## A Translation of the New Edition of the Suśrutasaṃhitā

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### Kalpasthāna, adhyāya 3

#### Introduction

#### **Translation**

- 1 And now we shall explain the rule (*kalpa*) that is the required knowledge about mobile poisons.<sup>203</sup>
- The full explanation about the sixteen carriers (*adhiṣṭhāna*) of the mobile poisons, that have been mentioned by me in brief, will be stated.<sup>204</sup>
- 4 In that context, they are:205
  - gaze and breath,
  - teeth, nails, and bites
  - urine and faeces,
  - menstrual blood,
  - semen,
  - tail,
  - contact with saliva,
  - nipping with the mouth (*mu*-

- khasaṃdaṃśā),
- fart (avaśardhita),<sup>206</sup>
- anus,<sup>207</sup>
- bones,
- bile,
- bristles ( $\sin ka$ ), and
- corpses.

5 In that context,

location of the poison	creatures <sup>208</sup>
in their breath and	divine snakes
gaze in their fangs	the ones on earth <sup>209</sup>

<sup>203</sup> In contrast to stationary, plant poisons. No reference is made to Dhanvantari (see Birch, Wujastyk, Klebanov, Parameswaran, et al. 2021).

<sup>204 &</sup>quot;Carrier" for base, foundation (*adhiṣṭhāna*) aims to capture the idea that the author will describe the creatures in which poisons inhere.

<sup>205</sup> The content of this section is presented as a table, for clarity for the contemporary reader and mindful of the theoretical issues surrounding notational variation, including the "symbolic rewriting" and the modification of "expressive capacities" discussed by Sarukkai (2016: 321 ff). For further discussion, see Wujastyk 2021a: 81–83.

<sup>206</sup> This interpretation comes from Dalhana on 5.3.4 (Su 1938: 567), but he reads विशर्धित.

<sup>207</sup> Dalhana on 5.3.4 (Su 1938: 567) noted this reading.

<sup>208</sup> Many of these names are mere dubious placeholders.

<sup>209</sup> Dalhaṇa on 5.3.5 (Su 1938: 567) cited the otherwise unknown authority Sāvitra on the topic of poisonous snakes (HIML: v. ???, ???).

location of the poison	creatures
in their nails, mouths and fangs	cats, dogs, monkeys, men $(nara)$ , crocodiles, frogs, 'cook-fish' $(p\bar{a}kamatsya)$ , monitor lizards, cone snails $(\hat{s}amb\bar{u}ka)$ , 'poisonous snakes' $(pracal\bar{a}ka)$ , '212 geckos $(grhagodik\bar{a})$ , four-footed insects and others
in their urine and faeces	lice (kiṭipa), 'flat insects' (picciṭā), 'orange-dwellers' (kaṣāyavāsika), 'pepper snakes' (sarṣapaka), 'angry beetles' (toṭaka), dung beetles (varcaḥkīṭa), and 'pot insects' (kauṇḍinya)
in their semen	mice
in their stings (śūla)	scorpions, 'earth scorpions' (viśvambhara), wasps (varaki), <sup>214</sup> fish, crabs (ucciṭiṅga), and 'wing-scorpions' (patravṛścika)
in their saliva, nails, urine, feces, blood, semen and fangs	spiders
in the bites of their mouths	flies, wasps (kaṇabha) and leeches
in the bites of their mouths, in their fangs, faces, †, farts, anuses and feces	'speckle-heads' (citraśīrṣa), 'lids' (śārava), 'bellied' (kukṣita), 'wood-enemies' (dārukāri), 'liquors' (medaka), and 'darts' (śārikā).

<sup>210</sup> Probably dittography from the previous word, monkey ( $v\bar{a}nara$ ). But it is supported in both Nepalese witnesses, so it must go back to an earlier exemplar.

<sup>211</sup> MS KL 699 separates the words पाक and मत्स्य with a daṇḍa, indicating that the scribe thought they were separate terms. Dalhaṇa thought this was a kind of fiery insect (5.3.5 (Su 1938: 567)).

<sup>212</sup> *Arthaśāstra* 14.1.14, 23 (Olivelle 2013: 448), where it might also be a chameleon, but the latter are not venomous.

<sup>213</sup> The scribe of MS NAK 5-333 noted in the margin that some of his sources read गल-गोंडिका, which is the name of a snake known also in the *Carakasaṃhitā* and elsewhere in literature. Hemacandra's *Abhidhānacintāmaṇi* (4.364) mentions that गृहगोंधिका and गृहगोंिकका are synonyms (Rādhākāntā Deva 1876: 691a, sub māṇikyā).

<sup>214</sup> वरटी is a wasp; वरिक in the Nepalese MSS may be an alternant of this word. Dalhana on 5.3.5 (Su 1938: 568) remarked that some interpreted वरिकेमत्स्य as two items, "wasp and fish," others as a single one, "wasp-fish."

Table 2: Passage 5, expressed in tabular format.

- 6 The enemies of the king pollute the waters, roads and foodstuffs in enemy territory. The experienced physician, who has learned how to purify things, should clean up those polluted things.
- 7 Polluted water is slimy and smells of tears.<sup>215</sup> It is covered with froth and covered with streaks. The frogs and fish die, the birds are crazed and, along with the wetland creatures, they wander about aimlessly.
- Men, horses and elephants who swim in it experience vomiting, delusion, fever, swelling and sharp pains. He should try to purify that polluted water, after curing their ailments.
- 9 And so, he should burn axlewood and garjan oil tree, as well as corky coral tree, with crimson trumpet-flower tree and small-flowered crape myrtle and weaver's beam tree, and with golden shower tree and white cutch tree. Then he should sprinkle that ash, cold, on the waters.
- 10–11 And in the same way, putting a handful of the ash in a pot, one may also purify water that one wants.

  If any one of the limbs of cows, horses, elephants, men or women, touch a place on the ground that enemies have spoiled with poison, or a ford
  - a place on the ground that enemies have spoiled with poison, or a ford or rock or a flat surface, then it swells up and burns and its hair and nails fall out on that place.<sup>217</sup>
  - 12 In that situation, he should grind up country sarsaparilla together with all the aromatic items, with alcoholic drinks. And then he should

<sup>215</sup> अस्र normally means "tears," but rarely means "blood."

<sup>216</sup> On the polysemy of elephant/snake ( $n\bar{a}ga$ ), see Semeka-Pankratov 1979.

<sup>217 &</sup>quot;Swells up" translates an unclear reading that was probably श्यति, which may be an irregular form of  $\sqrt{3}$ , श्वा, श्वि (see Whitney 1885: 175–176).

- sprinkle the paths that need to be used with waters mixed with mud.<sup>218</sup> And if there exists another path, he should go by that.<sup>219</sup>
- When grasses and foods are polluted, people collapse, fall unconscious. And others vomit. They get loose stool (*viḍbheda*) or they die. One should apply to them the therapy as described.
- Alternatively, one should wipe various musical instruments with antidotes that remove poison and then play them. What is called the most excellent paste for a musical instrument is certain minerals<sup>220</sup> together with gold and sarsaparilla, and a portion of of nutgrass equal to that, together with the bile called "brown cow".<sup>221</sup> By the sound of the musical instrument, even terrible poisons that may be present at that place are destroyed.
  - 16 If there is smoke or wind that is affected by poison then birds are dazed and fall to the ground. People get coughs, colds, and head illnesses, and acute eye diseases.<sup>222</sup>
  - 17 The smoke and air can be purified by putting into the air: lac, turmeric, Himalayan monkshood, and myrobalan, with Himalayan mayapple, costus, cardamom,<sup>223</sup> and peas, and beautyberry.

218 Our "alcoholic drinks" translates सुरा. For a discussion of this term at our period see McHugh 2021: 37–39 et passim.

219 Dalhaṇa on 5.3.12 (Su 1938: 568) cited a similar reading for the fourth pāda, but with a negative particle, "and if there is no other way, one should go by that."

- 220 "Certain minerals" translates तारावितार, the unanimous reading of the Nepalese witnesses. But the meaning of this expression is not clear and may even refer to plants, like the other ingredients. The vulgate reads तारः सतारः, which is also not very clear. However, Dalhaṇa on 5.3.14 (Su 1938: 568) identified these as "silver" and "mercury." This is highly unlikely to be a correct understanding of the passage. Historically, mercury is not naturally present in the South Asian peninsula (Watt 1889–96: v. 5, 233) and the word पार्द that Dalhaṇa used is probably a loan-word from Persian (sub paranda, parranda Steingass 1930: 244b). Mercurial compounds are not reliably attested in South Asia until two or three centuries after the composition of the Suśrutasaṃhitā at the earliest. The currently available "śāstric" recension of the Arthaśāstra that is datable to 175–300 CE (Olivelle 2013: 29–31) does not mention mercury (ibid, 534). See further the study by Wujastyk (2013a: 17, et passim).
- 221 सुरेन्द्रगोप and कुरुविन्द are both uncertain, see index. Dalhaṇa's opinion has been followed here, but it seems fair to say that all commentators were guessing.
- 222 The syntax of this verse is somewhat loose; the vulgate has regularized it, smoothing out the difficulties.

write footnote: don't repeat ativiṣā; vulgate similar to H.

223

#### The origin of poison

- As it is told, the arrogant demon called Kaiṭabha created an obstacle for lotus-born Brahmā, at the very time that he was creating these creatures.<sup>224</sup>
- 19 Pitiless Fury took a body and burst out of the mouth of furious Brahmā's store of fiery energy.<sup>225</sup>
- 20 He burned that great, thundering, apocalyptic demon. Then, after bringing about the annihilation of that demon, his amazing fiery energy increased.
- And so, there was a sinking down (*viṣāda*) of the Daityas. Observing that, it was named "poison (*viṣa*)" because of it's ability to produce a "sinking down."
- 22 After that, the Lord created beings and subsequently made that fury enter into creatures still and moving.
- Water that falls from the sky to the earth has no obvious flavour. The savour of the different places it lands on enters into it. In the same way, whatever substance a poison reaches, it establishes itself there and by its nature it takes on that substance's savour.<sup>226</sup>
  - 25 Generally speaking, in a poison, all the qualities are really sharp. For this reason, every poison is known to irritate all of the humours.
  - 26 Irritated and afflicted by the poison, they leave their natural functions. Poison does not get digested, so it blocks the breaths.<sup>227</sup>
  - 27 Breathing is obstructed because its pathway is blocked by phlegm. Even if life continues, a man remains without consciousness.
  - 28 Similar to semen, the poison of all angry snakes pervades the whole body, and goes to the limbs like semen because of being stirred up.
  - 29 The fang of snakes is like a hook. When it gets there, it sticks inside

<sup>224</sup> At this point, the text seems to make a new beginning to the topic of toxicology, as if starting a new chapter. It is notable that no reference is made here to the famous origin story of poison in the churning of the primal milk ocean; for discussion of the sources of this account, see Bedekar 1967. For reflections on this passage, connecting it with Rudra and the Śatapathabrāhmaṇa, see Mānasa-tarangiṇī 2019.

<sup>225 &</sup>quot;Fury" is here anthropomorphised.

<sup>226</sup> The scribal emendation in MS Kathmandu NAK 5-333 of नियच्छित to निगच्छित suggests that the scribe had more than one manuscript before him, one of them representing the reading of the vulgate recension.

<sup>227</sup> Probably a reference to the five breaths. Dalhana referred to winds (वात), but this does not seem correct since it is a reference to humours rather than breaths.

- them. That is why the unagitated poison of a snake is not released.
- 30 Sprinkling with very cold water is traditional for all cases of poisoning, because poison is declared to be extremely hot and sharp.<sup>228</sup>
- Poison in insects is slow and not very hot, having a lot of wind and phlegm. So in cases of insect poisoning, sweating is not forbidden.
- 32cd In cases of a strike or a bite, the poison may, of its own accord, stay there.
- 33–35ab tHaving come upon a body,<sup>229</sup> in the case of corpses that that have been pierced by a poisoned arrow and bitten by a snake, someone who eats the poisoned flesh of a recent corpse out of carelessness will suffer with illness according to the poison, or even die. And therefore, the flesh of those should not be eaten when they have just died.
  - It is admissable after three quarters of an hour, but without the poisoned arrow and the snakebite.

35cd <sup>230</sup>

- 35.1 [ślokas in the MSS that aren't in the vulgate. The first line doesn't scan. Witness K adds a part of the start of this in the bottom margin. This material is repeated at 3.39.2 in MS H. ]
- 35cd & 36cd One designates a person who has diarrhoea that is feces with wind like soot (*gṛhadhūma*),<sup>231</sup> and who vomits foam, as "someone who has drunk poison."
  - 37 Therefore, fire burns a heart that is pervaded by poison. For, having pervaded of its own accord the location of consciousness, it abides.

#### Patients beyond help

Patients who should not be accepted include: those who have been bitten under a peepul tree, in a temple, in a cemetery, at an ant-hill, at dawn or dusk, at a crossroads, in Yama's direction,<sup>232</sup> under the Great Bear and people who have been bitten in the lethal spots.

Dalhana said that the heart of someone who has died from drinking poison has a heart that cannot be burned because it is pervaded by poison (5-3-37 (Su 1938: 570)

<sup>228</sup> The verb पढ़ "is declared, read aloud" here could possibly suggest that the author is working within a written, not oral, tradition.

<sup>229 &</sup>quot;Having come upon" translates प्रख्याप्य, which is hard to interpret unless it is a rare form connected with the sense "to see."

<sup>230</sup> At this point, witness H inserts a marginal Indravajrā verse about diseases that afflict immoral women.

<sup>231</sup> गृहधूम is not a plant in this context pace MW: 362.

<sup>232</sup> याम्ये means "southerly" but Dalhaṇa on 5.3.38 (Su 1938: 570) interpreted "in Yama's direction (*yāmya*)" as "under the seventh asterism."

- The poison of cobras kills rapidly. During the summer, they all become twice as potent in those who have indigestion, those who are afflicted by bile or wind, old people, children and the hungry.
- 39.1 In those whose who are mad or intoxicated, or who suffer from anxiety, or who are unable to tolerate its various strengths, it becomes sharp. †...
- 3.4ocd–3.41 One should reject someone overcome by poison who does not bleed when cut with a knife, where streaks do not appear by lashes,<sup>233</sup> or where there is no horripilation because of cold water, † whose tongue is a mouth, whose hair is falling out, whose †nose†is exhausted and whose neck is broken.

3.42 3.43ab

<sup>233</sup> Dalhaṇa, on 5.3.40 (Su 1938: 570), glossed लताभिस "by means of whips," as "when the body is struck by whips."

#### **Editions and Abbreviations**

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13960/t9773bb9z.

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BL British Library.

Ca. 1941

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HIML

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

**IOLR** 

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KL

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MN

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MW

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**NAK** 

National Archives of Kathmandu.

**NCC** 

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**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 आ-युर्वेद. 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 समुष्ठसिता, आचार्योपाह्वेन त्रिविक-मात्मजेन याद्वशर्मणा संशोधिता = The Sushrutasamhita of Sushruta, the Nibandhasangraha Commentary of Shri Dalhaṇāchārya (Mumbayyāṃ: Nirṇayasāgaramudrāyantrālaye), ark:/13960/t3sv0mt50, accessed 29/07/2020; HIML: IB, 312 edition \*v.

Su 1931

Ācārya, Yādavaśarma Trivikrama (1931) (ed.), सुश्रुतसंहिता, वैद्यवरश्रीडल्हणाचार्यविरचितया निबन्धसंग्र-हाख्यव्याख्यया समुष्ठसिता, महर्षिणा सुश्रुतेन विरचिता, सूत्र-निदान-शारीर-चिकित्सा-कल्पस्थानोत्तरतन्त्रात्मकः. आचार्योपाह्वेन त्रिविकमात्मजेन याद्वशर्मणा संशोधिता = The Sushrutasaṃhitā of Sushruta with the Nibandhasangraha Commentary of Shree Dalhaṇāchārya (2nd edn., Mumbayyāṃ: Pāṇḍuraṅga Jāvajī at the Nirṇayasāgaramudrāyantrālaye), ark:/13960/t9j41sg94, accessed 09/06/2020; HIML: IB, 312 edition \*v.

Su 1938

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Su 1938<sup>2</sup>

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# Glossary

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### Glossary and Index of Medical Substances

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

beautyberry (*priyangu*) ← 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,

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), 53

cardamom (*elā*) Elettaria cardamomum, Maton. See AVS: v. 2, 360, NK: v. 1, #924, Wren et al. 1994: 66, 53, 57

cassia cinnamon (*patra*) Cinnamomum tamala, (Buch.-Ham.) Nees. See AVS: v. 2, 84, NK: v. 1, #589, 53

certain minerals (*tārāvitāra*) Unknown. It is not even certain that these are minerals. The variant reading in the

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vulgate, tārah sutārah was glossed by
                                                 turbinatus Gaertn. f. See GVDB: 28,
                                                 Chopra, GIMP: 100, 56
  Dalhana on 5.3.14 (Su 1938: 568) as
   follows tāro rūpyam, sutārah pāradah,
                                              gold (hema) gold, 53
   "tāra means silver; sutāra means
                                              gold and sarsaparilla (surendragopa)
  mercury.", 57
                                                 Unknown. Dalhana on 5.3.15
cherry (elavālu) Prunus cerasus, L.?. See
                                                 (Su 1938: 568) glossed surendra as
   BVDB 58, NK: v. 1, #2037, GVDB: 58, 53
                                                 "gold" and gopā as "Indian
                                                 sarsaparilla." He also noted other
cobra's saffron (n\bar{a}gapuṣpa) \rightarrow n\bar{a}gakeśara.
  Mesua ferrea, L. See NK: v. 1, #1595,
                                                 opinions that surendra was "Tellicherry
                                                 bark", 57
  GVDB: 220, 53
corky coral tree (pāribhadra) Erythrina
                                              golden shower tree (rājadruma) rājadruma
  suberosa Roxb. See GVDB 245, 56
                                                 = āragvadha. Cassia fistula L. See
costus (kuṣṭha) Saussurea costus, Clarke.
                                                 GVDB 37, 56
  See NK: v. 1, #2239, 53, 57
                                              heart-leaf sida (balā) Sida cordifolia, Linn.
                                                 See ADPS: 71, NK: v. 1, #2297, 53
country sarsaparilla (anantā)
  Hemidesmus indicus, (L.) R. Br. See
                                              Himalayan mayapple (vakra)
   ADPS: 434, AVS: v. 3, 141-5, NK: v. 1,
                                                 Podophyllum emodi, Wall.
  #1210. But see GVDB: 13 for
                                                 (NK: #1971). But perhaps a synonm of
                                                 crape jasmine and ?? (GVDB: 354), 57
  complications that may suggest that it
  is to be equated with sārivā, which may
                                              Himalayan monkshood (ativiṣā)
  sometimes be Cryptolepis or
                                                 Aconitum heterophyllum Wall.
  Ichnocarpus fruitescens R. Rr.
                                                 GVDB: 12, NK: v. 1, #39, 57
   (GVDB: 429-431), 41, 56
                                              hogweed (punarnavā) Boerhaavia diffusa,
crape jasmine (tagara) Tabernaemontana
                                                 L. See ADPS: 387, AVS: v. 1, 281,
  divaricata (L.) R.Br. ex Roem. &
                                                 NK: v. 1, #363, 52
  Schultes. See GJM1: 557, AVS: v. 5, 232.
                                              Indian barberry (dāruharidrā) Berberis
  Synonym of ??. But some say Valeriana
                                                 aristata, DC. See Dymock: v. 1, 65,
  jatamansi, Jones See GVDB: 173-174 for
                                                 NK: v. 1, #685, GJM1: 562, IGP 141, 53
  discussion (and charming comments
                                              Indian madder (mañjisthā) Rubia
  on brain liquid testing), 53, 99
                                                 cordifolia, L. See IGP, Chopra,
crimson trumpet-flower tree (pātalā)
                                                 GIMP: 215, GVDB: 289, 53
  Stereospermum chelonides, (L. f.) A.
                                              Indian sarsaparilla (s\bar{a}riv\bar{a}) \rightarrow anant\bar{a}.
   DC. See GJM1: 573, AVS: v. 5, 192 ff,
                                                 Hemidesmus indicus, (L.) R. Br.
  ADPS: 362 f, AVS: v. 3, 1848 f, IGP 1120,
                                                 ADPS: 434, AVS: v. 3, 141-5, NK: v. 1,
  Dymock: v. 3, 20 ff, 56
                                                 #1210; and black creeper, pālindī.
deodar (bhadradāru) Cedrus deodara,
                                                 Ichnocarpus frutescens, (L.) R.Br. or
   (Roxb.ex D.Don) G. Don. See AVS 41,
                                                 Cryptolepis buchanani, Roemer &
  NK: v. 1, #516, 53
                                                 Schultes AVS: v. 3, 141, 3.145, 3.203,
embelia (vidanga) Embelia ribes, Burm. f.
                                                 NK: v. 1, #1283, 1210, ADPS: 434, 53, 99
  See ADPS: 507, AVS: v. 2, 368, NK: v. 1,
                                              jequirity (guñjā) Abrus precatorius, L. See
  #929, Wren et al. 1994: 113, 53
                                                 AVS: v. 1, 10, NK: v. 1, #6, Wren et al.
false daisy (subhangurā) (su)bhangura =
                                                 1994: 168, 41
  bhrnga? Eclipta prostrata (L.) L. See
                                              lac (lākṣā) Kerria lacca (Kerr.). See
  GVDB: 288, 41
                                                 GJM1: 445, NK: v. 2, #32. Watt
garjan oil tree (aśvakarna) Dipterocarpus
                                                 (1908: 1053–1066) is characteristically
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- informative, and is definite about the antiquity of lac in India, 57
- liquorice (?) (*klītaka*) Glycyrrhiza glabra, L.? GVDB: 123–124 discuss the many difficulties in identifying this plant, 41
- liquorice (*madhuka*) Glycyrrhiza glabra, L. See AVS: v. 3, 84, NK: v. 1, #1136, 53
- 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 *paṭṭikā lodhra*, 53
- long pepper (*pippalī*) Piper longum, L. See ADPS: 374, NK: v. 1, #1928, 53
- medhshingi (vijayā2) Dolichandrone falcata (DC.) The Sauśrutanighanṭu gives a number of synonyms for vijayā (Suvedī and Tīvārī 2000: 5.77, 10.143). But one of them, viṣānī (also meṣaśṛṅgī), is sometimes equated with Dolichandrone falcata (DC.) Seemann (ADPS: 518; GVDB: 373 f, a plant used as an abortifacient and fish poison (NK: #862), 41
- myrobalan (*abhayā*) Terminalia chebula, Retz. See ADPS: 172, NK: v. 1, #2451, Wren et al. 1994: 214, 57
- natron (*suvarcikā*) Sodium carbonate. NK: v. 2, #45. Ņalhaṇa identifies *suvarcikā* with svarjikṣāra 4.8.50 (Su 1938: 441), 53
- nutgrass (*kuruvinda*) Unknown. Þalhaṇa 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, ṣaṣṭika dhānya, 57
- nutgrass (*mustā*) Cyperus rotundus, L. See ADPS: 316, AVS: v. 2, 296, NK: v. 1, #782, 100
- 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, 52, 53, 57
- peepul tree (*aśvattha*) Ficus religiosa, L. See ADPS: 63, 59
- poison berry (*bṛhatī*) Solanum violaceum, Ortega. See ADPS: 100, NK: v. 1, #2329, AVS: v. 5, 151, 53
- 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, 53
- red chalk (gairika) gairika, 53
- rosha grass (*dhyāmaka*) Cymbopogon martinii (Roxb.) Wats. See AVS: v. 2, 285, NK: v. 1, #177, 53
- sandalwood (*candana*) Santalum album, L. See ADPS: 111, NK: v. 1, #2217, 53
- scented pavonia (*bālaka*) Pavonia odorata, Willd. See ADPS: 498, NK: v. 1, #1822, 53
- small-flowered crape myrtle (*sidhraka*) Lagerstroemia parviflora Roxb. See GVDB: 432, 56
- spikenard (māṃsī) Nardostachys grandiflora, DC. See NK: v. 1, #1691, 53
- sugar (*sitā*) Dalhaṇa makes this equation at 1.37.25 (Su 1938: 162), 53
- sweet-scented oleander (aśvamāraka) Nerium oleander, L. See ADPS: 223, NK: v. 1, #1709, 41
- Tellicherry bark (*kuṭaja*) Holarrhena pubescens Wall. ex G.Don, with Wrightia tinctoria and W. arborea considered GVDB: 101–102, ADPS: 267–270, 99
- 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, 52 turmeric (haridrā) Curcuma longa Linn. GVDB: 465, 57 turmeric (rajanī) Curcuma longa, L. ADPS: 169, AVS: v. 2, 259, NK: v. 1, #750, 53 water-lily (utpala) Nymphaea stellata, Willd. See GJM1: 528, IGP 790; dutt, NK: v. 1, #1726, 53

weaver's beam tree (*muṣkaka*) Schrebera swietenioides, Roxb. See AVS: v. 5, 88, Lord, NK: v. 1, #2246, 56 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, 56 yellow-berried nightshade (*kṣudrā*) Solanum virginianum, L. See ADPS: 100, NK: v. 1, #2329, AVS: v. 5, 164, 53

## **Todo list**

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maṣī burned charcoal. Find refs	56
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