

72 MELAKARTA TALAS

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ABSTRACT

The 72 Melakarta Tala scheme is one of the most complicated and least understood theoretically systems of Carnatic music. While the Melakarta system is generally known and used in a very organised way for the classification of ragas, its rhythmic categorisation—based on the Katapayadi method—has not much been discussed by scholars. Especially, scanty theoretical and structural issues and practical usage for these 72 Melakarta Talas and their linkage with other established rhythmic frameworks have been laid out so far. Besides, the paper extensively discusses the trailblazing musical contributions of Vidwan Padma Vibhushan Dr. T. K. Murthy whose performance, composition, and pedagogical innovations not only explain the artistic side but also the mathematical accuracy of the Melakarta Talas execution. Eventually, the study specifies rhythmic correspondences between the Melakarta raga system and these seldom used talas, thus opening up the possibilities of their increased usage in the contemporary performance practice, pedagogy, and research of South Indian rhythmic traditions. The results praise the tradition as a living musical language with South Indian rhythm as a complex and culturally significant musical phenomenon in modern musical discourse.

Keywords: Carnatic Music, Tala System, 72 Melakarta Talas, Rhythmic Structure, Time Measurement in Music

Introduction

Carnatic music is one of South India's most ancient and classical musical traditions. Just as the swaras (notes) and ragas in Carnatic music possess unique characteristics recognized worldwide, the talas (rhythmic cycles) too hold their own distinctive importance. In the art of music, time measurement plays a vital role. The musical system that represents the measurement of time is known as tala. Uniform or repetitive time structures in music tend to create monotony; hence, diverse time patterns have been developed to maintain variety and rhythmic beauty. As a result, numerous talas have evolved within the musical system. Each tala has its own prescribed structure, time measures, and rules.

Just as the combination of swaras gives rise to countless ragas, the variation of tala angas (components) leads to the creation of numerous talas. These are categorized as the seven talas, 35 talas, and 175 talas. However, in ancient times, not only the Navasandhi talas, 108 talas, and 72 Melakarta talas were in practice, but also during the medieval period, 52 rare talas were in use. Among these, the 72 Melakarta talas, their components, and distinctive features are elaborated upon in this article.

Objective of the Study

This research will explore the theoretical framework, structure and practical implications of the 72 Melakarta Talas as they exist within the musical rhythm of Carnatic music. The Melakarta system is a proven and accepted method for creating a melody within Carnatic music; therefore the focus will be on how these Talas have yet to gain similar importance in the area of Performance & Pedagogy. This publication will trace the history and develop an understanding of the Melakarta Talas through an explanation of the mathematical derivation of the classification system for these Talas (the Katapayadi system) as well as describe how they are divided into Angas. In addition, the research will also give recognition to the work of Vidwan Padma Vibhushan Dr. T. K. Murthy, and how he has demonstrated their potential for creating artistry. Ultimately, this study hopes to create a renewed interest in the study of the 72 Melakarta Talas, promote further academic research about them, and provide a means for the incorporation of these rhythmic structures into Contemporary Musical Practices.

Methodology

In this research, we use a qualitative method based on historical writings, theories, and evidence from performance to study the 72 Melakarta Talas. To gain insight into their structure and application, we used key musical texts and archival recordings (particularly those of Vidwan Padma Vibhushan Dr T K Murthy). In addition to these sources, we have consulted practitioners who share their insights on the topic, as well as conducted comparative studies, which provide us with additional means to interpret and validate our findings.

72 Melakarta Talas

In the mid-17th century CE, the great musicologist Venkatamakhi composed the Sanskrit treatise Chaturdandi Prakasika. In this seminal work, Venkatamakhi classified and systematized 72 parent ragas (Melakarta ragas) for the first time. This was a groundbreaking step in organizing the raga system within the Carnatic music tradition.

Later, in the 18th century CE, Govindacharya authored another Sanskrit text titled Sangraha Choodamani, in which he introduced a systematic nomenclature for the 72 ragas using the Katapayadi numerical system — naming them in order as Kanakangi, Ratnangi, and so on. The Katapayadi system is a mathematical method that assigns numerical values to Sanskrit letters, allowing the computation of the names and sequential order of ragas. Since Govindacharya served as a royal astrologer in the Thanjavur court, he applied this mathematical approach to musical theory and established the Katapayadi principle for naming and numbering ragas.

Following this method, musicians and theorists in later centuries used the same numerical framework to design 72 tala structures corresponding to the 72 Melakarta ragas. The Katapayadi system eventually became the foundation for the “Thaat” classification system in Hindustani music during the 20th century. In the 72 Melakarta tala system, all sixteen angas (components) of the traditional Margi tala structure are incorporated. The descriptions and details of these talas can be found in important treatises such as Sangeeta Chandrika, Sangeeta Tala Raga Malai, Tala Sangraham, and Kaichuvadi.

72 Melakarta Talas and Their Structural Components

The following table presents the 72 Melakarta Talas, designed in correspondence with the 72 Melakarta ragas of Carnatic music. Each tala is defined by its Angas (structural units such as Laghu, Dhruta, Guru, Anudhruta, Pluta, Kakapada, and Sekara Viraamam) and their respective Akshara counts. These rhythmic structures illustrate how the theoretical framework of rhythm evolved parallel to the Melakarta raga system, highlighting the mathematical and aesthetic balance between melody and rhythm in the Carnatic tradition.

SN	Name of Tala	Angas	Aksharas
1	Kanakaangi	1Anudhrutha,1Dhrutha, 1Guru,1Laghu	15
2	Rathnaangi	1Guru, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu	20
3	Ganamurthi	1Laghu, 2Anudhruthas, 1Laghu, 1Dhrutha Sekara Viraamam, 1Guru, 1Anudhrutha	22
4	Vanaspathi	1Laghu, 2Anudhruthas, 1Guru, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara Viraamam	22
5	Maanavathi	1Laghu, 1Dhrutha Sekara Viraamam, 1 Anudhrutha, 1Laghu, 1Anudhrutha, 1 Laghu, 1Dhrutha Sekara Viraamam	20
6	Dhanarupi	1Guru, 1Anudhrutha, 1Laghu, 1Dhrutha	15
7	Senaavathi	1Gurus, 1Dhrutha Sekara Viraamam, 1Dhrutha, 1Laghu, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara Viraamam	25
8	Hanumathodi	1Guru, 2Anudhruthas, 1Laghu, 1Dhrutha, 1Pluta, 1Dhrutha, 1Laghu	34
9	Dhenuka	1Pluta, 2Anudhruthas, 1Dhrutha	16
10	Natakapriya	3Dhruthas, 1Laghu, 1Dhrutha	12
11	Kokilapriya	1Guru, 1Anudhrutha, 1Dhrutha, 2Laghus, 1 Dhrutha	21
12	Rupaavathi	1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara Viraamam	19
13	Gayakapriya	1Laghu, 1Anudhrutha, 2Dhruthas, 1Laghu, 1Dhrutha	15
14	Vagula bharanam	1Laghu, 1Anudhrutha, 2Dhruthas, 1Laghu, 1Anudhrutha, 1Dhrutha Sekara Viraamam, 1Guru, 1Dhrutha Sekara Viraamam	28
15	Maya malava goulam	1Laghu, 2Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha Sekara Viraamam, 1Anudhrutha, 1Laghu, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara Viraamam, 1Anudhrutha	31
16	Chakravaham	1Laghu, 1Dhrutha Sekara Viraamam, 2Laghus, 1Dhrutha, 1Laghu, 1Dhrutha Sekara Viraamam	24
17	Suryakantham	1Guru, 1Dhrutha Sekara Viraamam, 1Dhrutha, 1Guru, 1Pluta	33
18	Haata kambari	1Guru, 2Dhruthas, 1Guru, 1Laghu, 1Dhrutha Sekara Viraamam	27
19	Jankaradh wani	1Pluta, 3Dhrutha Sekara Viraamams, 1Pluta, 1Dhrutha, 1Anudhrutha	36

20	Nata bhairavi	1Anudhrutha, 1Dhrutha Sekara Viraamam, 1Laghu, 2Dhrutha Sekara Viraamams, 1Laghu, 1Anudhrutha	19
21	Keeravani	2Dhrutha Sekara Viraamams, 1Laghu, 1Dhrutha, 1Laghu, 1Dhrutha	18
22	Karahara priya	2Dhrutha Sekara Viraamams, 1Guru, 1Anudhrutha, 1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha	24
23	Gowri manohari	1Laghu, 1Dhrutha Sekara Viraamam, 2Laghus, 1Dhrutha, 2Gurus, 1Anudhrutha, 1Dhrutha Sekara Viraamam	37
24	Varuna priya	1Laghu, 1Anudhrutha, 1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha, 1Laghu, 1Dhrutha	20
25	Maara ranjani	1Laghu, 2Dhrutha Sekara Viraamams, 2Gurus, 2Anudhruthas	28
26	Charukesi	1Guru, 1Dhrutha Sekara Viraamam, 1Laghu, 1Anudhrutha, 1Laghu, 1Dhrutha	22
27	Sarasaangi	1Guru, 1Dhrutha Sekara Viraamam, 1Pluta, 1Dhrutha, 1Laghu	29
28	Harikamboji	1Guru, 1Anudhrutha, 1Dhrutha Sekara Viraamam, 1Guru, 1Pluta, 1Guru, 1Anudhrutha	41
29	Dheera sankara bharanam	1Guru, 2Dhrutha Sekara viramams, 1Guru, 1Dhrutha Sekara Viraamam, 1Dhrutha, 2Laghus, 1Anudhrutha, 1Dhrutha Sekara Viraamam, 1Guru, 1Dhrutha Sekara Viraamam	50
30	Nagaa nandhini	1Dhrutha, 1Laghu, 1Anudhrutha, 1Laghu, 1Dhrutha, 1Guru, 2Anudhruthas	23
31	Yagapriya	1Dhrutha Sekara Viraamam, 2Laghus, 1Dhrutha	13
32	Raga vardhini	3Laghus, 1Anudhrutha, 1Guru, 1Dhrutha, 1Anudhrutha	24
33	Gangeya bhushani	1Guru, 1Dhrutha, 1Laghu, 1Dhrutha Sekara Viraamam, 1Dhrutha, 1Laghu, 1Dhrutha, 1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha	38
34	Vaga dheeshwari	1Laghu, 1Dhrutha, 1Laghu, 1Guru, 1Dhrutha Sekara Viraamam, 1Guru, Dhrutha, 1Dhrutha Sekara Viraamam	34
35	Soolini	1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu, 1Anudhrutha	12
36	ChalaNaata	1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu, 2Dhruthas	15
37	Chalagam	1Guru, 1Anudhrutha, 1Laghu, 1Guru, 1Anudhrutha	22
38	Jalaarnavam	1Guru, 1Anudhrutha, 1Laghu, 1Anudhrutha, 2Gurus, 1Dhrutha	32
39	Jaalavarali	1Guru, 1Dhrutha Sekara Viraamam, 2Laghus, 1Anudhrutha, 1Laghu, 1Anudhrutha	25
40	Navaneetham	1Anudhrutha, 1Laghu, 1Anudhrutha, 1Dhrutha, 1Laghu, 1Dhrutha Sekara Viraamam	15
41	Paavani	1Dhrutha Sekara Viraamam, 1Laghu, 2Anudhruthas	9
42	Raghupriya	1Dhrutha Sekara Viraamam, 1Laghu, Anudhrutha, 1Laghu, 1Dhrutha	14
43	Kavaamboothi	1Laghu, 1Guru, 1Dhrutha Sekara Viraamam, 1Pluta, 1Guru, 1 Anudhrutha	36
44	Bhavapriya	1Laghu, 1Anudhrutha, 1Laghu, 1Anudhrutha, 1Laghu, 1Dhrutha	16
45	Subha panthavarali	1Laghu, 1Dhrutha, 1Laghu, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu, 1Anudhrutha, 1Laghu, 1 Anudhrutha	35
46	Shadvitha maargini	1Guru, 1Dhrutha, 1Laghu, 1Anudhrutha, 1Guru, 1Dhrutha, 1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha, 1Laghu, 1Dhrutha	44
47	Suvarnaangi	1Guru, 1Laghu, 1Dhrutha, 1Pluta, 1Dhrutha, 1Laghu	32
48	Divyamani	1Guru, 1Anudhrutha, 1Laghu, 1Dhrutha, 1Laghu, 1Dhrutha, 1Laghu, 1Dhrutha	27
49	Davalaambari	1Guru, 1Anudhrutha, 1Laghu, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara	28

		Viraamam,1Laghu, 1Dhrutha Sekara Viraamam	
50	Naama narayani	1Dhrutha,1Laghu, 2Dhruthas,1Laghu, 1Dhrutha,1Laghu, 1Dhrutha	22
51	Kaamavardhini	1Dhrutha Sekara Viraamam,1Laghu, 1Dhrutha,1Laghu, 1Anudhrutha,1Pluta, 1Anudhrutha	27
52	Raamapriya	2-aghush,1Dhrutha, 1Laghu,1Dhrutha	16
53	Gamanashrama	2Laghus,1Dhrutha, 1Anudhrutha, 1Laghu,1Dhrutha	17
54	Viswambari	1Laghu,1Anudhrutha, 1Pluta,1Dhrutha Sekara Viraamam, 1Laghu,1Dhrutha Sekara Viraamam	27
55	Syamalangi	1Guru,1Laghu, 1Dhrutha,1Laghu, 1Dhrutha Sekara Viraamam,1Laghu	25
56	Shanmukha priya	1Pluta,1Laghu,1Dhrutha, 1Dhrutha Sekara Viraamam,1Laghu, 1Dhrutha	27
57	Simhendra madhyamam	1-Guru,1-Kakapada,1-Laghu,1-Dhrutha,1- Guru,1-Dhrutha Sekara Viraamam,1- Laghu,1Dhrutha,1Guru,1-Dhrutha Sekara Viraamam, 1Guru, 1Dhrutha Sekara Viraamam	69
58	Hemaavathi	1Pluta, 1Laghu, 1Dhrutha, 1Laghu, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara Viraamam	30
59	Dharmavathi	1Pluta, 1Laghu, 1Dhrutha, 1Laghu, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara Viraamam	30
60	Neethimathi	1Dhrutha, 1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha, 1Laghu, 1Dhrutha Sekara Viraamam	22
61	Kaanthamani	2Gurus, 1laghu, 1Dhrutha, 1Laghu, 1Dhrutha	28
62	Rishabhapriya	1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu, 1Anudhrutha, 1Laghu, 1Dhrutha	21
63	Lathaangi	1Laghu, 1Pluta, 1Anudhrutha, 1Laghu	21
64	Vachaspathi	1Laghu, 1Dhrutha, 1Laghu, 1Dhrutha Sekarar Viraamam, 1Guru, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara Viraamam	29
65	MechaKalyani	1Guru, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara Viraamam, 1Dhrutha, 1Laghu, 1Dhrutha, 1Laghu, 1Dhrutha	30
66	Chithraambari	1Laghu, 1Dhrutha Sekara Viraamam, 1Pluta, 1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha Sekara Viraamam	29
67	Sucharithra	1Guru, 1Laghu, 2Dhrutha Sekara Viraamams, 1Guru, 1Anudhrutha	27
68	Jyothi swarupini	1Kakapada, 1Anudhrutha, 1Laghu, 1Dhrutha Sekara Viraamam, 1Pluta, 1Laghu, 1Dhrutha, 1Laghu, 1Dhrutha	48
69	Dathuvaradhani	1Guru, 1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu, 1Anudhrutha, 1Pluta, 1Anudhrutha	36
70	Naasikha bhushani	1Dhrutha, 1Guru, 1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha, 1Laghu, 1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha	32
71	Kosalam	1Guru, 1Anudhrutha, 2Gurus, 1Anudhruthas	26
72	Rasikapriya	1Dhrutha Sekara Viraamam, 1Guru, 1Dhrutha Sekara Viraamam, 1Laghu, 1Dhrutha	20

Use of the 72 Melakarta Talas

Vidwan Padma Vibhushan Dr. T. K. Murthy, is renowned for his extraordinary contribution to the rhythmic dimension of Carnatic music. Among his numerous innovations, his creative use of the 72 Melakarta Talas stands out as a significant milestone in rhythmic research and pedagogy.

Dr. T. K. Murthy demonstrated rhythmic structures (tala patterns) corresponding to each of the 72 Melakarta ragas, thereby bringing a rhythmic parallel to the melodic framework. His approach was not merely theoretical; he composed and performed korvais, mora-s, and nadai variations within these talas, illustrating the mathematical and aesthetic possibilities inherent in them.

He also trained many students to recognize the relationship between raga and tala, emphasizing that rhythmic creativity should mirror the melodic logic. Through concerts, workshops, and lec-dems, he popularized this idea as a method of both performance innovation and academic exploration.

Dr. Murthy's 72 Melakarta Tala project thus represents a bridge between tradition and innovation, reaffirming the depth and versatility of South Indian rhythm in the modern era.

Mohara

1st Part

5 + 2 = 7 Matras	6 + 2 = 8 Matras	7 Matras	8 Matras	30 matras
kitathakatharigidathom thaam	thomkitathakatharigitathka thaam	thathakitathakatharigitathom	Thith thangidathakatharigidathaka	
5 + 2 = 7 Matras	6 + 2 = 8 Matras	7 Matras	8 Matras	30 matras
kitathakatharigidathom thaam	thomkitathakatharigitathka thaam	thathakitathakatharigitathom	Thalangu Thinth Thalangu Thom	
5 + 2 = 7 Matras	6 + 2 = 8 Matras	7 Matras	8 Matras	30 matras
kitathakatharigidathom thaam	thomkitathakatharigitathka thaam	thathakitathakatharigitathom	Thith thangidathakatharigidathaka	
5 + 2 = 7 Matras	6 + 2 = 8 Matras	7 Matras	8 Matras	30 matras
Kitathakatharigidathom thaam	thomkitathakatharigitathka thaam	thathakitathakatharigitathom	Thalangu Thinth Thalangu Thom	
			Total Matras	120 Matras

2nd Part

5 + 2 = 7 Matras	6 + 2 = 8 Matras	7 Matras	8 Matras	30 matras
kitathakatharigidathom thaam	thomkitathakatharigitathka thaam	thathakitathakatharigitathom	Thith thangidathakatharigidathaka	
5 + 2 = 7 Matras	6 + 2 = 8 Matras	7 Matras	4 Matras	26 matras
kitathakatharigidathom thaam	thomkitathakatharigitathka thaam	thathakitathakatharigitathom	Thalangu Thom	

3rd Part

5 + 2 = 7 Matras	6 + 2 = 8 Matras	7 Matras	4 Matras	26 matras
kitathakatharigidathom thaam	thomkitathakatharigitathka thaam	thathakitathakatharigitathom	Thalangu Thom	
5 + 2 = 7 Matras	6 + 2 = 8 Matras	7 Matras	6 Matras	28 matras
Kitathakatharigidathom thaam	thomkitathakatharigitathka thaam	thathakitathakatharigitathom	Thalangu Thinth Thalangu Thom	
6 Matras	4 Matras			10 matras
Thalangu Thinth Thalangu Thom	Thalangu Thinth			
			Total Matras	120 Matras

Korvai

8 matras	4 matras	12 matras
Thathi Thakajonu	Thintha Tham	
6 matras	4 matras	10 matras
Thi Thakajonu	Thintha Tham	
4 matras	4 matras	8 matras
Thakajonu	Thintha Tham	
6 matras	3 matras (Karvai)	9 matras
Thatheekitathom	Thaangu	
8 matras	3 matras (Karvai)	11 matras
Thaka Thatheekitathom	Thaangu	
10 matras		10 matras
Thakathiku Thatheekitathom		
	Total Matras	60 matras

Conclusion

The 72 Melakarta Talas reflect the profound interplay between melody and rhythm in Carnatic music. Through the pioneering work of Dr. T. K. Murthy, these talas have not only enriched rhythmic performance but also inspired a systematic approach to teaching, composing, and understanding tala structures. This integration of mathematical rigor and artistic expression continues to influence contemporary percussion pedagogy and performance.

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