



Notation Systems in Tirumala Inscriptions: Insights into Early Music Practice



Layapriya CMR

M.A Music, 2nd Year
Department of Music,
Suravaram Pratapa Reddy Telugu University,
Hyderabad, Telangana, India.



Dr. Vyzarsu Balasubrahmanyam

Assistant professor
Department of Music,
Suravaram Pratapa Reddy Telugu University,
Hyderabad, Telangana, India.

Abstract

This study examines the musical inscriptions of Tirumala, a sacred site in southern India, to decode early systems of music notation and assess their historical significance and contemporary relevance. Engraved on stone slabs and copper plates, these inscriptions extend beyond ritual documentation to preserve crucial details on raga, tala, and compositional structures. Unlike the transient nature of oral transmission through the guru-sishya parampara, inscriptional evidence provided a durable medium for safeguarding melodic and rhythmic frameworks, ensuring both continuity and authenticity across generations. Adopting a multidisciplinary approach that integrates musicology, epigraphy, and cultural studies, the research reconstructs the musical landscape of ancient Tirumala and situates it within the broader trajectory of South Indian music history. The study also traces the evolution of Carnatic notation systems, offering a comparative analysis that deepens the understanding and interpretation of the inscriptions. The study highlights the role of temple institutions as custodians of musical heritage and underscores the pedagogical, cultural, and liturgical significance of these notations. Ultimately, the Tirumala inscriptions emerge as a critical bridge between theoretical treatises and living performance traditions, offering valuable insights into the evolution of Carnatic music while affirming their enduring relevance for contemporary scholarship and practice.

Key words : Carnatic music, Cultural heritage, Music notation, Temple music & Tirumala inscriptions

Research Paper

Introduction

The history of Indian music is often described as an unbroken oral tradition, sustained across centuries by the guru-sishya parampara. However, alongside this oral transmission, epigraphical and manuscript evidence demonstrates that musical knowledge was also preserved through written means.

The Tirumala music inscription, located in the hill temple of Tirumala-Tirupati in Andhra Pradesh, is one of the earliest and most significant records of notated devotional music in South India. The temple, dedicated to Lord Venkateswara (a form of Vishnu), was originally constructed under the patronage of the Thondaman king and later expanded and reformed by the Cholas,

Pandyas, and Vijayanagara rulers. Built in the South Indian architectural style, the temple is believed to have developed gradually from around 300 CE. Installed within the shrine, the Svarasahita Sankeerthana Silalekha functions as a repertory of notated Suladis, while the Sankeerthana Bhandara, established by the Tallapaka poets, preserves copper plates containing their compositions. These parallel traditions, flourishing between the 15th and 16th centuries, reflect a shared objective: the preservation of devotional music through durable written media.

Annamacharya, revered as the Pada Kavita Pitamaha, contributed to the crystallization of the sankeerthana form by introducing structured divisions such as pallavi and charanas. These structural innovations marked a

transition from simple bhajans to the more elaborate compositions that would later form the backbone of Carnatic repertoire. Similarly, the Tirumala inscriptions reveal padam-like compositions shaped through yati, prasa, and carefully measured rhythmic frameworks. For instance, the Chaupadadalam from this inscription and Annamayya's Todaya Mangalam from the copper plates found in the Sankeerthana Bhandara both display structural similarities, including the use of sixteen matras per line, pointing to a shared foundation in musical thought.

The present study examines the notation system in the Tirumala music inscriptions within the broader trajectory of Indian musical history, from Vedic chanting and early Tamil inscriptions to classical treatises and modern notation systems. By situating these inscriptions in historical and theoretical contexts, the study highlights their significance as a transitional stage in the evolution of Carnatic music.

Research Problem

A central issue in South Indian music history is understanding the role of early notational practices in shaping the development of Carnatic music. Oral transmission preserved continuity across generations, but the Tirumala inscriptions demonstrate that a systematic written form was already being practiced. Despite their importance, these inscriptional notations remain understudied, leaving gaps in our knowledge regarding their pedagogical, performative, and theoretical impact.

Objectives of the Study

The aim of this paper is to examine the Tirumala inscriptions as early systematic records of devotional notation. It analyses their linguistic, structural, and musical features, traces their connections with the compositions of Annamacharya, and situates them within the history of Indian musical notation.

The study also traces the evolution of Carnatic notation systems, offering comparative analysis to deepen understanding of the inscriptions. Finally, it evaluates their significance in bridging oral and textual traditions in South Indian musicology.

Hypothesis

The study hypothesizes that the Tirumala inscriptions represent a transitional phase in the evolution of Carnatic notation. By recording both Matu (lyrics) and Dhatu (swaras), they ensured greater accuracy of transmission and laid the foundation for the codification of notational systems in later centuries.

Relevance of the Study

The relevance of this research lies in its emphasis on the epigraphical dimension of music history, which often receives less attention compared to oral traditions or theoretical treatises. The inscriptions underscore the role of temples as custodians of musical heritage, performing a function comparable to that of Vedic chanting traditions in safeguarding liturgical sound. By establishing continuity between ancient inscriptional practices and modern Carnatic pedagogy, they enrich current debates on authenticity, pedagogy, and the preservation of cultural heritage.

Research Methodology

The study employs a multidisciplinary framework of musicology, epigraphy, and cultural studies. Primary sources include the Tirumala inscriptions, first identified by Veturi Prabhakara Sastri in 1949, analyzed for language, script, structure, raga, and tala. A comparative approach links these findings with Vedic chanting, Tamil inscriptions, classical treatises like the *Natyasastra* and *Sangita Ratnakara*, and later notational systems. Secondary sources such as books, journals, and online references provide additional context.

Discussion

Discovery and Documentation

The inscriptions were first discovered by Veturi Prabhakara Sastri in 1949. His disciple A. V. Srinivasacharyulu documented them in 1961. Two slabs were identified in the Champaka Pradakshina precincts of the Tirumala temple, one numbered as slab 4 and the other unnumbered, which was later referred to as slab 2. Although the inscriptions do not explicitly mention a date, king, or author, palaeographic features suggest that the characters belong to the 15th-16th centuries, more specifically between 1460-1512 A.D., and the compositions most likely belong to the Tallapaka poets, supported by circumstantial evidence such as the location of the slabs, the presence of the "Venkata" (with a prefix or a suffix) signature in the devotional songs, and other similarities (Tirumala Music Inscription, 1999, p.6).

Recognizing their historical importance, the Tirumala Tirupati Devasthanam (TTD), in collaboration with the Veturi Prabhakara Sastri Memorial Trust, organized a three-day workshop-cum-seminar from 26th to 28th October 1998 at Tirupati. Eminent musicians, including Vidwan Akella Mallikarjuna Sharma, Vidwan N. S. Srinivasan, and Vidwan Balakrishna Prasad, participated in the analysis of the slabs. This workshop laid the



foundation for the 1999 publication of The Tirumala Music Inscription by TTD, which formally established the inscriptions as valuable historical documents (Tirumala Music Inscription 1999).

Physical Features

The slabs measure approximately 7 feet in length, 4 feet in width, and 9 inches in thickness. Slab 2 contains 94 lines arranged in 47 pairs, while slab 4 has 100 lines arranged as 50 couplets. Each line on both slabs begins with a zero, a feature also noticed in certain Vijayanagara epigraphs, perhaps intended as a margin marker. Scribal errors are more noticeable on slab 2 than on slab 4, although the lettering on slab 2 is generally more legible (Tirumala Music Inscription, 1999, p.2&7).

According to the editorial team that worked on the second stage of the research, there must have been at least 5 slabs in all, but three of them numbered 1, 3 and 5 are missing; only slabs '2' and '4' are available now. This could explain the discontinuity (Tirumala Music Inscription, 1999, p.44).

Notational Structure

Each composition is presented in a dual-line format, with the upper line carrying the lyrics (matu) and the lower line carrying the svaras (dhatu). While the lyrics are in Sanskrit, the script is Telugu. Notably, the conclusion of each tala is also indicated in Telugu, for instance, "Eka talam mugisenu", a convention reflecting the notational practices of the period, and one that also appears in the Tanjore palm-leaf manuscripts on music. This highlights the coexistence of Sanskrit lyrical content with Telugu musical annotation.

Musical Content

The inscriptions largely consist of Suladis, which follow the Suladi Sapta Tala order, a feature reminiscent of Annamayya's works. The first Suladi, inscribed on Slab 2 though incomplete, appears to be an Ekaraga Talamalika Dasavatara (Ten avatars of Lord Vishnu) Suladi (Tirumala Music Inscription, 1999, p.9-10). While the raga is not explicitly mentioned in the inscription, the swara patterns analyzed by the musicological group confirm that it was composed in Malavagaula, corresponding to today's Mayamalavagaula, the 15th Mela. To complement this epigraphical evidence, an audio CD titled Tirumala Silagitam, produced by Nanduri Records in collaboration with the Prabhakara Memorial Trust and released with the courtesy of TTD,

presents a vocal rendition of this composition by Sri Sattiraju Venumadhav (Song on a Stone).

Various ragas mentioned in the slabs include Varali (written as "Varala"), Gaula, and Nata (written as "Sayanata"). In Slab 4, each charanam, in addition to the previously noted dhatu elements, includes another element called prayoga, which indicates the specific application or execution of a note or phrase within the melodic framework, while the term prayoga refers to the Ragalapti set to tala.

Various talas are inscribed, including Dhruva, Triputa (Tivuda), Racam, etc with additional rhythmic passages such as Raganam (extra rhythmic sections between Ata and Eka) and Ekatali (Eka tala variants). Each Suladi composition follows a consistent tala sequence: Dhruva - Matya - Rupaka - Jhampa - Raganam - Tivuda (Triputa) - Ata - Racam - Chaupadadolam - Ekatali, with the end of every tala avarta marked by a vertical line (danda). In these Suladi compositions, kalapramana (tempo or time measure) is not applied uniformly, and the magnitude of the laghu appears variable, showing that the duration of beat units was adapted according to context.

Compositional sections include Uga/Udgraham as the opening, Jyavala as a bridging passage, and Abhogam as the concluding section with the composer's mudra. Another composition, Chaupadadolam, has two parts: Pallavam (refrain, equivalent to Pallavi) and Padam (indicating the Charana or quartet). The term itself derives from cau (four) and pada (section/verse), signifying a composition with four padas (stanzas). The compositions are primarily Yati-akshara Prabandhas, meant for brisk rendition and rooted in the matu-pradhana (text-oriented) tradition.

Some parts of the slabs were incomplete; later, the lyrics were completed by Prof. Pullela Sriramachandrudu, while Vidwan Sri Akella Mallikarjuna Sharma provided the swara notation.

Comparative Traditions

The Tirumala music inscription represents a continuity of musical thought tracing back to ancient textual and inscriptional traditions. Foundational concepts of melody and rhythm in Carnatic music were first documented in the Rigveda and Samaveda, where musical intonation (swara), rhythmic recitation (tala), and melodic patterns were codified for liturgical chanting. This Vedic heritage influenced South Indian inscriptions such as the Arachalur and Kudimiyamalai inscriptions, which demonstrate organized musical practice, notated scales, and rhythmic structures.



Vedic chanting, particularly of the Rig Veda (c. 1500-500 BCE), began as simple recitative chants (Archika Gana) with minimal rhythm and evolved to include pitch variations: Uddhata (raised), Anudhatta (lowered), and Swarita (middle), collectively referred to as Adhi Swaras by Panini (Sanskrit grammarian). Different Vedas employed different scales: three notes in Rig Veda, five in Yajur Veda, and seven in Sama Veda, illustrating the evolution of Indian musical scales and notation (Ramani 2016). The Sama Veda, still recited today, exemplifies the longest unbroken musical tradition and the foundation for swara-based notation.

The Arachalur Rock-cut Cave Musical Inscription of the 2nd century CE, also known as the Arachalur Isai Kalvettu, is located south of Nagamalai Hill in the Arachalur Reserve Forest near Erode, Tamil Nadu. It is one of the earliest known rock inscriptions related to music. Written in Tamil-Brahmi script, the inscription records tala jatis such as “ta tai,” indicating that rhythmic syllables were among the earliest musical elements to be inscribed, even before swaras. This highlights the foundational role of tala in early South Indian musical tradition. Later, Silappadikaram, the 5th-6th century Tamil epic attributed to Ilango Adigal, is celebrated for its detailed accounts of Tamil society, arts, and music. It predates the famous 7th-century Kudumiyamalai inscriptions, which contain musical notation representing the seven swaras (sapta swaras).

The Kudumiyamalai inscriptions of the 7th century CE, carved during the reign of the Pallava king Mahendravarman I, mark another significant milestone in the history of Indian music. Located on a rock face behind the Shikanathaswamy Temple near Pudukottai, they represent the earliest surviving source of musical notation in Indian classical music. These inscriptions contain 38 horizontal lines of notation, each comprising 64 swaras (notes) arranged in groups of four.

Influenced by the Vedas, Upanishads, and epics, such traditions eventually gave rise to lakshana granthas like Bharata's Natya Sastra and Matanga's Brihaddesi, which defined concepts such as gramas, murchanas, jatis, tanas, varnas, and alankaras. These works laid the theoretical foundations of Carnatic music by systematically codifying the principles of raga, tala, and ornamentation for both theatrical and devotional contexts. Temple-based traditions, exemplified in the Tevaram hymns (7th-9th centuries), integrated devotion with structured melodic frameworks. Works such as Jayadeva's Gita Govindam, and Arunagirinathar's Muruga compositions

formalized melodic and rhythmic patterns in lyrical poetry, influencing subsequent Carnatic forms. Similarly, the prolific output of Sangeetha Pitamaha Purandara Dasa in the 15th-16th centuries provided a codified pedagogical and compositional foundation, blending textual, melodic, and rhythmic systems in an accessible framework for teaching and performance.

Over time, symbols for gamakas were developed, with treatises such as Raga Vibodha (Somanatha) and Sangraha Choodamani (Govindacharya) codifying raga lakshanas. Sangeetha Sampradaya Pradarshini (Telugu) by Subbarama Dikshitar made a monumental contribution to Carnatic music history, with detailed notations, emphasis on precision of gamaka symbols, raga lakshanas, tala, angas still in use today, and an elaborate description of the Panchadasa gamakas with symbols and explanations.

By the modern period, notational systems had matured further. Works like Sangeetha Swara Raga Sudha (English and Telugu) by Sri Akella Mallikarjuna Sharma explained advanced elements such as Mukhtayi formulations, Ragalapana with gamaka symbols, reflecting the continuous refinement of the system (Sharma 2001).

The Tirumala inscriptions mark a pivotal moment in Carnatic music, crystallizing oral and textual traditions into notated compositions. By providing practical methods for notation, tempo, and tala sequencing, they bridge early theoretical foundations with modern systems, forming a key link in the evolution toward standardized Carnatic notation.

Results and Conclusion

The Suladi structures, tala sequencing, and raga usage inscribed on the slabs reveal a sophisticated approach to musical organization-rooted in earlier traditions while anticipating modern systems.

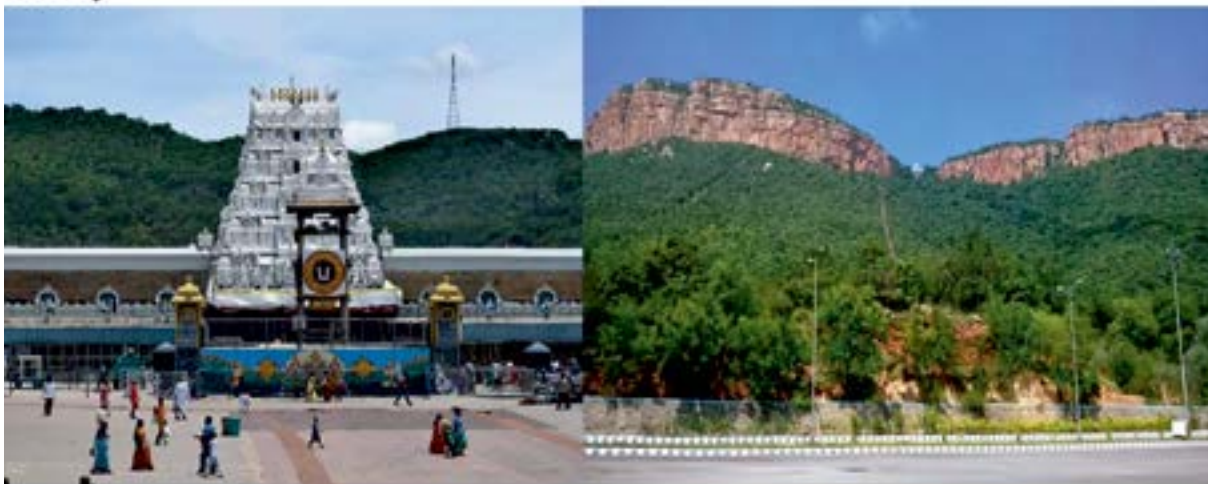
Occupying a pivotal place in the history of Carnatic music, the inscriptions bridge early Vedic chanting, Tamil devotional traditions, and later codified systems such as Subbarama Dikshitar's Sangeetha Sampradaya Pradarshini. They affirm the role of temple institutions as vital custodians of musical heritage.

Ultimately, this research confirms that the Tirumala inscriptions represent a transitional stage in Carnatic notation, significantly contributing to the codification of raga, tala, and compositional structures. As enduring testimonies of musical practice, they underscore the symbiotic relationship between devotion, pedagogy, and

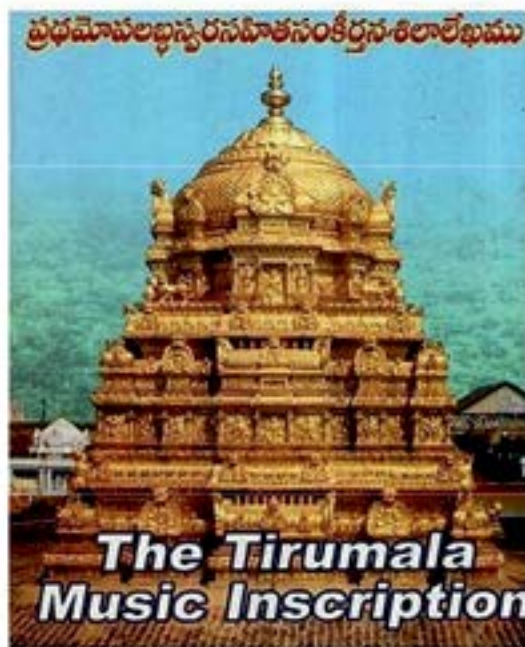


innovation in shaping Carnatic music, while offering invaluable insights for both scholars and practitioners today. In the modern context, the preservation of musical knowledge continues through diverse digital and print media. Online archives and institutional repositories make manuscripts, inscriptions, and rare compositions accessible to scholars and practitioners worldwide. Video and audio recordings document performance traditions, safeguarding interpretative nuances that written notation alone cannot convey. Printed books and critical editions remain vital for pedagogy and scholarship, providing standardized references. Together, these methods reflect the same impulse as the Tirumala inscriptions- to secure music for future generations while enabling its continued practice and evolution. At the same time, many inscriptions and manuscripts are yet to be uncovered, and future discoveries may further expand and reshape our understanding of South Indian music history.

Gallery

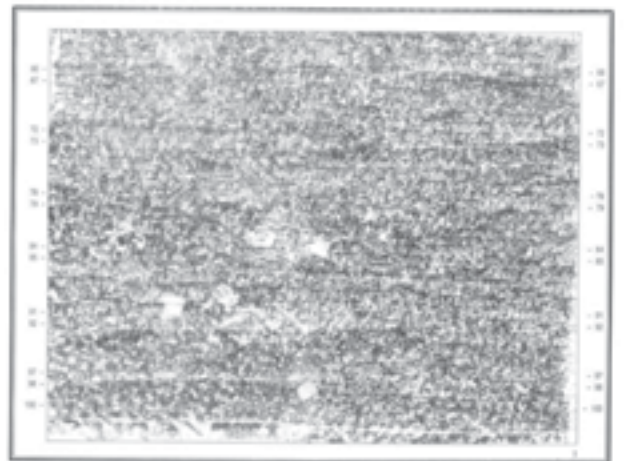
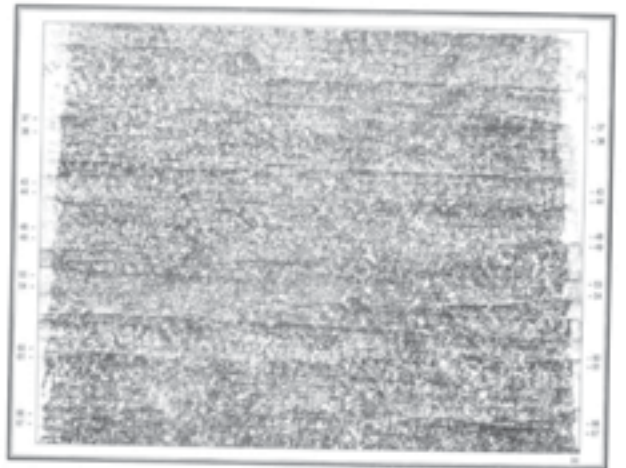
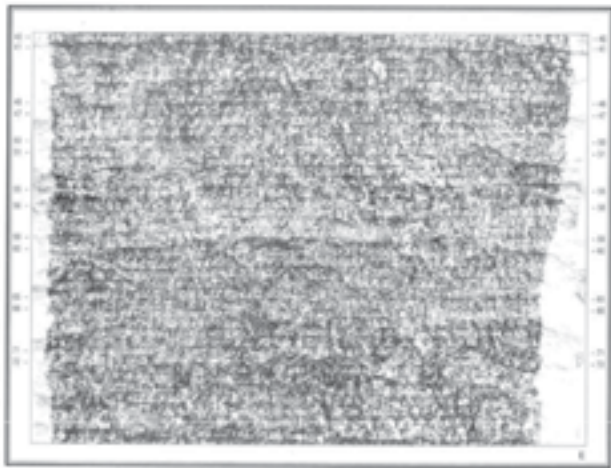


Sri Venkateshwara Swamy Temple, Tirumala, Tirupati, Andhra Pradesh.



Tirumala Music Inscription (Prathamopalabdha Svarasakha Sankirtana Silalikhama), 15th-16th century. Edited by P. V. Parabrahma Sastri, Tirumala Ramachandra, Veturi Ananda Murthy, Akella Mallikarjuna Sarma, and N. S. Srinivasan; Tirumala Tirupati Devasthanams, 1999.



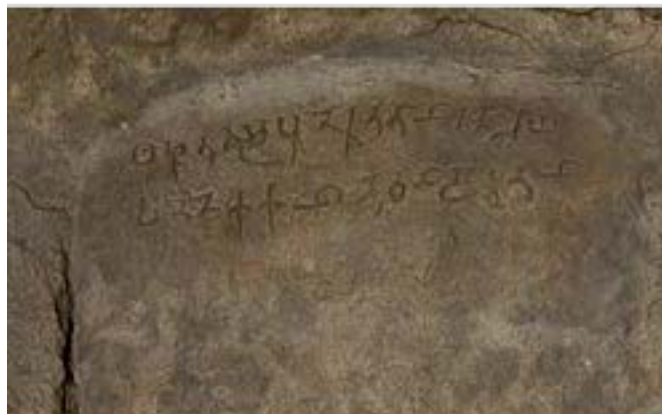




Sri N.R.V. Prasad,
Dr. C.S. Ranga Chari, I.A.S.;
Sri P.V. Ranga Rao;
Prof. V. Ananda Murthy



Workshop on
The Tirumala Music Inscription
- Language, Literature and
Epigraphy Group.



Arachalur Inscription in Tamil-Brahmi Script, 3rd-4th Century CE.



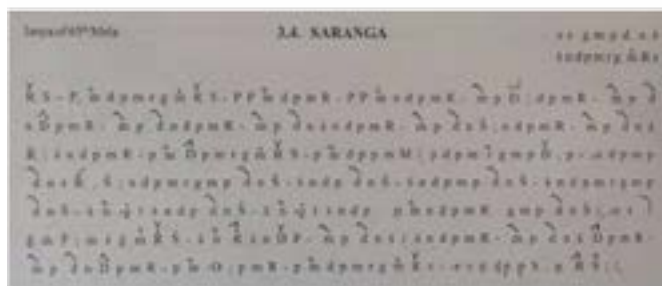
Workshop on
The Tirumala Music
Inscription -
Group Discussion
on Music



Kudumiyamkulai Inscriptions, 7th-8th Century CE.



Rig Veda Manuscript in Devanagari Script, Early 19th Century



Ragalapana Notation for Saranga Raga
with Gamaka Symbols from Sangita
Svararaga Sudha, by Sri Akella
Mallikarjuna Sharma, 21st Century.



1.0'
 1.0 - - - (d) p m g s n l
 2.0 (sthi ra) ve ṅ ka ṭa ci ra ta ra l (dha ra ṇi) ka ma ṭha ta nu dha ra ḥ ḥ
 3.0 n d m g m g g r s l ḥ ḥ
 a ṭa tā ḷa ma ṭi ya m(m)u gi se nu ḥ (rū pā) ka tāḷam ḷuga ḥ ḥ
 ḥ ḥ
 gu ru ghō ṅā ku ha rō da ra l ma ru
 g g rs ns r s nd m m r r
 4.0 du ru ga ti mā r gān ta ra l pa ra mā ṅū bha dava (va da)ga ca ra l
 5.0 (s) m n d pmm r g r l g m pd ns r g m g r P l
 ki ri vi gra ha kē ḷī ca ra ḥ jyāvaḷa ḥ ḥ
 p n n(g) p m pm gg r s ḥ ḥ ḥ
 ta ra ḷa ku(khu) rān ta ra mi ta ja la l ni ra va ti(dhi)va na nidhi pa
 n s r g G r s m m g m l pn d p d p m G r
 6.0 lva la l pa ri la ghu dhṛ ta bha rmā ca la l
 7.0 pm gr l s r g m p d ns rg m g l
 ta ru nā ṅ ka . (ku)ra ta ru ṅī ta la² l va ra mu stā va ḷi kan da ḷa l
 s m m g r g m m g g r s l g r s ṅ nd n d n d pm l
 da ra ka ra su pa (gu ru?) da n tū ca la l ki ra vi gra ha ḥ abhōgam ḥ ḥ
 p d n s r g r g ḥ
 8.0 a yu ga vṛ sā dhi¹ va cō va na l ni ya tē ta ra ni r bhē da' na
 9.0 g g r m ns r s nd p m l g r gm p d pm mṅ g r l
 ja ya ve ṅ ka ṭa śi kha² rā sa na l
 g m p d n s r g mgr s ḥ ḥ
 ki ra vi gra ha ḥ rū pakam mugisenu ḥ ḥ jhampa uga ḥ vi ra ma sam
 ḥ n r d np



* (mālavagauḷā) - rūpakam - (3)

udgrāham || g g r s l ṇ s ṛ ś n d m m ||
 gu ru ghō - l ṇā - ku ha rō - da ra ||
 r r s m l n d p m m r g r ||
 ma ru du ru l ga ti mā - rgā n ta ra ||
 g m p d l n ś ṛ ḡ ṁ ḡ ṛ ś ||
 pa ra mā - l ṇū - bha va da ga (va) ra! ||
 p n n g l p m p m g g r s ||
 ki ri vi - l gra ha kē - |ī - ca ra! ||

Jyāvāḷa || ṇ s r g l G r s m m g m ||
 ta ra |a khu l rān ta ra mi ta ja la ||
 p d p d l p m g r p m g r ||
 ni ra va dhi l va na ni dhi pa - lva la! ||
 s r g m l p d n ś ṛ ḡ ṁ ś ||
 pa ri la ghu l dhṛ ta bha - rmā - ca la ||
 ś ṁ ṁ ḡ l ṛ ḡ ṁ ṁ ḡ ḡ ṛ ś ||
 ta ru ṇā ṇ l ku ra (dha ra) ṇī - ta ja² ||
 ḡ ṛ Ś l n d n d n d p m ||
 va ra mu l stā - va |i ka n da la! ||
 p d n ś l ṛ ḡ ṛ ḡ (ṛ ś n d) ||
 da ra ka ra l gu ru da n tā (ṇ) ca la! ||

|| ki(ri)vigraha ||

ābhōgam || g g r m l ṇ s r s n d p m ||
 a yu ga! vṛ l (tā - dya)ᵛ va cō - va na! ||
 g r g m l p d p m M g r ||
 ni ya tē - l ta ra ni - rbhē da na! ||
 g m p d l n ś ṛ ḡ ṁ ḡ ṛ ś ||
 ja ya' ve ṇ l ka ṭa śiᵛ kha rā - sa na! l

|| ki(ri)vigraha ||

|| rūpakam mugisenu ||



References

1. Tirumala Music Inscription (Prathamopalabdha Svarasahita Sankirtana Silalékhamu): 15th-16th Centuries. Edited by P. V. Parabrahma Sastri, Tirumala Ramachandra, Veturi Ananda Murthy, Akella Mallikarjuna Sarma, and N. S. Srinivasan, with editorial consultants Pullela Sri Ramachandrudu, R. Sathyanarayana, and R. Srihari, patron I. V. Subba Rao, Tirumala Tirupati Devasthanams, 1999.
2. The Journal of The Music Academy Madras, Vol 85, 2014 ISSN 0970-3101, Notated Heritage Songs of Tallapaka composers (15th Century) by Dr. Veturi Anandamurthy.
3. The Hindu , Songs & stone, June 18, 2015 by Gudipoodi Srihari.
4. Kamala Ramani, M. V., Notations in Carnatic Music: A Study. 2016. Potti Sreeramulu Telugu University, Phd dissertation.
5. Audio CD presented Song on a Stone (Tirumala Silagitam) by Nanduri Records & Prabhakasa memorial trust, Courtery by TTD, Vocal Rendition by Sri Sattiraju Venumadhav (1st Suladi Dasavatara Ekaragatalamalika slab 2 in Malavagaula raga).
6. Musica Asiatica 2 edited by Laurence Picken, Oxford University Press, London, 1979. (D.R Widdess)
7. Lakshanagranthas in music, Dr. S. Bhagyalekshmy, CBH Publications, Nagercoil, 3rd edition 2011.
8. Sangita Svararaga sudha, Akella Mallikarjuna Sharma, Sai Sannidhi Sangita publications, Hyderabad, 2001.
9. The Splendour of South Indian music, Dr P.T Chelladurai, Vaigarai publishers, Tamilnadu, 5th edition 2015.

