IGP* 1120, *Dymock*: v. 3, 20 ff, 51
- cuscut 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. *Abhidhānamāñjarī*), *NK*: v. 1, #796 ff. *Potter<sub>rev</sub>*: 292 f, *ADPS*: 132, 28
- decanted liquor (*surāmaṇḍa*) *K&B*: v. 2, 502, *NK*: v. 2, appendix VI, #49, 30
- deodar (*bhadradāru*) *Cedrus deodara*, (Roxb.ex D.Don) G. Don. See *AVS* 41, *NK*: v. 1, #516, 48
- dried flesh (*vallūra*) *MW*: 929, 25
- elixir salve (*rasāñjana*) → *añjana*. See *Indian barberry*, 33
- embelia (*viḍaṅga*) *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 (*subhaṅgurā*) (su)bhaṅgura = bhr̥ṅga? *Eclipta prostrata* (L.) L. See *GVDB*: 288, 37
- fermented rice-water (*dhānyāmla*) → *kāñjī*, *kāñjikā*, *sauvīra*. *GVDB*: 458, *NK*: v. 2, appendix VI, #18, 30
- fern (*ajaruhā*) *Nephrodium* species *GVDB*: 7, uncertain. Perhaps *Christella dentata* (Forssk.) Brownsey & Jermy, which is reported to have folk applications against skin diseases in India, 34
- fire-flame bush (*dhātakī*) *Woodfordia fruticosa* (L.) Kurz. See *AVS*: v. 5, 412, *NK*: v. 1, #2626, 31
- fragrant lotus (*saugandhika*) A type of *kumuda* or *utpala* (*GVDB*: 457), 25
- garjan oil tree (*aśvakarṇa*) *Dipterocarpus turbinatus* Gaertn. f. See *GVDB*: 28, *Chopra*: 100, 51
- giant potato (*kṣīravidārī*) possibly → *kṣīraśukla*. *Ipomoea mauritiana*, Jacq. See *ADPS*: 510, *AVS*: v. 3, 222, *AVS*: v. 3, 1717 ff, 109–111
- ginger (*mahaśadha*) *Zingiber officinale*, Roscoe. See *ADPS*: 50, *NK*: v. 1, #2658, *IGP*: 1232, 35
- gold (*hema*) gold, 48
- gold and sarsaparilla (*surendragopa*) Unknown. Ḍalhaṇa on 5.3.15 (*Su* 1938: 568) glossed *surendra* as “gold” and *gopā* as “Indian sarsaparilla.” He also noted other opinions that *surendra* was “Tellicherry bark”, 52
- golden shower tree (*rājadruma*) *rājadruma* = *āragvadha*. *Cassia fistula* L. See *GVDB* 37, 51
- gourd (*alābu*) *Lagenaria siceraria* Standl. *GVDB*: 25. Some say *Lagenaria vulgaris*, Seringe (*NK*: v. 1, #1419) but this is not appropriate for blood-letting, 21, 22, 31
- heart-leaf sida (*balā*) *Sida cordifolia*, Linn. See *ADPS*: 71, *NK*: v. 1, #2297, 31, 48
- heart-leaved moonseed (*amṛtā*) → *guḍūcī*. *Tinospora cordifolia*, (Willd.) Hook.f. & Thoms.?. See *ADPS*: 38, *NK*: v. 1, #2472, 624, *Dastur* #229, 32, 47
- heart-leaved moonseed (*somavallī*) *Tinospora cordifolia* (Thunb.) Miers. *GVDB*: 456. Likely, but uncertain, 32
- henna (*madayantikā*) *Lawsonia inermis*, L. See *AVS*: v. 3, 303, *NK*: v. 1, #1448, *Potter<sub>rev</sub>*: 151, 33
- Himalayan mayapple (*vakra*) *Podophyllum emodi*, Wall. (*NK*: #1971). But perhaps a synonym of *crape jasmine* and *crape jasmine* (*GVDB*: 354), 52

- Himalayan monkshood (*atviṣā*)  
*Aconitum heterophyllum* Wall.  
 GVDB: 12, NK: v. 1, #39. Also “atis roots”, 33, 35, 52
- hogweed (*punarnavā*) *Boerhaavia diffusa*, L. See ADPS: 387, AVS: v. 1, 281, NK: v. 1, #363, 33, 47
- Holostemma creeper (*jīvantī*) → *sūryavallī*? *Holostemma ada-kodien*, Schultes. See ADPS: 195, AVS: v. 3, 167, NK: v. 1, #1242, AVS: v. 3, 1619, 110
- horned pondweed (*śevāla*) also *śaivāla*, *śevāra*. *Zannichellia palustris* L. The uncertainties of this identification are discussed by Singh and Chuneekar (GVDB: 409). Identified as *Ceratophyllum demersum* Linn. (“hornwortl”) by AVS: v. 2, 56–57, 25
- hornwort (*jalaśūka*) ← *jalanīlikā*. *Ceratophyllum demersum*, L. See AVS: v. 2, 56, IGP: 232. Singh and Chuneekar (GVDB: 166) suggest pondweed. Ḍalhaṇa noted on 1.16.19 (Su 1938: 79) that some people interpret it as a poisonous, hairy, air-breathing, underwater creature, 31
- Indian barberry (*añjana*) → *rasañjana*, *dāruharidrā*. *Berberis aristata*, DC. Dymock: v. 1, 65, NK: v. 1, #335, GJM1: 562, IGP: 141, 33, 34, 108
- Indian barberry (*dāruharidrā*) *Berberis aristata*, DC. See Dymock: v. 1, 65, NK: v. 1, #685, GJM1: 562, IGP 141, 47, 48
- Indian barberry (*kālīyaka*) → *dāruharidrā*, *añjana*. *Berberis aristata*, DC. See Dymock: v. 1, 65, NK: v. 1, #685, GJM1: 562, IGP: 141, 32
- Indian ipecac (*payasyā*) Uncertain. Possibly *Tylophora indica* (Burmf.) Merr. Perhaps a synonym of panacea twiner, giant potato, purple roscoe, and plants like asthma plant and Gulf sandmat (GVDB: 237–238). Also “curds” when not a plant, 31, 110
- Indian kudzu (*vidārī*) → *payasyā*. *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 = *Ipomoea mauritiana*, Jacq, 31
- Indian madder (*mañjiṣṭhā*) *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 “বাম মাছ” (*bān mach*)” 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 sarsaparilla (*sārivā*) → *anantā*. *Hemidesmus indicus*, (L.) R. Br. ADPS: 434, AVS: v. 3, 141–5, NK: v. 1, #1210; and black creeper, *pāṇḍī*. *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, 108
- jambul (*jambū*) *Syzygium cumini*, (L.) Skeels. See ADPS: 188, NK: v. 1, #967, Potter<sub>rev</sub>: 168, Wujastyk 2003a, 31
- jasmine (*mālatī*) *Jasminum 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, 37
- lac (*lākṣā*) *Kerria lacca* (Kerr.). See GJM1: 445, NK: v. 2, #32. Watt (1908: 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 *yaṣṭīmadhuka*, 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 Chuneekar (GVDB: 351–352) notes that there are two varieties, *S. racemosa*, qualified as *śāvāra*, and *S. crataegoides* Buch.-Ham. for *paṭṭikā 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 (*koṣṭakī*) = *koṣṭakī*. *Luffa cylindrica*, (L.) M. J. Roem. or *L. acutangula*, (L.) Roxb. ADPS: 252–253, NK: v. 1, #1514 etc. GVDB: 121, 31, 47, 110
- luffa gourd (*koṣavātī*) = *koṣṭakī*, 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 *Sauśrutaniḥaṇṭu* gives a number of synonyms for *vijayā* (Suvedī and Tivārī 2000: 5.77, 10.143). But one of them, *viṣāṇī* (also *meṣāśrigī*), is sometimes equated with *Dolichandrone falcata* (DC.) Seemann (ADPS: 518; GVDB: 373 f, a plant used 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, 111
- 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. Ḍalhaṇa identifies *suvarcikā* with *svarjikṣāra* 4.8.50 (Su 1938: 441), 48
- neem tree (*nimba*) *Azadirachta indica* A. Juss. GVDB: 226, 28
- nutgrass (*kuruvinda*) Unknown. Ḍalhaṇa 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 Chuneekar (GVDB: 108) added that it could be a variety of rice, *ṣaṣṭika dhānya*, 52
- nutgrass (*mustā*) *Cyperus rotundus*, L. See ADPS: 316, AVS: v. 2, 296, NK: v. 1, #782, 110
- panacea twiner (*arkapuṣpī*) → *arkaparnī*, *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 the name suggests *Helianthus annuus* Linn., but this plant is native to the Americas, 47, 109
- peas (*hareṇu*) *hareṇu* = *satīna*. *Pisum sativum*, L. Singh and Chuneekar (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 (*kṣīrīṇī*) various milky plants,  
perhaps including *Euphorbia hirta*  
Linn. (asthma plant) and *E.*  
*microphylla* Heyne (Gulf sandmat)  
(GVDB: 127), 109
- pointed gourd (*paṭola*) *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 Chuneekar  
(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 (*śaivāla*) *Zannichellia palustris*  
L. Sometimes identified with *scutch*  
*grass* (*dūrvā*). GVDB: 409, 109
- 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 (*mūṣikā*) *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 roscoe (*kṣīrakākoli*) GVDB: 89  
notes that many physicians use *Roscoeia*  
*procera* Wall. in this context. But the  
identification is uncertain. Possibly  
connected to *milk-white* or *giant*  
*potato*., 109, 110
- rajmahal hemp (*moraṭa*) → *mūrvī*,  
*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
- 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 (*aṅkolla*) *Alangium*  
*salvifolium* (Linn. f.) Wang.  
GVDB: 5–6, 31
- sandalwood (*candana*) *Santalum album*,  
L. See ADPS: 111, NK: v. 1, #2217, 48
- sappanwood (*pattāṅga*) Also *pattāṅga*.  
*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), 111
- 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 (*śirīṣa*) *Albizia lebbbeck*, Benth. See  
AVS: v. 1, 81, NK: v. 1, #91, 47
- siris seeds (*śirīṣamāṣaka*) *Albizia lebbbeck*,  
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*) → *māṃsī*.  
*Nardostachys grandiflora*, DC. See  
NK: v. 1, #1691, 29
- sugar (*sitā*) Ḍalhaṇa makes this equation  
at 1.37.25 (Su 1938: 162), 48
- sunflower (*sūryavallī*) → *ādityavallī*,



- sūryamukhī*, *Helianthus annuus* Linn.  
GVDB: 35, 443, 47
- sweet plants (*madhuravarga*) The sweet plants are enumerated at  
*Suśrutasaṃhitā* 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 (*kuṭāja*) *Holarrhena pubescens* Wall. ex G.Don, with  
*Wrightia tinctoria* and *W. arborea* considered  
GVDB: 101–102,  
ADPS: 267–270, 108
- thorn apple (*karambha*) *Datura metel*, L.  
See AVS: v. 2, 305 (cf.  
*Abhidhānamāñjarī*), 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 Chuneekar (GVDB: 92, 247),  
since *G. barbadense* L. is native to  
South America and *G. herbaceum* L.  
which is native to Africa, 28
- tree cotton (*picu*) See *kārpāsa*, 30, 33
- turmeric (*haridrā*) *Curcuma longa* Linn.  
GVDB: 465, 47, 52
- turmeric (*rajanī*) *Curcuma longa*, L.  
ADPS: 169, AVS: v. 2, 259, NK: v. 1,  
#750, 48
- velvet-leaf (*pāṭhā*) *Cissampelos pariera*, L.  
See ADPS: 366, NK: v. 1, #592,  
GJM1: 573, AVS: v. 1, 95; cf.  
AVS: v. 2, 277, 47
- velvet-mite (*indragopa*) *Kerria lacca*  
(Kerr.). Lienhard 1978, 30
- verbena (*phañjī*) *Clerodendrum serratum*,  
L. See AVS: v. 2, 121, ADPS: 87, 33
- watered buttermilk (*udaśvit*) MW: 183, 31
- weaver's beam tree (*muṣkaka*) *Schrebera swietenoides*, Roxb. See AVS: v. 5, 88,  
Lord, NK: v. 1, #2246, 51
- white calotropis (*alarka*) *Calotropis procera*, (Ait.) R. Br. See NK: v. 1, #428,  
Chopra: 46b, Chopra IDG: 305–308, 31
- white clitoria (*śvetā*) → *giryāhvā*. *Clitoria ternatea*, L. See AVS: v. 2, 129, NK: v. 1,  
#621, 32
- white cutch tree (*somavalka*) *Acacia polyacantha*, Willd. See AVS: v. 1, 30,  
IGP 7, GJM1: 602, AVS: v. 2, 935; pace  
NK: v. 1, #1038, 33, 51
- white siris (*kiñihī*) *Albizia procera*,  
(Roxb.) Benth. See GVDB 98, NK: v. 1,  
#93, 47
- white water-lily (*kumuda*) *Nymphaea alba*, Linn. GVDB: 105, 25
- wild asparagus (*bahuputrā*) → *nandana*?  
*Asparagus racemosus*, Willd. See  
ADPS: 441, AVS: v. 1, 218, NK: v. 1,  
#264, IGP: 103, AVS: v. 4, 2499 ff,  
Dymock: v. 3, 482 ff, 33
- wild celery (*agnika*) → may be *bhalātaka*,  
*lāṅgalī*, *ajamodā*, *moraṭa*, or *agnimantha*,  
GVDB: 4. Uncertain, 47
- wild celery (*ajamodā*) *Apium graveolens*,  
L., 47
- Withania* (*aśvagandhā*) *Withania somnifera* (L.) Dunal. See AVS: v. 5,  
409 f, Dymock: v. 2, 566 f., Chevallier  
150, 31
- wood apple (*kapittha*) *Limonia acidissima*,  
L. See AVS: v. 3, 327, NK: v. 1, #1021,  
32, 34
- woodrose (*mūṣikakarṇī*) *Jatopha curcas*, L.  
AVS: v. 3, 261, NK: v. 1, #1374.  
GVDB: 317; ADPS: 23–25 discuss this  
issue well, 32
- yellow-berried nightshade (*kṣudrā*)

*Solanum virginianum*, L. See  
ADPS: 100, NK: v. 1, #2329,

AVS: v. 5, 164, 47, 48



## Todo list

■ Ḍalhaṇa? . . . . .	25
■ jalabhakta . . . . .	25
■ 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 knowing 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 separately; appears to be a gloss inserted into the vulgate text. . . .	34
■ The two uses of prāpta are hard to translate. prāptāḥ → kṣipram is an example of the vulgate banalizing the Sanskrit text to make sense of a difficult passage. . . . .	34
■ √ vyadh not √ vedh (also elsewhere and for the ears), causative optative. . . . .	34
■ opposite of the vulgate Same as 1.8.89 (As 1980: 79). . . . .	35
■ -> ativiṣa . . . . .	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 alcohol affects the body. . . . .	55
■ where is cutting with a knife related to removing bile or phlegm. . . .	57
■ maṣi burned charcoal. Find refs. . . . .	58
■ find ref. . . . .	63
■ Check out these refs. . . . .	64
■ meaning of kalpa . . . . .	64
■ or a dual? . . . . .	68

