

<p><b>Kādinava</b> (9 letters from "Ka", plus "Ñ" for 0):  <b>Ka-Kha-Ga-Gha-Ņa-Ca</b>-Cha*-<b>Ja-Jha-Ņa*</b>  <b>Ṭādinava</b> (9 letters from "Ṭa", plus "N" for 0):  <b>Ṭa-Ṭha-Ḍa*-Ḍha*-Ṇa-Ta-Tha*-Da-Dha-Na</b>  <b>Pādipañca</b> (5 letters from "Pa"):  <b>Pa-Pha*-Ba*-Bha-Ma</b>  <b>Yādyasṭa</b> (8 letters from "Ya"):  <b>Ya-Ra-La-Va-Śa-Ṣa-Sa-Ha</b></p>	<p><b>Tips:</b> repeat the first two syllables of a mela name, each resulting in a <b>number-pair</b>; and remember: "K" stands for 1", and "N stands for 0 (zero)". Reversing "K-N" yields "01", as indicated below: "K-N=10&gt;&lt;01".  <b>Next:</b> go through all melas <b>sharing the second numbers</b> "2" (02 to 72), "3" (03 to 63), "4" (04 to 64) etc.  <b>Explore:</b> check all "<b>twin numbers</b>" (11, 22 ... 66), and find preferred letters for melas containing "0", "1", "2", "3" etc.</p>
01. <b>Kanakāṅgi</b> K-N=10><01	37. <b>Sālagam</b> S-L=73><37
02. <b>Ratnāṅgi</b> R-N=20><02	38. <b>Jalārṇavam</b> J-L=83><38
03. <b>Gānamūrti</b> G-N=30><03	39. <b>Jhālarāḷi</b> Jh-L=93><39
04. <b>Vanaspati</b> V-N=40><04	40. <b>Navanītam</b> N-V=04><40
05. <b>Mānavati</b> M-N=50><05	41. <b>Pāvani</b> P-V=14><41
06. <b>Tānarūpi</b> T-N=60><06	42. <b>Raghupriya</b> R-Gh=24><42
07. <b>Sēnāvati</b> S-N=70><07	43. <b>Gavāmbōdhi</b> G-V=34><43
08. <b>Hanumatōḍi</b> H-N=80><08	44. <b>Bhavapriya</b> Bh-V=44><44
09. <b>Dhēnuka</b> Dh-N=90><09	45. <b>Śubhapantuvarāḷi</b> Ś-Bh=54><45
10. <b>Nāṭakapriya</b> N-Ṭ=01><10	46. <b>Ṣaḍvidhamārgiṇi</b> Ṣ-V=64><46
11. <b>Kōkilapriya</b> K-K=11><11	47. <b>Suvarṇāṅgi</b> S-V=74><47
12. <b>Rūpāvati</b> R-P=21><12	48. <b>Divyamaṇi</b> D~V=84><48
13. <b>Gāyakapriya</b> G-Y=31><13	49. <b>Dhavalāmbari</b> Dh-V=94><49
14. <b>Vakulābharāṇam</b> V-K=41><14	50. <b>Nāmanārāyaṇi</b> N-M=05><50
15. <b>Māyāmājavagauḷa</b> M-Y=51><15	51. <b>Kāmavardhani</b> K-M=15><51
16. <b>Cakravākam</b> C~K=61=16	52. <b>Rāmapriya</b> R-M=25><52
17. <b>Sūryakāntam</b> S-Y=71><17	53. <b>Gamanaśrama</b> G-M=35><53
18. <b>Hāṭakāmbari</b> H-Ṭ=81><18	54. <b>Viśvambhari</b> V~Ś=45><54
19. <b>Jhankāradhvani</b> Jh-K=91><19	55. <b>Śyāmalāṅgi</b> Ś~M=55><55
20. <b>Naṭhabhairavi</b> N-Ṭh=02><20	56. <b>Ṣaṇmukhapriya</b> Ṣ-M=65><56
21. <b>Kīravāṇi</b> K-R=12><21	57. <b>Simhēndramadhyamam</b> S~M=75><57
22. <b>Kharaharapriya</b> Kh-R=22><22	58. <b>Hēmāvati</b> H-M=85><58
23. <b>Gaurīmanōhari</b> G-R=32><23	59. <b>Dharmavati</b> Dh-M=95><59
24. <b>Varuṇapriya</b> V-R=42><24	60. <b>Nītimati</b> N-T=06><60
25. <b>Māraraṅjani</b> M-R=52><25	61. <b>Kāntāmaṇi</b> K-T=16><61
26. <b>Cārukēsi</b> C-R=62><26	62. <b>Riṣabhapriya</b> R-Ṣ=26><62
27. <b>Sarasāṅgi</b> S-R=72><27	63. <b>Latāṅgi</b> L-T=36><63
28. <b>Harikāmbhōji</b> H-R=82><28	64. <b>Vācaspati</b> V-C=46><64
29. <b>Dhīraśankarābharāṇam</b> Dh-R=92><29	65. <b>Mēcakalyāṇi</b> M-C=56><65
30. <b>Nāgānandini</b> N-G=03><30	66. <b>Citrāmbari</b> C~T=66><66
31. <b>Yāgapriya</b> Y-G=13><31	67. <b>Sucaritra</b> S-C=76><67
32. <b>Rāgavardhani</b> R-G=23><32	68. <b>Jyōtisvarūpiṇi</b> J~T=86><68
33. <b>Gāṅgēyabhūṣaṇi</b> G-G=33><33	69. <b>Dhātuvardhani</b> Dh-T=96><69
34. <b>Vāgadhīsvari</b> V-G=43><34	70. <b>Nāsikābhūṣaṇi</b> N-S=07><70
35. <b>Śūlini</b> Ś-L=53><35	71. <b>Kōsalam</b> K-S=17><71
36. <b>Calanāṭa</b> C-L=63><36	72. <b>Rasikapriya</b> R-S=27><72
<b>Note:</b> * letters not used for Govindachari's mela-initials	<b>Note:</b> ~ irregular according to Sanskrit conventions

### The Kaṭapayādi sūtra as applied to the names of 72 mēḷakartā rāgas ("melas")

Numbers indicated by consonants matching the arrangement of letters in the Sanskrit alphabet	1	2	3	4	5	6	7	8	9	0
<b>Kādinava</b> (9 letters from "Ka", plus "Ñ" for 0): 1 to 5 are <i>gutturals</i> (arising from the throat); and 6 to 0 are <i>palatals</i> (arising from the back of the palate) <b>Ka-Kha-Ga-Gha-Ņa-Ca-Cha*-Ja-Jha-Ña*</b>	<b>ka क</b>	<b>kha ख</b>	<b>ga ग</b>	<b>gha घ</b>	<b>ṅa ङ</b>	<b>ca च</b>	[cha छ]	<b>ja ज</b>	<b>jha झ</b>	[ña ञ]
<b>Tādinava</b> (9 letters from "Ta", plus "N" for 0): 1 to 5 are <i>retroflex</i> (with tongue touching the roof of the mouth); and 6 to 0 are <i>dentals</i> (with tongue touching the back of the teeth) <b>Ṭa-Ṭha-Ḍa*-Ḍha*-Ṇa-Ta-Tha*-Da-Dha-Na</b>	<b>ṭa ट</b>	<b>ṭha ठ</b>	[ḍa ढ]	[ḍha ढ]	[ṇa ण]	<b>ta त</b>	[tha थ]	<b>da द</b>	<b>dha ध</b>	<b>na न</b>
<b>Pādipañca</b> (5 letters from "Pa"): five <i>labials</i> (arising from the lips) <b>Pa-Pha*-Ba*-Bha-Ma</b>	<b>pa प</b>	[pha फ]	[ba ब]	<b>bha भ</b>	<b>ma म</b>					
<b>Yādyasṭa</b> (8 letters from "Ya") including three variants of "S": <i>palatal Ś</i> , <i>retroflex Ṣ</i> and <i>dental "S"</i> <b>Ya-Ra-La-Va-Śa-Ṣa-Sa-Ha</b>	<b>ya य</b>	<b>ra र</b>	<b>la ल</b>	<b>va व</b>	<b>śa श</b>	<b>ṣa ष</b>	<b>sa स</b>	<b>ha ह</b>		
* marks the letters not used for Govindachari's mēḷa-initials e.g. [ña] ञ										
<b>Tip:</b> to memorize the <i>Kaṭapayādi sūtra</i> recite the entire series aloud as follows:										
<b>Ka Kha Ga Gha Ṇa Ca Cha Ja Jha Ṇa</b> <b>Ṭa Ṭha Ḍa Ḍha Ṇa Ta Tha Da Dha Na</b> <b>Pa Pha Ba Bha Ma</b> <b>Ya Ra La Va Śa Ṣa Sa Ha</b>										

#### Notes (conventions and pronunciation)

The seven letters enclosed by [square brackets] do not figure in Govindachari's 18th c. *mēḷakartā* scheme: they are not found among the two key syllables added or used for mnemonic purposes.

For the *Kaṭapayādi sūtra* to work it is important to clearly pronounce the "h" as transliterated according to Sanskrit conventions for consonants: for instance kha ख and gha घ are distinct aspirated consonants. For example, "kh" is pronounced as in *inkhorn*, and "gh" as in *log house*; and "th" as in *anthill* etc.

Apply this to *mēḷakartā* ragas by pronouncing "Naṭhabhairavi" as to ensure that the letter combination "Naṭha" matches numbers "0" and "2", then reversed to indicate the raga's 20th position in the *mēḷakartā* scheme (i.e. Naṭhabhairavi with the aspirated "ṭh", not "Naṭabhairavi").

In Sanskrit all consonants contain an "a" unless modified (ka, kha etc.), pronounced as "u" in *but*. This is substituted by other vowels occurring in the names of *mēḷakartā* ragas like Kīravāṇi and Kōkilapriya.

The three consonants found in the last row – numbers 5, 6 and 7 ("śa", "ṣa" and "sa") – each represent a distinct sound: *palatal Ś*, *retroflex Ṣ* and *dental "S"*. They are pronounced approximately as in English *she*, *leash* and *see* respectively: see Śyāmaḷāṅgi (mēḷa 55), Ṣaṅmukhapriya (mēḷa 56) and Simhēndramadhyamam (mēḷa 57).

Sanskrit vowels (a अ, ā आ, i इ, ī ई, u उ, ū ऊ, e ए, ai ऐ, o ओ, au औ, ṛ / ṝ ऋ, ṝ / ṝ̄ ॠ, ḷ / ḹ लृ, ḹ / ḹ̄ लृ) and some consonant clusters (kṣa क्ष, tra त्र, jña ज्ञ and śra श्र) are excluded in the above table as they are not needed for the purpose of mēḷa mnemonics (*Kaṭapayādi sūtra*). Some of these do, of course, figure in the "full names" of *mēḷakartā* and other ragas like Gamanaśrama (mēḷa 53).

For learners' convenience all long vowels seen in the names of *mēḷakartā* ragas are marked as such (including those that are always considered as "long" in Sanskrit (ē, ai, ō and au); e.g. Hēmāvati, Kōsalam. Pronounce long Sanskrit vowels approximately as "ā" as in *father*, "ī" as "ee" in *deep*, "ū" as "oo" in *root*, "ē" as "ei" in *reign*, "ai" as "i" in *fine*, "ō" as in *noble*, and "au" as "ow" in *vow*.