

## “A STAR IN FLAMES”: AN ACCOUNT OF A FIREBALL IN THE TAMIL CLASSIC *PURANANURU* 229

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**Abstract:** Only a few instances of the apparitions of comets and fireballs are mentioned in Indian classical and historical texts. Among these, a particular verse in the Sangam era classic *Purananuru*, known as *Puram* 229 has attracted attention from time to time. The verse refers to the sighting of an unusual fiery object in the sky, which the composer of the verse believes prophesied the death of the second century Cera king *Yānai-k-kaṭ Cey Mantaraṇ Cēral Irumporai*. The poem recounts the night sky in impressive detail, which we believe was a record of a spectacular event in the sky. The object mentioned in the verse is often interpreted as a comet, specifically Halley's Comet in 141 CE. However, based on the available evidence, we believe that it was a transient event, and was a fireball or possibly a bolide. The verse is significant in the history of Indian astronomy also because it also demonstrates the practice of using star locations to reckon time at night.

**Keywords:** Cankam (Sangam) Age; Purananuru; Yanaikatsey Mantaran Cheral Irumborai; Kudalur Kilar; Indian astronomy; Great Comets; fireballs; Comet 1P/Halley; Lyrids.

### 1 INTRODUCTION

There are innumerable instances of celestial events, such as the eclipses, planetary conjunctions, supernovae and the comets that over the ages were recorded in various cultures and attracted the attention of scholars across the world. In comparison, there is an embarrassing silence in the old Indian literature and chronicles over real-time observation or phenomenology of the unusual celestial events. Where there is a reference, it is generally a fleeting one or astronomically insufficient and, most often, undatable. We find very few incidents of the celestial events that have been recorded in India until the advent of the nineteenth century. There have also been discussions of the references to comets in ancient Sanskrit texts, but their correspondence with sightings from elsewhere has been complex in almost all instances. In the recent years, attempts to bring forth and analyse the relevant references have been made, for instance, by Narlikar and Bhate (2001), Mahajani et al. (2006), Rathnasree et al. (2012), Shylaja and Kaidala (2012; 2016), Ansari (2016), Kapoor (2018; 2021), and Mahesh et al. (2023) and others who deeply explored classical literature and contemporaneous astronomical events. They do find some promising results but ironically there is nothing that can stand alongside the impressive Chin-

ese, Korean or Japanese records of unusual phenomena in the sky.

This paper explores the *Caṅkam* Tamil classic *Puranānūru* (also *Puram*) that carries reference in the verse 229 to the appearance of an unusual fiery object in the sky. To the composer, the event portended the imminent death of the second century Cera king *Yānai-k-kaṭ Cēy Mantaraṇ Cēral Irumporai*. The question is what event inspired the verse, a comet or a bolide, and whether it can be resolved and dated.

### 2 THE CAṆKAM (SANGAM) LITERATURE

*Caṅkam* writings were created orally by bards and then gathered into anthologies or composite works. The term '*caṅkam*' refers to an assembly of scholars. It is associated with the mythological 'academies' described in *Nakkīraṇār's Iraiyaṇār Akapporu!* (*The Grammar of Stolen Love*), a commentary on an earlier source, *iraiyaṇār kaḷaviyal*. This is the earliest literature that relates the mythology of three *caṅkams* (assembly; Aravamuthan, 1930; Takahashi, 2015). It is a compelling story and constitutes the Tamil consciousness in recent years. *Nakkīraṇār* lists the *Caṅkam* corpus in two major hyper-anthologies: *Eṭṭuttokai* (eight anthologies) and *Pattuppāṭṭu* (ten songs).

The ancient Tamil literature is said to be thousands of years old. However, the majority of *Caṅkam* literature fell into oblivion. They were 'rediscovered' in the end of the nineteenth century, with the birth of print culture, the embryonic Tamil national consciousness, and the rise of a national movement against colonial rule (Wilden et al., 2014: 7). Because these texts are crucial to the imagination of Tamil identity, the chronology of Tamil's early literary history is fraught with controversy, with some scholars dating it as early as the third century BCE (Champakalakshmi, 1996) and others pushing it forward to the eighth century CE (Tieken, 2021). Takahashi (1995) uses philological data to conclude that the *Caṅkam* lyrics were written between 1 CE and 300 CE, although Zvelebil (1992: 128) dates it between 100 BCE to 250–300 CE. Scholars suggest that while the composition must have taken place earlier, the subsequent process of compilation, anthologisation and codification took place between the eighth and thirteenth centuries CE (Zvelebil, 1973: 25–26).

### 3 PURANĀNŪRU: AN INTRODUCTION

During the beginning of the first century CE, three kings (*mūvar*) *Cōla*, *Cēra* and *Pāṇṭiya* were vying for power and control with a great number of small chiefdoms, engaged in more or less permanent war with one another. Or, as Wilden (2014: 8) suggests:

Bards wandering between the royal residences created lyrical compositions of variable length in the two basic genres of erotic poetry (*Akam*) and heroic poetry (*Puram*).

Classical Tamil literature distinguishes between *akam* (interior / in-ness) and *puram* (exterior / out-ness). The former are verses about love and sexual relationships between men and women while the latter deal with aspects of life outside the family, particularly kings, wars, greatness, generosity, ethics, death and dying. *Puranānūru*, a compound of *puram*, suffixed with a numeral as the last member *nānūru* (four hundred), clearly indicates its subject matter.

The material culture and the "... evidence embedded in the epigraphical, numismatic and literary and archaeological records ..." (Rajan, 2008: 47) of the early historical period spanning from 600 BCE to 300 CE in *Tamīlakam* (the areas of modern Tamilnadu, Kerala and parts of Andhra Pradesh and Karnataka; Figure 1) is marked by the "... emergence of new social order." (*ibid.*) transiting from the earlier mature

Iron Age–Megalithic Culture, and is the subject matter and background setting of the *Eṭṭuttokai*, a hyper-anthology comprising of *Puranānūru* and seven other anthologies.

The *Eṭṭuttokai* (Eight Anthologies), in addition to *Puranānūru* (the anthology of war and wisdom poetry), contain: *Aiṅkurunūru* (*akam*), *Akanānūru* (*akam*), *Kalittokai* (*akam*), *Kurun-tokai* (*akam*), *Naṭṭinai* (*akam*), *Paripāṭal* (*akam* + *puram*), *Patirruppattu* (*puram*). The stanzas of bardic poetry of the hyper-anthology *Eṭṭuttokai* are attributed to 157 poets, including ten poetesses and offer us a unique glimpse of the society, polity and the belief system of the Iron Age culture in *Tamīlakam* that was seeing nascent urbanisation taking place. The bards who wrote these verses were called *pulavarkaḷ* (knowledgeable and erudite) who travelled from the court of one king to another, reciting their poems advising kings, addressing moral issues, or lamenting the instability of the world in the hope of receiving gifts and patronage from the kings.

According to Hart et al. (1999), *Puranānūru* is a "... treatise on kingship." It describes

... what a king should be, how he should act, how he should balance his responsibilities, how he should treat his subjects, and how he should show his generosity ...

and at the same time

... describes a society in which many kings were not generous or merciful and whose rule was merely a manifestation and exercise of power. (Hart et al., 1999: xvii).

Hart et al. (1999: xv) also opine that much of the verses in *Puranānūru* were written before the

Aryan influence had penetrated the south as thoroughly as it did later ... [and is a] great work of literature, accurately and profoundly reflecting Tamilnad 2,000 years ago.

### 4 PURANĀNŪRU: DATING AND TRANSMISSION

Dating the *Puranānūru* is a vexing question, as is the case of most of the *Caṅkam* texts. The *Puranānūru* talks of fifty kings belonging to *Cōla*, *Cēra* and *Pāṇṭiya* and other eighty-three chieftains who ruled parts of *Tamīlakam* between 130 and 240 CE. Notably, none of the verses is about the *Pallavar* Dynasty which became dominant in 330 CE. Based on this and other evidence, Zvelebil (1973: 42) suggested that the



Figure 1: South India during the Sangam (Sangam) Period (after Menon, 2010: 66).

creative act, that is, the process of actual composition of the verses of *Puranānūru*, can be dated between 100 and 250 CE,

... and a certain *peruntēvaṇār* of 8<sup>th</sup> century CE compiled a number of bardic poems into one single anthology of four hundred of them, and provided this anthology with an invocatory stanza. This anthology goes since then by the name of *Puranānūru* or Puram. (Zvelebil, 1973: 25).

An example of the front cover of a recent publication of *Puranānūru* is shown in Figure 2.

Wilden (2014: 413) suggests a plausible history of the composition and transmission across centuries, from composition and oral transmission of single poems throughout the Tamil-speaking area during the first five centuries of the common era to its hyper-anthologisation and palm leaf trans-

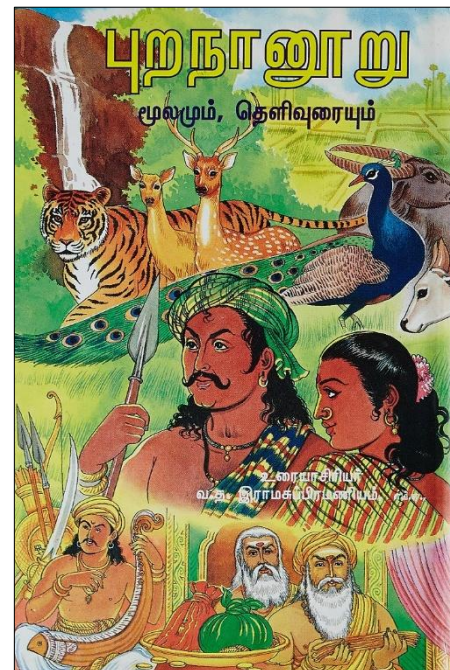


Figure 2: The cover page of the book *Puranānūru - Moolamum Thelivuraiyum* ([www.amazon.in](http://www.amazon.in)).

transmission during the 700–1100 CE.

### 5 PURANĀNŪRU: THE VERSE PURAM 229

Of the four hundred, two verses have been completely lost, and several lines are missing from some poems. Each poem, as transmitted from mediaeval times, includes a colophon that tells who sang it, to whom it was sung (if relevant), and other details. Further, an old anonymous commentary for the first 266 poems of the *Puranānūru* has survived and forms part of the published version of U. Vē. Cāminātaiyar in 1894, who published a revised edition again in

தினையும் துறையும் அவை. கோச்சேரமான்  
யானைக்கட்சேய் மாந்தரஞ்சேரலிரும்பொறை  
இன்னநாளிற்றுஞ்சுமென அஞ்சி அவன்  
துஞ்சியவிடத்துக் கூடலூர்கிழார் பாடியது.

ஆடிய லழற்குட்டத்  
தாரிரு ளரையிரவின்  
முடப்பனையத்து வேர்முதலாக்  
கடைக்குளத்துக் கயங்காயப்  
பங்குனி யுயரமுடித்துத் 5  
தலைநாண்மீ நிலைதிரிய  
நிலைநாண்மீ எதனெதிரேத்தரத்  
தொன்னாண்மீன் றுறைபடியப்  
பாசிச் செல்லா தூசி முன்னா  
தளக்கர்த்தினை விளக்காகக் 10  
கனையெரி பரப்பக் காலெதிர்பு பொங்கி  
யொருமீன் வீழ்ந்தன்றால் விசும்பி னானே  
யதுகண், டியாமும் பிறரும் பல்வே றிரவலர்  
பறையிசை யருவி நன்னாட்டுப் பொருந்  
னோயில னாயி னன்றுமற் றில்லென 15  
வழிந்த நெஞ்ச மடியுளம் பரப்ப  
வஞ்சின மெழுநாள் வந்தன் நின்றே  
மைந்துடை யானை கைவைத் துறங்கவுந்  
திண்பிணி முரசங் கண்கிழிந் துருளவுங்  
காவல் வெண்குடை கால்பரிந் துலறவுங் 20  
காலியற் கலிமாக் கதியில வைகவு  
மேலோ ருலக மெய்தின னாகலி  
னொன்றொடி மகளிர்க் குறுதுணை யாகித்  
தன்றுணை யாய மறந்தனன் கொல்லோ  
பகைவர்ப் பிணிக்கு மாற்ற னசைவர்க் 25  
களந்துகொடை யறியா வீகை  
மணிவரை யன்ன மாஅ யோனே.

1923 after acquiring new manuscript material.

Recently, G. Vijayavenugopal and Eva Wil-  
den (2024, personal communication with TVV)  
have collated 14 palm leaf manuscripts, one  
paper manuscript, and two stray folios of *Pur-  
anānūru* (of which eight contain the “... old an-  
onymous commentary ...”) from various repos-  
itories. Using this, they are putting together a  
critical edition containing the apparatus, includ-  
ing variant readings and different versions in  
various manuscripts. They have been kind en-  
ough to share the critical apparatus of the verse  
*Puram* 229, presented below.

tiṇaiyum tuṇaiyum avai. kōccēramāṇ yāṇaikkaṭcēy māntarañcēralirumpōrai  
iṇṇanāḷirruṇumeṇa aṇci avan tuñciyaviṭtut kūṭalūrkiḷār pāṭiyatu..

āṭiya laḷarkuṭṭat  
tāriru ḷaraiyiraviṇ  
muṭappaṇaiyattu vermutalāk  
kaṭaikkuḷuttuk kayaṅkāyap  
paṅkuṇi yuyaraḷuvattut 5  
talaināṇmī ṇilaitiriya  
nilaināṇmī natanēṭtirtarat  
tōṇṇāṇmī ruṇaipatiyap  
pācic cēllā tūci muṇṇā  
taḷakkarttiṇai viḷakkākak 10  
kaṇaiyēri parappak kālētirpu pōṅki  
yōrumiṇ viḷṇaṇṇāl vicumpi ṇāṇe  
yatukaṇ, ṭiyāmum piṇarum palve riṇavalar  
paṇaiyicai yaruvi naṇṇāṭṭup pōruna  
ṇoyila ṇāyi ṇaṇṇumaṇ ṇiḷḷēṇa 15  
vaḷinta nēṇca maṭiyuḷam parappa  
vaṇciṇa mēḷunāḷ vantaṇ ṇiṇṇe  
mainuṭai yāṇai kaivait tuṇāḷkavun  
tiṇpiṇi muracāṇ kaṅkiḷin turuḷavuṇ  
kāval vēṇkuṭai kālparin tulaṇavuṇ 20  
kāliyaṇ kalimāk katiyila vaikavu  
melo rulaka mēyṭiṇa ṇākali  
ṇōṇṇōṭi makalirṇ kurutunai yākit  
taṇṇuṇai yāya maṇantaṇaṇ kōllo  
pakaivarp piṇikku māṇṇa ṇacaivark 25  
kaḷantukōṭai yaṇiyā vīkai  
maṇivarai yaṇṇa māa yōṇe.

\*2b ḷaraiyiraviṇ UVC-1, <sup>1</sup>ḷaraiyiravaṇ C7

\*3ab muṭappaṇaiyattu vermutalāk UVC-1; muṭappaṇai vermutalākak C2+3+7; muṭappaṇaiṭṭ C8

\*5a paṅkuṇi UVC-1; paṇkuṇi C6

\*5b yuyaraḷuvattut UVC-1; yuyirēḷuvattut C2+3+7+8

\*6b ṇilaitiriya UVC-1; nilaitiriya C6

\*10ab taḷakkarttiṇai viḷakkākak UVC-1; taḷakkānattiṇai viḷakkākak C8; taḷakkānattiṇai viḷakkāk C2+3

\*11bc parappak kālētirpu UVC-1; parappak kālpitirpu C8; piṇappak kālpitirpu C2+3; piṇappak kālamatirpu C7

\*11df. pōṅki | yōrumiṇ UVC-1; pōṅka | yōrumiṇ C2+3+6+7+8

- \*12b-d *viḷṭanṭrāl vicumpi nāṇe* UVC-1; *viḷṭanṭrāl vicumpu nāle* C2+3
- \*13b *piṭṭarum* UVC-1; *piṭṭaru* C8
- \*13d *ṛiravalar* UVC-1; *ṛiravalam* C6
- \*14d *pōruna* UVC-1; *pōruṇa* C6; *pōruṭ* C7
- \*15ab *ṇoyila ṇāyi* UVC-1; *ṇoyilai ṇāyiṇ* C6
- \*16b *ṇēñca* UVC-1; *ṇēñca* C6
- \*17b *mēḷunāḷ* UVC-1; *mēḷunāḷatu* C2+3+8; *mēḷunāḷ* C6
- \*17cd *vantaṇ ṛinre* UVC-1; *vantaṇ ṛinṛēṇa* p.u., C6; *van ṛinṛēṇa* C2+3+8
- \*19c *kaṇḱilīn* UVC-1; *kaṇḱalīn* C6; *kaṇḱalīt* C3+7+8; *kaṇḱalīt* C2
- \*19d *turuḷavuṇ* UVC-1; *turuḷiyuṇ* C6
- \*20cd *kālparin tulaṇavuṇ* UVC-1; *kālamaṛin tuṇavuṇ* C2+3; *kālpirin taṇavuṇ* C7+8
- \*21c *kaṭiyila* C2+3+6+7+8; *kaṭiyiṇṛi* UVC-1
- \*22d *ṇākali* UVC-1; *mākaliṇ* C6
- \*23a *ṇōṇṛōṭi* UVC-1; *ṇōṇṛōḷi* C7
- \*23c *kuṛutuṇai* UVC-1; *kamartuṇai* C6; *kāmartuṇai* C2+3+8

The verse has 27 lines, of which the first eight lines vividly describe the night sky when a transient celestial event occurred, which is described evocatively in the following eight lines. We will argue later that the description of the night sky is not like a snapshot but a time-lapse, telling the changes in the position of the asterism and the lunar stations along the ecliptic when a transient celestial event was observed. We will use the description of the transient event to speculate on its nature. The remaining 15 lines tell the poet's anxiety and form a hagiographic elegy of the patron who had died as divined by the transient event. As we are interested in understanding the transient event and the astronomical details in the verse, we will focus on the first 12 lines in this paper.

## 6 COLOPHON ENTRY FOR THE PURAM 229

The classical text transmitted through palm leaves usually contains colophons, such as *paṭ-ikam* in the *puṛam* poetry and *tuṛai* in the *akam* poetry, which are the short paratextual elements containing information about the production, internal organisation and storage of a particular palm leaf manuscript. They provide the context for the scholars to interpret and make sense of the poetry. The colophon entry for *Puṛam* 229 reads:

*kōccēramāṇ yāṇaikkaṭcēy  
māntaracōḷirum poṛai  
iṇṇanāḷiṇṛuñcumēṇa aṇci,  
avantuñciyaviṭattuk kūṭalūrkiḷār pāṭiyatu*

[The king, *Kōccēramāṇ Yāṇaikkaṭcēy Māntaracōḷirum Poṛai*, was prophesied to die on a particular day and the bard *Kūṭalūrkiḷār* composed the verse near the death bed.]

Thus, we understand that the protagonist of

*Puṛanāṇūru* 229 is *Yāṇai-k-kaṭ Cēy Māntaraṇ Cēral Irumpoṛai*, a *Cēra* king. The poetry is an elegy on the occasion of the death of the hero of the verse foretold by a transient celestial event observed by the author. According to the colophon entry, we are led to believe the bard *Kūṭalūr kiḷār* composed this verse just immediately after his patron *Kōccēramāṇ Yāṇaikkaṭcēy Māntaracōḷirum Poṛai* died, recounting the ominous event that foretold the death.

The colophon entries of the *Puṛanāṇūru* verses were perhaps added when they were compiled and inscribed in palm leaves. The correlations between *Caṅkam* corpus and the historical narratives are often made based on the names provided in the colophons. [Iyengar \(1929: 416\)](#) cautions that

... the colophons to the poems cannot be accepted as all reliable. Yet most scholars have treated the information given in the colophons as gospel-truth and have constructed schemes of the contemporaneity of the authors and Kings.

For example, without the colophon entry of *Puṛam* 229, there is no internal evidence to suggest that the verse is about the death of *Yāṇai-k-kaṭ Cēy Māntaraṇ Cēral Irumpoṛai*. Incidentally, few poems address a king directly by name, and in the rest of the cases, the names of the lauded individuals are most often provided in the colophons. [Takahashi \(1995: 42\)](#) contends that the colophons were added significantly later, probably centuries later than the time the poems were composed, and gives evidence that, at least in some cases, they were added after the stage of anthologisation or in parallel with them, but "... written earlier than the commentary." ([Takahashi, 1995: 44](#)).

Thus, given the asynchrony of the poems and their colophons, how far one should read

the information in colophons as historical fact is a question. Nonetheless, one need not brush aside the information in the colophon as fiction or a figment of the imagination of later-day compilers. Shulman (2016: 81–82) says:

*Puranānūru* and *Patirruppattu* describe a believable world populated by real people with names and, in many cases, personal funerary monuments ... [and] contains broad representation of particular individuals, their qualities and deeds ... [and] Even if the poets of the Sangam period offer us, for the most part, fictionalised, or semi-fictionalised, accounts ... these texts reek of concrete, sensuous, often tragic, reality.

Concerning *Puṛaṁ* 229, the vivid description of the night sky, including the positions of asterisms, and the evocative description of a celestial event, including the direction of its traverse across the night sky, do not augur well with the claim that either the scenario described in the verse is mere fiction or a recounting of an event that occurred hundreds of years earlier.

## 7 YĀNAI-K-KAṬ CĒY MĀNTARAṆ CĒRAL IRUMPOṚAI: THE HISTORICITY

There is copious reference to the *Irumpoṛai* clan and their fate in various texts of *Caṅkam* literature. A *patikam* (colophon entry) tells that the *Cēra* king defeated two other kings who had aligned with *Atiyāmāṇ* at a battle held at Kolli hills and destroyed *Takaṭūr*, the capital city of the *Atiyāmāṇ* Dynasty. The same battle and victory are attested to by another poem in decade VIII of *Patirruppattu* and also the colophon to the *Puṛaṁ* 230, *Puṛaṁ* 50, and the verses in *Akam* 212.14 and *Akam* 16. *Takaṭūr yāttirai*, another work referred to by several commentators, now lost but for some stanzas still preserved, also refers profusely to this event. *Aiṅkurunūru*, another anthology forming part of the *Eṭṭuttokai*, is said to be compiled by *Pula-t-tuṛai Murriya Kūṭalūr Kīlār* under the patronage of *Yānai-k-kaṭ Cēy Māntaraṇ Cēral Irumpoṛai*. The traditional colophon entry in the extant palm-leaf manuscript says:

*ittokai tokuttār pulatturāi murriya kūṭalūr kīlār – ittokai tokuppittāṇ (C3: tokuppittār) yānaikkaṭ cēymāṇ tarañcēral irumpoṛaiyār – civantāypātāmē tunai* [This collection was made by *Kūṭalūr Kīlār* who completed *Pulatturāi*. This collection was caused to be made by *Yānaikkaṇ Cēymāntaram Cēral Irumpoṛaiyār*. O feet of

the mother of Śiva, help.] (Wilden, 2014: 164).

The historicity of the *Irumpoṛai* clan is probably hinted at indirectly by the Tamil-Brahmi (also known as *tamili*) inscription found at Jaina caves near Jampai which says “... *saṭi-yaputō atiyaṇ neṭumāṇ añci itta pāli*.” This means *saṭiya puttiraṇ atiyaṇ neṭumāṇ añci*, a king donated the *pāli* which is a Jain monastery. Several *Caṅkam* texts talk of the *Atiyāmāṇ* clan ruling with *Takaṭūr* (near modern-day Dharmapurai) as the capital. This inscription also clarifies the epithet mentioned in Asoka’s Major Rock Edict XIII as one of the four major dynasties ruling in Tamilagam that is indeed the *Atiyāmāṇ* clan who were also called as *Malaiyamāṇ* in *Caṅkam* texts. The *Puṛaṁ* 53 talks of the collaboration between *Cēramāṇ Māntarañcēral Irumpoṛai* and *Malaiyamāṇ*. Further, *Patirruppattu*, another *Caṅkam* anthology, an ancient anthology written for the early *Cēra* kings, talks about the *Irumpoṛai* clan. The decades VII–IX deal with three generations of the *Irumpoṛai* clan of *Cēra*, with the VIIth decade sung by *Kapilar* on *Celvakkaṭuṅkō Vāliyātaṇ*, *Aricil kīlār*’s VIIIth on *Takaṭūr eṛinta peruñcēral irumpoṛai* who defeated *Atiyāmāṇ (Malaiyamāṇ)* the King of *Takaṭūr* and the IX on *Ilañcēral Irumpoṛai*, who perhaps is the cousin of *Peruññēral* and grandson of *Celvakkaṭuṅkō*, sung by *Peruñkunṛrkiṭār*,

Another Tamil Brahmi inscription discovered at *Pukaḷūr* near modern-day Karur says

... *mūtā amanṇaṇ yārrūr ceṅkāyapaṇ uraiyko ātaṇ cellirumpoṛai makaṇ kaṭuñkōṇ makaṇ laṅkaṭuñkōṇ laṅkō āka arutta kal*“ [the rock shelter is donated to *ceṅkāyapaṇ* of *yārrūr* on the occasion of the investiture of *laṅkaṭuñkōṇ* son of *kaṭuñkōṇ*’s and grandson of *ātaṇ cellirumpoṛai*].

Mahadevan (1970) suggested that the date of the inscription is before 200 CE, and

The inscriptions – and that is their greatest importance as far as the history of Tamil literature is concerned, confirm certain kings and place-names mentioned in the earliest extant Tamil texts of approximately the same date. (Zvelebil, 1992: 124).

If the inscription refers to the three generations of *Irumpoṛai* in the *Caṅkam* texts, then the genealogy according to various *Patirruppattu* verses is as follows: *Antuvaṇ* is the father of *kō ātaṇ cellirumpoṛai* alias *Celvakkaṭuṅkō vāliyātaṇ*. *Peruñcēral Irumpoṛai* is his son and *Ilañcēral Irumpoṛai* is his grandson. We also know from

the poems about the great war between *Peruñ-cēral Irumporai* and *Atiyāmāṇ* (*Malaiyamāṇ*), resulting in the death of *Atiyāmāṇ* with his spear and the conquest of the fort of Takadur. All these strongly suggest "... that *Pērum Cēral Irumpōrai* is to be identified with one of three kings (father, son, and grandson) mentioned in the Pukalur inscription." (Shulman, 2016: 23).

## 8 YĀṆAI-K-KAṬ CĒY MĀNTARAṆ CĒRAL IRUMPORAI: THE PERSONA

The protagonist *Yāṇai-k-kaṭ Cēy Māntaraṇ Cēral Irumporai* is spoken about in six verses of the *Puranānūru* and is credited for commissioning the anthology *Aiṅkuṟunūru*, with the same bard, *Kūṭalūr Kīlār* as the compiler. The peculiar name of this King is explained by *Parimēlalakar* (*Tirunelvēli* 1951: 131–132), a thirteenth-century Tamil poet and scholar known for his commentary on the *Tirukkuraḷ*, as comprising of five elements: *kō* indicating Royalty, *cēramāṇ*, the Dynasty, *yā-ṇaikkaṇ*, meaning elephant-eyed, the description of a personal feature, *cēy* the personal name (*iyaṟpeyar*) and the rest, *Māntaraṇ Cēral Irumporai*, a special title.

In the verse *Puṟam* 53 *Poruntīl iḷaṅkīraṇār* describes *Yāṇai-k-kaṭ Cēy*'s victory against *Cō-ḷaṇ irācacūyam vēṭṭa perunaṟkiḷli* with the help of *Malaiyan* (*Malaiyamāṇ*). The verse *Puṟam* 17 by *Kuṟuṅkōḷiyūr kīlār* sings his praise for "... upholding the tradition ... [and avoiding] cruelty, holding your rod erect, taking proper taxes and ruling with righteousness." *Kuṟuṅkōḷiyūr kīlār*'s other verse, *Puṟam* 20, again eulogises him. It is in verse *Puṟam* 22 *Kuṟuṅkōḷiyūr kīlār* address him as King *Chēy* and hails that his glances are like that of an elephant (*yāṇaikkaṭcēy*). There is also an indirect reference to him in *Puṟam* 125. The colophon of the MSS of *Aiṅkuṟunūru* (five hundred very short love poems) names the *Cēra* king *Yāṇaikkaṇ Cēymāntaram Cēral Irumporai* as the patron for the compilation of the anthology.

Putting together information in various verses of *Caṅkam* literature indicates that he be-

longed to the *Irumporai* clan of the *Cēra* Dynasty. In a battle with *Pāṇṭiyaṇ* King *Talaiyālaṅkā ṇattuc ceru veṇṇa neṭuñceliyaṇ*, he was captured and imprisoned. Subsequently, he escaped and returned to his Kingdom to rule. He acquired the honorific title *yāṇaikkaṇ* because he had *vēḷa nōkkin*, that is, his eyes were like those of an elephant, or he glanced like an elephant. Possibly, the notion of *vēḷa nōkkin* has a Buddhist connotation. It is said that when Buddha knew that his end was near, he went to *Vaishali* with his alms bowl. When on his deathbed, he took a longing gaze described in Prakrit as "*Nagavalogṇa*", meaning "... with the elephant look." (*vēḷa nōkkin*).

Nevertheless, it would be simplistic to interpret eulogistic poems as self-disclosing 'documents'. But as Daud Ali (2000: 185) suggests, they should be seen as a dialogical process where

... sovereignty had to be continually remade and rethought at every turn by both [the king] and his successors, for the position might be won by any kings who could command the will, strength, and skill to take it.

These *pulavarkaḷ*, as suggested by Sascha Ebeling (2010: 73), perhaps 'traded' praise in the form of verses to "... serve *pulavars*, patrons, and audiences in specific ways ... [as part of] economy of." Thus, as Hanlon (2012: 3) observes, the circulation of the panegyric poems of the *Puranānūru* could be viewed as

... both the end-result and impetus of patronage relationships between elites and bards; that in praising the greatness of kings these poems concomitantly brought that greatness into being through the wide distribution and consumption of these poems by urban and rural audiences.

*Patiruppattu*, unabashedly, is a sponsored hagiographical project of *Cēra* kings, known as the *Cheramal*.

## 9 THE FIRST 12 LINES IN THE *PURAM* 229

There are several renditions of this verse in English, three of which are in the Appendix at the end of this paper. To begin with, let us consider the translation of the first 12 lines provided by Hart and Heifetz (1999: 142–143):

āṭiya laḷaṟkuṭṭat  
tāṟiru ḷaraiyiraviṇ  
muṭappaṇaiyattu vermutalāk  
kaṭaikkūḷattuk kayaṅkāyap  
paṅkuṇi yuyaraluvattut 5

At midnight, crowded with darkness in the first quarter of the night  
when the constellation of Fire was linked with The Goat and from the  
moment  
the First Constellation arose, formed like a bent Palmyra,  
and the one shaped like a reservoir was glittering 5

talainānmī nilaitiriya  
 nilainānmī natanētirertarat  
 tōṇṇānmīṇ ruṇaipatiyap  
 pācic cēllā tūci muṇṇā  
 taḷakkarttiṇai viḷakkākak 10  
 kaṇaiyēri parappak kālētirpu pōṅki  
 yōrumīṇ vīḷṇtanṇāl vicumpi ṇāṇe

at the farthest limit, during the first half  
 of the month of Pankuni, when the Constellation  
 of the Far North was descending, and the Eighth  
 Constellation was rising, and the Deers Head  
 sinking into the sea, a star fell from the sky! Not slanting East or North, 10  
 like a light for the earth surrounded by ocean, a star fell as roaring,  
 spreading fire stirred and swollen by the wind! When we saw this

Hart and Heifetz (*ibid.*) interpret the above to mean

At midnight filled with darkness, in the first quarter of the day when *Kārttikā* was in conjunction with *Meṣarāṣī*, in the first fifteen [days] of the month of *Phalguni* (*Paṅkuni*), when Venus appeared after (*mutalā*) being at the foot in the lunar asterism of *Anuṣa* [*Anuṣam*] whose shape is like that of a bent palmyra, to being at the end of *Punarpūsam*, which has the form of a tank that is a pond, when *Uttara* that was at the zenith (*uccam*) descended from the zenith, and when *Mūla*, which is the eighth lunar asterism from that rose opposite it, and the lunar asterism of *Mṛgaśīrṣa*, which is the eighth asterism that does not go before that *Uttara*, descended in the *turai* [? watering place, category].

Nonetheless, they state that “Perhaps a specialist in the history of Indian astrology could make better sense of this than we have.” (*ibid.*).

## 10 THE ANACHRONISM IN THE INTERPRETATION

The bardic verses of the *Caṅkam* corpus were inscribed into the written script during the eighth–ninth century CE, in the *centamil*, a distinct diglossic register, composed according to specific Tamil grammar (*ilakkaṇam*) of *ceyyuḷ* (a variety of poetical texts), in the form of *pāṭṭu* (song/ verse) conforming to the rule of metrical composition (*yāppu*). The verses in Puram, including this verse, are in *akaval* meter (analogous to ‘blank verse’ in English) and are written according to the rules of *yāppu* (poetical composition) that is, with morphological elements of *eḷuttu* (syllabic element), *acai* (one or more *eḷuttu*), *cīr* (metrical foot), *aṭi* (line).

The first two *cīr* of the first line of the verse *āṭiya laḷarkuṭṭat* appear as two ‘words’, but they are not. As *cīr* is the third level of organisational hierarchy, *acai* and *eḷuttu* being the other two, we must ‘split’ these appropriately to make sense.

*Aḷal* is ember/smouldering, and *kuṭṭam* means collection/heap; that is *aḷal kuṭṭam* is ‘smouldering heap/collection’, which is the old

Tamil name for *kārttikai* the (Pleiades).<sup>2</sup> Nine-teenth-century publishers render this first *aṭi* with two *cīr* as either *āṭu iyal aḷal kuṭṭattu* (see, for example, Srinivasan, 2000) or as *āṭu kayal aḷal kuṭṭattu* (see, for example, Cāminātaiyar, 1935).

In both versions, the *āṭu* (goat) is interpreted as zodiac *mēṭam* (Aries). In the second, Cāminātaiyar correlates with “*āṭu kayarē ṭaṇuccinṅkat telumīṇ viḷumē laracalivām*” of the Medieval Tamil astronomical text *cūṭamaṇi uḷḷamuṭaiyāṇ*,<sup>3</sup> that says that sighting of a shooting star when any one of the zodiacs, *mēṭam* (Aries) *mituṇam* (Gemini) *viruccikam* (Scorpio) *ṭaṇucu* (Sagittarius) *cimmam* (Leo) are rising in the East is indicative of evil omen to the King (*Kuruliṅka-tēcikar*, 1923: 91–92).

The concept of zodiacs is not indigenous to Indic culture, and it arrived much later in Indian history. The Greek influence over Indian Astronomy began to spread in the Śaka Period with the coming of a Greek astrological text from Alexandria in the first century CE. *Yava-najā-taka*, written by *Sphujidhvaja*, is the first composition in Sanskrit presenting “... an indigenous tradition where elements of Greek and Indian astral sciences were thoroughly amalgamated.” (*Mak*, 2013: 16). The zodiac names in the *Yava-najā-taka* are translations from their Greek counterparts, beginning with *Meṣa* for Aries, etc. (*Pingree*, 1978(II): 1–3). This was used subsequently by *Mīnarāja* 300–325 CE (*Mak*, 2018: 20–21; *Markel*, 1991: 181); also see *Gansten*, 2020) in *Vṛddhayavanajā-taka* and accordingly zodiac names like *Meṣa* for Aries etc., began to appear in later Northern texts, e.g., in the *Vaśiṣṭha Siddhānta* and the *Bṛhat Saṃhitā* (505 CE) of *Varāhamihira* (485–587 CE). As *Sewell and Dikshit* (1896: 10) state:

The zodiac-sign names of months evidently belong to a later date than the others, since it is known that the names of the zodiacal signs themselves came into use in India later than the lunar names.

Nevertheless, irrespective of *āṭu iyal* or *āṭu kayal*, the *āṭu* is interpreted as ‘goat’ to imply the zodiac Aries and *aḷal kuṭṭam* as the lunar asterism *kārttikai* and tries to tie the Pleiades to

the zodiac Aries to mean that the first *pātam* (leg) of the Pleiades is linked with Aries. This tie-up amounts to assigning a zodiacal system to a culture in South India that it adopted centuries later. It is, therefore, anachronistic if one considers that the period of composing the verse was before the third century CE. As Hart and Heifetz (1999: 142–143) observe, “... almost all the words used for technical astrological terms in this poem are of Dravidian origin, not Sanskritic, origin ...”, so we may reject the usual interpretation of *āṭu* to mean the zodiac Aries.

An alternative reading based on the unique *murukaṇ* mythology in Tamil Culture is feasible. The deity *murukaṇ* also known as *cēyōṇ* in the *Caṅkam* corpus is associated with a retinue of animals, including the peacock, rooster, elephant, ram, goat, horse, and serpent (Clothey and Ramanujan, 1978: 180) also with *kārttikai*. We suggest that this, too, is superfluous.

The conundrum arises only because we split the *āṭiya laḷarkuṭṭat* as *āṭu* + *iyal* + *aḷal* + *kuṭṭattu* and try to make the meaning of *āṭu* (goat). The first line, *āṭiya laḷarkuṭṭat* can be simply seen as *āṭiyal aḷal kuṭṭattu*. *Āṭiyal* then would simply mean shaking, heaving, quivering, wobbling or twinkly, a perfect adjective for flickering Pleiades. The *Caṅkam* corpus uses *āṭiyal* in many other verses; for example, *maturaik kāñci* 83 says “*āṭiyar pērunāvāy*”, that is swaying sailboats, *puranāṇūru* – 165 says *āṭiyal yāṇai* that is wobbling elephant, *narrinai* – 90. Marutam says *āṭiyal viḷaviṇ aḷuṅkaṇ mūtūr*, that is a celebration filled with dance moves, *patirrupattu/ēlām pattu* 62 says *āṭucirai varivaṇṭu*, the buzzing of the wings of wasps. If we go by this, then *āṭiya laḷarkuṭṭat* would mean “twinkling *kārttikai*” or “flickering *kārttikai*”. One of the critical features of *Kārttikai* (the Pleiades) is that just six to seven blue stars faintly shimmer to the naked eye. This interpretation is sufficient and does not have to be over-interpreted.

## 11 RE-READING PURAM 229

Keeping the preceding in mind, the first eight lines describing the night sky in detail will read as follows:

*āṭu iyal aḷal kuṭṭattu* - [on the day of] flickering *kārttikai*<sup>4</sup>  
*tāriru laṛaiyiraviṇ* - (*ār iru!* =) dark night (*arai iravi!*) = (near about) midnight<sup>5</sup>  
*muṭap paṇaiyattu vēṛ mutalāk* = *muṭap paṇai* = *aṇuṣam*; *vēṛ* means root or foot. That is, the sky from the root of *aṇuṣam*, that is, from *kēṭṭai*, was visible.

*kaṭaik kuḷattuk kayam kāya* = *kuḷattuk kayam* = *puṇarpūcam*. *Kaṭai* means edge/border. The edge of *puṇarpūcam* is *tiruvātirai*. *Kayam kāya* means shining bright.

*paṅkuṇi uyar aḷuvattu*, = *Paṅkuṇi*<sup>6</sup> - waxing phase

*talai nālmīṇ nilai tiriya* = *talaināl* of a month is the *nakṣatra* (lunar asterism) in which the full Moon occurs. For the month of *paṅkuṇi*, it is *uttaram*; the verse says the position of this asterism changed

*nilai nālmīṇ atan etir ērtara*, = The asterism taking position ready to come above the Eastern horizon is called *nilai nālmīṇ*; *ērtara* means rising/climbing up. That is, the *nilai nālmīṇ* came above the horizon.

*tol nālmīṇ turai paṭiya* = The one that is setting is called *tol nālmīṇ*; the verse says that the *tol nālmīṇ* reached the *turai* that is harbour or place of destination. That is, the setting asterism wholly dips below the horizon.

*pācic cellātu, ūcit tunṇātu*, = neither going North nor East, that is, going in a Northeast direction. *aḷakkart tiṇai viḷakkākak* = like a lamp illuminating the world/land surrounded by ocean

*kaṇai eri parappa, kāl etirpu poṅki*, = [it] spreading fire/cinder causing agitation in the air/atmosphere

*oru mīṇ vīḷtanṇāl* = One ‘star’ bolted/fell [from the sky/space]

From the above reading, we can infer the following:

- 1) The verse says that from the root of *aṇuṣam* to the edge of *puṇarpūcam* that is, *tiruvātirai* was shining brightly in the sky. This implies the asterisms *aṇuṣam pūcam*, *āyilyam*, *makam*, *pūram*, *uttiram*, *hastam*, *cittirai*, *cuvāṭi*, *vicākam* and *puṇarpūcam* were visible in the sky at the commencement of the event.
- 2) *Uttiram* was at meridian transit near midnight during the waxing phase of the Moon in the month of *paṅkuṇi*.
- 3) The time was near midnight.
- 4) During the course of the event, the position of *talaināl* changed (that is, the asterism at transit left that place).
- 5) The *nilaināl*, that is, the asterism near the Eastern horizon rose.
- 6) [In the West] The *tolnāl* that was about to set below the horizon disappeared.
- 7) The transient object moved in the sky in a Northeasterly direction, brightly illuminating the surrounding area, and finally ‘fell’ or disappeared.

Note that the verse captures more than a

snapshot of the night sky and a brilliant transient object. It also records changes in stellar positions in the course of the night.

## 12 THE TAMIL TIME-RECKONING OF THE NIGHT SKY

Why is the bard so particular in giving a vivid description of the night sky, detailing the changes in the position of certain *nālmīn*s? Curiously, the references to the planets are conspicuously absent. It is to be noted that *nālmīn* (asterism/*naṭcattiram*) in Tamil astronomical tradition is not a single star. A *nālmīn* is composed of a certain number of stars that together provide a shape for the asterism. For example, *asvini* is made up of six stars that give the appearance of a horse head, and *paraṇi* (Bharani) is made of three stars like the traditional three-stone stove and so on (Kumār-acuvāmi tēcikai, 1923: 26–27). The extent of the *nālmīn* covers the area of the sky in which the component stars of a particular asterism or *naṭcattiram* are located.

Table 1: Key lunar asterism for block of months.

| Block | Months                                   | Key Asterism       |
|-------|------------------------------------------|--------------------|
| 1     | <i>cittirai vaikāci āṇi āṭi</i>          | <i>pūcam</i>       |
| 2     | <i>āvaṇi puraṭṭāci aippaci kārttikai</i> | <i>aṇuṣam</i>      |
| 3     | <i>mārkaḷi tai māci paṅkuṇi</i>          | <i>uttiraṭṭāti</i> |

A traditional Tamil *paṭṭu* for finding time in the night is as follows:<sup>7</sup>

*cittiraikkup pūcamutal cīrāvaṇik kaṇuṣamām  
attaṇucuk kuttiraṭṭātiyām; nitta nittam  
ētuccamāṇālum iraṇṭēkālir perukki  
mātamaintu taḷi matī*

(Tr.) For *chittirai* (count) from *Pusam*, for *Avani*, from *Anuṣam*

for *Dhanu* from *uttirattadi*; on any day, whatever is in the meridian, multiply (the count) by two and a quarter and subtract five for every month

The algorithm contained in the *paṭṭu* is:

Step 1:- count from the key asterism (in Table 1) to the asterism at the meridian. Multiply that count by  $2\frac{1}{4}$

Step 2:- multiply *n* (*n* being the number of the month in the block) and subtract this from the above) by 5

The answer that we get is the *nālikai* past sunset (*nālikai* = 24 minutes).

Using this algorithm, we can infer the time of the event. The month is *paṅkuṇi*, and the asterism at the meridian is *uttiram*.

### Step 1

The count from the *nālmīn* at the meridian to the key asterism of the month, in this case from *uttiram* to *uttiraṭṭāti* (including both asterisms), is 15. Therefore  $15 \times 2\frac{1}{4} = 33\frac{3}{4}$ .

### Step 2

*Paṅkuṇi*'s count number in the block is 4. Therefore, for completed three months  $3 \times 5 = 15$ . The event happened around mid-month, so add  $2\frac{1}{2}$  to  $15 = 17\frac{1}{2}$ .

### Step 3

$33\frac{3}{4} - 17\frac{1}{2} = 16\frac{1}{4}$  *nālikai* = 6.5 hrs past sunset.

While the above algorithm is simple and handy, a more sophisticated one provides for the uneven spread of the *nālmīn* in the ecliptic. This method uses the aphorism '*ucca mīnukku eṭṭāvatu mīn utayamīn*' [eight *nālmīn* from the *nālmīn* at the meridian is at the Eastern horizon]<sup>8</sup>. One needs to know the Sun's position in the *nālmīn* asterism cycle. Counting from the *nālmīn* at the meridian to the Sun's position tells how much time is left for the next sunrise. Recall that while *cuvāti* asterism (imagined as a bright lamp) has a single bright star, *aviṭṭam* asterism has as many as 12 stars. The duration each *nālmīn* asterism will remain in *uccam*, that is at the meridian, is given in Table 2. The computation is made with this table.

Usually, in the month of *paṅkuṇi*, the *ammā-vācai* (New Moon) occurs when the Sun is in *uttiraṭṭāti* or *rēvati*, and the Sun stays in the same *nālmīn* asterism for 13 days. The verse indicates that the Moon is in the waxing phase in the month of *paṅkuṇi*; therefore, the location of the Sun was either *uttiraṭṭāti* or *rēvati*. Using Table 2, we can now compute the time of the event's occurrence.

The first eight lines of the verse, thus, are likely to provide a stellar clock, intelligible and conversant to its audience.

## 13 WAS IT A COMET OR A FIREBALL?

The poet says that the asterisms at the horizon had risen entirely or set completely while the one that was meridian transiting had moved away. According to Table 2, *Uttiram* remains at the meridian for two *nālikai* ( $24 \times 2 = 48$  minutes); thus, whatever its nature, the celestial event that caught the poet's attention probably did not last more than one hour. Were it instantaneous, the poet probably would not have gone to the trouble of describing the changing asterisms at the Eastern and Western horizons or the change of the position of the asterism that was transiting. Thus, one can reasonably conclude that the transient event lasted more

than a fleeting moment, but not longer than, say, an hour.

It is now possible to characterise the fiery object from the information in the following four lines,

*pācic cellātu, ūcit tunṇātu* = neither going North nor East, that is, it went in a North-easterly direction.

*aḷakkart tiṇai viḷakkākak* = like a lamp illuminating the world/land surrounded by an ocean

*kaṇai eri parappa, kāl etirpu poṅki* = [it] spreading fire/cinder causing agitation in the air/atmosphere

*oru mīṇ vīṇtanrāl, vicumpiṇāṇē* = One 'star' bolted/fell from the sky/space

First, the bard emphasises that it was one object, not many. The poet explicitly says “oru”, which is one. That rules out a meteor shower. Second, it moved in the sky in the North-easterly direction. Third, it caused agitation in the atmosphere / air. *Kāl* in old Tamil means “air”, that is, the atmosphere. *Etirpu poṅki* means causing intense turmoil or turbulence. The author describes the object as in the state of “*kaṇai eri*”; ‘*kaṇai*’ means abundant or thick, and ‘*eri*’ means burning flame or blazing. Contemporary literature such as Akam 105 and Puram 315 also deploys the words ‘*kaṇai eri*’. Puram 315 says *kaṇai eri pōlat tōṇravum vallan, tāṇ tōṇrunḱālē*, which means

he is capable of appearing like the ignited stick when rubbed, causing an intense fire when he decides to reveal his nature.

That is, ‘*kaṇai eri*’ is ignited by a raging fire.

Further, the object emitted intense light to illuminate the ‘whole world’. This is obviously poetic exaggeration but it indicates that, unlike typical meteors, this was not just an instantaneous flicker in the sky on a dark night. The light was so brilliant great that it lit up the ground and the surrounding or nearby ocean. Then the fiery object subsequently vanished, or ‘fell from the sky’. As described by the bard this sounds exactly like a fireball, or possibly a bolide (an exploding fireball), although he makes no mention of any terminal explosion. But clearly this was a transient celestial spectacle, not an enduring astronomical object, so it definitely was not a comet.

Meteoroids are mainly fragments of asteroids deriving from impact events within the asteroid belt. Through processes that are not yet fully understood, but clearly involve Jovian resonance zones, some of this debris is chann-

elled into orbits that can cross the Earth’s orbit and if the Earth happens to be there at the time a fireball will be seen as the object lights up at typically around 100 km above the Earth’s surface, and generally disappears at 20–25 km from the ground. If the fireball explodes at the end of its luminous flight path it is known as a bolide. Some of these bolides end up dropping meteorites ([Bevan and de Laeter, 2002](#)).

An observer described one such event that took place on 22 February 1909 in Southern England as striking, and “... left a luminous train that remained visible for two hours, drifting and turning in the wind.” ([Kippax, 1919](#)). This persisting train—typical of fireballs—explains why

Table 2: The duration of the residence of different lunar asterisms on the meridian.

| Nālmīn<br>(Asterism)   | Duration of Residence<br>on the Meridian |
|------------------------|------------------------------------------|
| 1. <i>Asvini</i>       | 2 <i>nāḷikai</i>                         |
| 2. <i>Parāṇi</i>       | 3                                        |
| 3. <i>Kārttikai</i>    | 1½                                       |
| 4. <i>Rōkiṇi</i>       | 2                                        |
| 5. <i>Mirukaciṇṇam</i> | 2¼                                       |
| 6. <i>Tiruvātirai</i>  | 1½                                       |
| 7. <i>Puṇarpūcam</i>   | 3                                        |
| 8. <i>Pūcam</i>        | 2¼                                       |
| 9. <i>Āyilyam</i>      | 2½                                       |
| 10. <i>Makam</i>       | 2¼                                       |
| 11. <i>Pūram</i>       | 2¼                                       |
| 12. <i>Uttiram</i>     | 2                                        |
| 13. <i>Aṣṭam</i>       | 3¼                                       |
| 14. <i>Cittirai</i>    | 1¼                                       |
| 15. <i>Cuvāti</i>      | 1½                                       |
| 16. <i>Vicākam</i>     | 2½                                       |
| 17. <i>Aṇuṣam</i>      | 1¾                                       |
| 18. <i>Kēṭṭai</i>      | 1¾                                       |
| 19. <i>Mūlam</i>       | 2½                                       |
| 20. <i>Pūrāṭam</i>     | 2¼                                       |
| 21. <i>Uttirāṭam</i>   | 2½                                       |
| 22. <i>Tiruvōṇam</i>   | 1¾                                       |
| 23. <i>Aviṭṭam</i>     | 2                                        |
| 24. <i>Caṭayam</i>     | 1¾                                       |
| 25. <i>Pūrattāti</i>   | 3¼                                       |
| 26. <i>Uttirattāti</i> | 2¾                                       |
| 27. <i>Rēvati</i>      | 2¼                                       |

the fireball described in *Puram* 229 may have created such an impression, even though the actual fireball itself was witnessed for only a short time.

On 15 February 2013, a large meteoroid entered the atmosphere and burst in the air over Chelyabinsk in Russia at 3:20 UTC, followed by a sudden explosive noise due to a high energy shock wave. It released around 500kT of energy, causing substantial collateral



Figure 3: The vapour trail about 200 km from the Chelyabinsk meteor event, about one minute after the meteoroid entered the Earth's atmosphere (adopted [Talbert, 2018](#)).

damage. The sonic boom shattered glass windows, caused a wall to collapse in a zinc factory, and injured more than 1600 people. The object temporarily shone as brightly as the Sun, with a white trail that was visible for about 30 seconds ([Figure 3](#)). The object was estimated by NASA to be an 18-m sized meteoroid weighing around 11,000 tonnes. Moving at 18 km/sec it disintegrated at a height of about 23 km ([Yeomans and Chodas, 2013](#)). It was the most powerful meteorite impact since the 'Tunguska Event' of 1908 ([Jenniskens et al., 2019](#)). But, as [Barrientos and Masse \(2014: 136\)](#) stress, even much more modest impact events

... would have had profound psychological, behavioral, cultural, and occasional lethal ramifications for the individuals and societies that experienced the event[s].

This evaluation applies equally to witnessed fireballs—such as the one portrayed in *Puram 229*—even if it did not drop meteorites.

More recently, on 18 May 2024, an exceptionally luminous fireball was observed over the Iberian Peninsula at 22:46:48 UTC and recorded by the Spanish Fireball and Meteorite Net-

work (SPMN). The event was captured on video by casual observers and quickly disseminated through the media. It is estimated that this meteoroid was about 1-m in size. It entered the atmosphere at 40.4 km/sec, at an angle of  $8^\circ.4$ . The luminous phase started and ended higher than usual, at around 133 km and 54 km respectively. The flight path traversed the Western part of the Iberian Peninsula, culminating in its flight over the Atlantic Ocean ([Peña-Asensio et al., 2024](#)). The videos of these events show that these meteoroids are very bright, appear to cause agitation in the atmosphere, move in a particular direction, last at most for several minutes, and then disappear.

The loud thunderclaps accompanying fireballs, and especially bolides, are heard over a large area. What is the animal response to such a sonic boom, particularly by the horses and the elephants? The effect on farm and wild animals has been observed to be mild. They are just startled and, in a momentary reaction may raise the heads or sniff the air ([Bell, 1972: 758](#)). *Puram 229* does draw attention to a certain behaviour of horses and elephants, that was seen by the poet as peculiar.

## 14 CONCLUDING REMARKS

*Puram* 229 has been a subject of interpretation by several scholars for over a century to fix the period of the composition of the *Purananuru* verses from the astronomical details provided by the bard. Various scholars have also used the verse to claim the antiquity of predictive astrology in Tamil culture. While the prevalence of belief in omens is evident (the king will suffer in the next seven days after the occurrence of a 'shooting star'), that does not constitute predictive astrology. It is to be noted that the description of the night sky is devoid of *irāci* (zodiac) and planetary positions which form the critical basis for predictive astrology. Hart and Heifetz (1999: 142–143) note that the technical terms used are uniquely Dravidian. That is an indicator of pre-Siddhāntic astronomy, and seeing any zodiacal interpretations in the *Puram* 229 would be anachronistic.

To sum up, our interpretation is that in *Puram* 229, *Kūdalūr Kilār* was reporting a transient event that he saw as foreboding the death of his patron, *Cēra King Yāṇai-kkaṭ Cēy Māntaraṇ Cēral Irumporai*. It occurred seven days before the King's death. Our analysis shows that the celestial event referred to was most likely a brilliant fireball. It occurred in the month of *Paṅkuṇi* on a night when the waxing Moon was in the *Kārttikai* asterism and when the *Uttiram* asterism was at transit, that is 16¼ *nāḷikai* past sunset and the object was seen to move in a North-easterly direction and eventually disappear. Although it probably lasted locally for less than one minute its associated train likely persisted for more than an hour, adding further majesty to the spectacle and thereby justifying its inclusion in the *Purananuru*.

There is on-going debate about the birth and death dates of *King Yāṇai-kkaṭ Cēy Māntaraṇ Cēral Irumporai* and the best that scholars have been able to come up with, based on the available historical evidence, is that he reigned during the second century CE. Only two well-documented known astronomical events are known to date to this period: the apparition of Comet 1P/Halley in 141 CE (Ravene, 1897) and the appearance of a supernova in 185 (Stephenson and Green, 2002; c.f. Schaefer, 1995; Zhou et al., 2006). Both occupied or traversed an area of sky visible from Southern India at that time. Although the supernova was documented as a conspicuous 'guest star' in Chinese sky for more than eight months, Narlikar and Bhate (2001) could find no mention of it in Indian classics.

Ho (1962), Kiang (1972) and Yeomans and Kiang (1981) all review the Chinese documentation for the 141 AD apparition of Comet 1P/Halley, which Yeomans et al. (1986: 78) summarise:

On March 27, a broom star was seen in the east with a tail about 9 degrees long and pale blue in colour; this was certainly the CO<sup>+</sup> ion tail. The comet was observed until late April.

Perihelion occurred on 22.4 March. Some, such as Aravāṇan (1971) have suggested that the astronomical object mentioned in *Puram* 229 may represent the appearance of Comet 1P/Halley in Indian skies in 141 AD, but the available information in *Puram* 229 is insufficient for us to be able to identify a specific comet or the date of its appearance. Moreover, although the celestial object mentioned in *Puram* 229 was located in the *Pushya* asterism, Comet 1P/Halley passed through this particular *nakṣatra* during its apparitions in 12 BCE, and 141, 295, 451 and 530 CE (Kapoor, 2018: 17), and all of these are dates thought to span the composition by various scribes of different sections of the *Purananuru*. All this, of course, is academic, for as we have seen, the object in question in *Puram* 229 was almost certainly a fireball not a comet.

## 15 NOTES

1. See Wilden (2014: 45–46) for the details on the MSS.
2. *Cilappatikāram* line 3718 and *civaka cintāmaṇi* line no 1727 too use *aḷal kuṭṭam* in the sense of *kārttikai*.
3. Two Tamil *uḷlamuṭaiyāṇ* manuals, *cūṭāmaṇi uḷlamuṭaiyāṇ* (Mutaliyār, 1890) and *vīmēccura-v-uḷlamutai-ṭaiyāṇ* (Mutaliyār, 1923), are based upon the methods of the *vākyakaraṇa*. They are widely used even today to cast Tamil *pañcāṅga* and predictive astrology. The internal evidence of the *cūṭāmaṇi uḷlamuṭaiyāṇ* indicates that it was written/composed by one *tirukkōṭṭiyūr nampi* in 1178 CE (see Cattiyapāmā, 2007: 10). It was widely used from 1706 to 1708, as attested by European missionary Bartholomäus Ziegenbalg (see Sweetman and Ilakuvan, 2012).
4. For synonyms of Tamil asterisms see Kumāracuvāmi tēcikaṛ (1923: 6–7).
5. In the month of *paṅkuṇi*, the Full Moon occurred on *uttaram nakṣatra*. Therefore, during the month of *amānta paṅkuṇi*, when the *nakṣatra* was *kārttikai*, the *tithi* was

either *caṣṭi* or *captami*; that is, the Moon was a six or seven-day-old waxing crescent. On that day, moonrise occurred before noon, with the Moon transiting the meridian around sunset and setting close to midnight. The poet says that the occurrence was *arai iravil*, which is near midnight. With no Moon in the sky, the night was very dark (*ār iru!*).

6. Currently, the Tamil calendar follows solar months; however, the names of the months are similar to the lunar/lunisolar ones. We do not know if the months were solar, lunar, or lunisolar when the verse was written. See Fuller (1980) for the calendrical system in Tamil Nadu.
7. This verse can be found in texts like *Kumārācuvāmiyam*, *Cōṭṭakkaḷaṇciyam* and other works of astral sciences; in particular Nāyūṭu (1939), Piḷḷai (1923) and Teyvacikāmaṇi (1939).
8. This method and Table 2 can be seen in various astral sciences texts.

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## 18 APPENDICES: THE VARIOUS TRANSLATIONS OF THE PURAM 229

### 18.1 Pillai (1904: 98–99)

On the day of *Kuddam* (*Kārtika*), when the Sun was in the sign of *Ādu* (*Mesha*) at midnight when the asterisms from the first star of *Mudappanai* (*Anuradha*) to the last star of *Kulam* (*Punarvasu*) were visible in the sky, and while the asterism which is in the zenith during the first half of the month of *Pankuni* (*Phalgunā*) was declining from the zenith, the eighth asterism before it was setting, and the eighth asterism after it was rising, a brilliant meteor which illumined the whole sky fell toward the North-east showering fiery sparks against the wind. Seeing this falling star myself and other minstrels prayed fervently that the monarch of the fertile country which abounds in water-falls may be saved from death, and with a heavy heart we awaited the result of this dreadful omen.

### 18.2 Iyengar (1929: 482–484)

Kūdalūr Kijār describes elaborately the point in the sky where he saw a shooting star, in *Puram* ode 229. It is to be noted that the author follows the early custom of not borrowing from Sanskrit even technical terms. Thus, *anurādha* from its real or supposed resemblance to a palm is called *muḍappanaiyam*; *punarvasu*, for a similar reason, *kaḍaikkujam*. It is not impossible that the Tamils gave names to these and some other constellations without help from foreign cultures. But the name of *alarkuṭṭam*

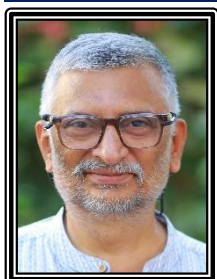
for the Pleiades is translation of 'the star of fire', *agninakṣatra*, one of its special Sanskrit names; and *āḍu* is the translation of *meṣa* which is itself the translation of the Greek Aries. Notwithstanding this adhesion to ancient Tamil practice, the poem is sufficiently late to use foreign words (for metric purposes), such as *pāsi*, East, and *usi*, West, borrowed from Prakrit. *Paṅguni* has been borrowed and not translated. In this ode the author says that he saw a meteor falling from a particular point in the sky and thought that it indicated the coming death of the chief Kōceramān Yāniakkatcēy Māndarañjēral Irumborai who must therefore have been a very late chief.

### 18.3 Herbert (2015: 395–397)

*Puranānūru* 229, Poet Koodalur Kizhār sang for Kocheraman Yānaikatchēy Māntharancheral Irumporai, Thinaḥ: Pothuviyal, Thurai: Ānantha Paiyul

At the pitch darkness of midnight when the flame constellation  
*Kārthikai* was there with the goat constellation *mēdam* in the  
 first half of *Panguni* month when Venus appeared at the foot of  
*Anudam* shaped like that of a bent *Palmyra* tree, to being at the  
 end of glittering *Punarpūsam*, which has the shape of a pond,  
 when *Uthiram*, which was at the zenith, descended, and *Moolam*  
 that is, the eighth constellation rose opposite to it, and,  
*Mirukaseeridam* constellation that does not go before *Uthiram*  
 goes down toward the shore, not going North or South, like a light  
 to this Earth surrounded by water,  
 a star fell roaring and fiery, moved by heavy winds

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His research interests include the circulation of modern science in the premodern Tamil region, the evolution of calendars, the history of astronomy and science, colonialism and modernity in India, science content in school textbooks, and the relationship between science, society, and media. In particular, he has worked on *vākya pañcāṅkam*, calendrical traditions, epigraphical data, and the history of science communication in Tamil and Indian cultural contexts.

At Vigyan Prasar, he founded and edited *India Science Wire* and served as national coordinator for the Bhasha Project, which promotes science communication in Indian languages. He also contributed to major outreach initiatives such as EduSAT, science television and radio programmes, and the long-running *Eureka – Conversations with Indian Scientists* series on Rajya Sabha Television.

He has written more than 80 popular science books in English and Indian languages, besides articles in newspapers and research papers in periodicals, and has conducted numerous training programmes for students, journalists, teachers, and science writers.

He has been actively involved in science education and policy, contributing to school educational initiatives, textbook development in Tamil Nadu, and national capacity-building programmes in science communication.

He has served on several professional and advisory bodies, including the Public Outreach and Education Committee of the Astronomical Society of India and the Editorial Board of *Science and Culture*. He has also been associated with the National Council of Education Research and Training, state-level educational reform initiatives, and capacity-building programmes in science communication. His ORCID ID is <https://orcid.org/0000-0003-2577-5374>

**Professor Ramesh Kapoor**

completed a PhD at Agra University in 1980, but had begun his career as an observational astronomer in 1971 at the Uttar Pradesh State Observatory (now Aryabhata Research Institute of Observational Sciences, ARIES) at Nainital. His main interest at that time was flare stars. From March 1974 until September 2010 he was with the Indian Institute of Astrophysics (IIA) in Bengaluru, where he worked on various topics in relativistic astrophysics: observational aspects of black holes, quasars, pulsars, etc. He published in peer-reviewed journals and presented papers at national and international conferences.

He participated as an observer and organizer in IIA solar eclipse expeditions in 1980, 1983, 1995, 1999, 2009 and 2010; apart from Indonesia in 1983, all of these were in India. He also travelled to Columbia (South Carolina) to observe the eclipse of 2017 and to La Higuera (Chile) for the eclipse of 2019.

Ramesh's recent interest was in the history of astronomy in India. "Comet Tales from India", was an ongoing project begun in 2009, that aimed to record comets from the Indian region reported in publications, manuscripts and on inscriptions from antiquity until the nineteenth century where available data, however minimal, permitted identification of the comet. The resulting research was presented in journals (especially this one) and at conferences. A more recent project, "Eclipse Tales from India", aimed to trace total and annular solar eclipses mentioned in Indian written works or in inscriptions from antiquity until the nineteenth century.

All along, Ramesh was active in promoting astronomy, publishing many popular articles in national dailies and science magazines. He frequently interacted with the print and the electronic media on diverse scientific topics that were of interest to the general public. He also published on Indian systems of medicine.

Ramesh was a member of the International Astronomical Union from 1985; a Life Member of the Astronomical Society of India since 1973; an Associate of the National Institute of Advanced Studies (NIAS, IISc) since 2002; and a COSPAR Commission E Associate since 2005. His ORCID ID was <https://orcid.org/0000-0002-4858-0476>.

Editors: We are very sad to report that Professor Kapoor passed away unexpectedly on 21 August 2025, after having already submitted this paper to *JAHH*.