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**ECHOES OF THE ANCIENT WORLD**  
**POSSIBLE DESCRIPTIONS AND INTERPRETATIONS OF**  
**DINOSAUR-LIKE CREATURES IN ANCIENT INDIAN SCRIPTURES**

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## **ABSTRACT**

This article undertakes a systematic examination of ancient Indian scriptures - including the Rigveda, Atharvaveda, the Mahabharata, and numerous Puranic texts - with a view toward identifying descriptions, mythological figures, and symbolic references that certain scholars have proposed as potentially corresponding to prehistoric animals, including creatures broadly analogous to dinosaurs or other Mesozoic fauna. Proceeding from an interdisciplinary framework that integrates textual philology, comparative mythology, palaeontological context, and the history of science, the study evaluates both the hermeneutical merits and the significant limitations of such interpretations. While mainstream palaeontology and Indological scholarship generally resist literal readings of mythological creatures as records of prehistoric organisms, a growing body of alternative and interdisciplinary commentary warrants careful academic scrutiny rather than dismissal. The article proceeds through a survey of key textual entities - including the Vritra, Makara, Naga, Timingila, and various giant beings described in the epics - and juxtaposes their attributes against known palaeontological evidence and geological timelines. It ultimately argues that while direct correspondences between these beings and specific Mesozoic species cannot be established, the descriptions occupy a fascinating space within human cultural memory,

ecological knowledge, and the symbolic imagination of ancient India that merits sustained interdisciplinary attention.

**KEYWORDS:** Ancient Indian scriptures; Vedic mythology; dinosaurs; palaeontology; Puranas; Sanskrit literature; Makara; Naga; Vritra; prehistoric animals; comparative mythology.

## 1. INTRODUCTION

The intersection of ancient mythology and modern science has long attracted scholarly curiosity. Among the most intriguing - and contested - questions in this field are whether descriptions of fantastic animals in the sacred literatures of the world encode genuine memories of, or encounters with, creatures that modern science identifies as prehistoric. In the Indian subcontinent, one of the world's richest depositories of ancient textual traditions, this question acquires complexity. The Vedas, composed over a period spanning roughly 1500–600 BCE, and the vast Puranic and epic literature that developed thereafter, contain numerous references to enormous, terrifying, or otherwise extraordinary animals that have no obvious counterpart in the fauna known to historical-period Indians.

The suggestion that some of these descriptions might reflect knowledge of, or mythology derived from, prehistoric animals - including those belonging to the Mesozoic Era (approximately 252–66 million years ago) - has been advanced by several researchers in the fields of cryptozoology, alternative archaeology, and a subset of Hindu nationalist scholarship. While such proposals are almost universally rejected by mainstream palaeontologists and most Indologists, they have generated a lively interdisciplinary debate that touches on fundamental questions about oral tradition, folk memory, fossil discovery, and the boundaries between the natural and the supernatural in ancient worldviews.<sup>1</sup>

This article does not endorse the view that ancient Indians had scientific knowledge of dinosaurs in the modern palaeontological sense. Rather, it undertakes a rigorous textual and comparative analysis of the most relevant passages and figures, situates them within their proper historical and hermeneutical contexts, and evaluates the arguments - both for and against the prehistoric-animal hypothesis - with the critical apparatus appropriate to academic discourse.

The article is organized as follows:

- Section 2 provides historical and methodological context.

- Section 3 surveys the Vedic corpus.
- Section 4 examines epic and Puranic literature.
- Section 5 analyses specific creature descriptions.
- Section 6 considers fossil discovery as a potential source of mythological elaboration, and
- Section 7 offers a critical assessment before the conclusion.

## **2. Historical and Methodological Context**

### **2.1 The Scope and Dating of the Texts**

Ancient Indian literature is among the most voluminous and chronologically complex bodies of religious and philosophical writing in the world. The Vedas - comprising the Rigveda, Samaveda, Yajurveda, and Atharvaveda - are generally dated between 1500 and 600 BCE, though some scholars propose earlier dates for the oldest Rigvedic hymns.<sup>2</sup> The epics - the Mahabharata and Ramayana - reached roughly their current forms between approximately 400 BCE and 400 CE, though they incorporate material of much greater antiquity.<sup>3</sup> The eighteen major Puranas, encyclopaedic texts treating cosmology, genealogy, and mythology, were compiled primarily between 300 and 1200 CE, though again drawing on substantially older oral traditions.<sup>4</sup>

Any attempt to identify prehistoric animal descriptions in these texts must grapple with this enormous temporal range. Dinosaurs and most large Mesozoic reptiles became extinct approximately 66 million years ago, far beyond any plausible horizon of direct human observation. Unless one accepts the fringe hypothesis that some large prehistoric reptiles survived into the Holocene - for which there is no credible evidence - the question is necessarily one of indirect knowledge: through fossil discovery, ecological extrapolation from living large reptiles, or purely imaginative elaboration. Each of these pathways carries different implications for how we interpret the texts.

### **2.2 Methodological Challenges**

The principal methodological challenge in this investigation is the risk of anachronistic projection. As philosopher of science Michael Ruse has noted, mythological descriptions of extraordinary animals are typically generated by cultural, religious, and ecological dynamics that are entirely independent of palaeontological reality.<sup>5</sup> The fact that a given Sanskrit description shares features with a known dinosaur genus does not, in itself, constitute evidence of a relationship; the shared features may reflect universal patterns of imaginative elaboration around large or dangerous animals, or they may be coincidental.

A second challenge concerns translation and interpretation. Sanskrit is a language of exceptional richness and ambiguity, and mythological texts routinely deploy multiple levels of meaning simultaneously cosmological, ritual, and allegorical. A description of a "great serpent" (mahauraga) may simultaneously designate a cosmic principle, a ritual symbol, a meteorological phenomenon, and a naturalistic animal - or none of these individually.<sup>6</sup> Scholars such as Wendy Doniger have cautioned against reductionist interpretations that privilege one level of meaning at the expense of others.<sup>7</sup>

Adrienne Mayor's landmark study *Fossil Legends of the First Americans* (2005) demonstrated convincingly that indigenous oral traditions in North America had preserved detailed, accurate, and geographically specific knowledge of large vertebrate fossil deposits, and that this knowledge shaped the mythology and iconography of those cultures.<sup>8</sup> Mayor's approach - patient, philologically careful, and scrupulously empirical - offers the most defensible methodological model for the present investigation.

### **3. The Vedic Corpus: Giant and Monstrous Beings**

#### **3.1 Vritra: The Dragon of the Deep**

The most prominent monstrous animal figure in the Rigveda is Vritra (also Vrtrra), a being described as an enormous serpent or dragon-like creature who withholds the cosmic waters until slain by the god Indra. The hymns depict Vritra as lying coiled across a mountain or across the cosmic waters, blocking their flow; he is described as possessing no hands or feet (apadah), as having a spine (prstha), and as being of enormous size.<sup>9</sup> The Rigvedic description in Book I, Hymn 32 - perhaps the most detailed account - describes the combat between Indra and Vritra in terms that evoke an enormous, serpentine, aquatic creature of great mass.

Researcher and Hindu scholar David Frawley has argued that the Vritra mythology may encode a collective memory of large predatory reptiles, pointing in particular to the description of Vritra's body as "mountainous" and his association with deep water.<sup>10</sup> More cautiously, Calvert Watkins's meticulous philological analysis of the Vritra myth in *How to Kill a Dragon* (1995) identifies the creature as the culminating expression of an ancient Indo-European "dragon-slaying" formula that is fundamentally cosmological and meteorological in import - representing the release of rain from cloud-mountains - rather than a naturalistic description.<sup>11</sup>

From a palaeontological perspective, some enthusiasts of the prehistoric-connection hypothesis have compared Vritra to large theropod dinosaurs or to mosasaurs - the enormous

marine reptiles of the Late Cretaceous. These comparisons rest on isolated descriptive features (large size, possible aquatic association, serpentine body plan) and do not constitute evidence of a genuine relationship. Nevertheless, the striking convergence of descriptive elements does make Vritra one of the more discussed figures in this literature.<sup>12</sup>

### **3.2 Ahi and Serpentine Beings in the Atharvaveda**

The Atharvaveda, composed somewhat later than the Rigveda and dealing more extensively with practical magic, medicine, and natural philosophy, contains numerous references to serpents of extraordinary size and power. The being designated ahi (cognate with Greek ophis, "serpent") appears in contexts suggesting a creature of supernatural dimensions. Atharvaveda 8.10 contains a hymn addressed to a cosmic cow whose mythological genealogy intersects with descriptions of giant serpent-like adversaries, while several other hymns describe the venom and power of giant serpents in ways that some commentators have found reminiscent of large prehistoric reptiles.<sup>13</sup>

The Shatapatha Brahmana, a later Vedic prose text interpreting sacrificial ritual, offers detailed cosmological descriptions of a giant serpent Shesha (or Ananta) upon whom the universe rests. While these descriptions are clearly cosmological allegories, they display an evident fascination with the concept of a creature of literally inconceivable size - a fascination that some scholars have attributed to a cultural substrate of knowledge about, or mythology derived from, extraordinarily large animals observed or encountered in the subcontinent.<sup>14</sup>

## **4. Epic and Puranic Literature**

### **4.1 The Mahabharata: Giant Serpents and Primordial Creatures**

The Mahabharata - at roughly one hundred thousand couplets, the world's longest literary epic - contains numerous descriptions of giant animals, many of which have attracted attention from researchers interested in potential prehistoric connections. The Adi Parva (Book 1) contains an extended narrative of the sarpa satra, or "serpent sacrifice," which features descriptions of enormous serpents of various species, some of supernatural scale. The serpent Shesha and his cosmic progeny are described in terms suggesting creatures of geological rather than merely biological magnitude.<sup>15</sup>

More directly relevant to the present inquiry is the description in the Adi Parva of the Astika sub-parva of Takshaka, the king of the serpents, who is described as capable of swallowing elephants whole. While this is clearly hyperbole in its narrative context, paleontologist Paul Sereno and others have noted that the Mahabharata's serpent mythology displays an

ecological realism about the relationship between very large serpents and large prey animals that suggests some grounding in observations of the giant pythons and other large reptiles of the Indian subcontinent, and possibly in folk memories of larger extinct forms.<sup>16</sup>

The Mahabharata also contains references to the Timingila, a fish or marine creature of inconceivable size capable of swallowing whales, and to the Garuda, the great eagle-like vehicle of Vishnu, described as large enough to blot out the sun and as having a wingspan of cosmic proportions. The Garuda's war with the serpents (nagas) is described in the Adi Parva with considerable naturalistic detail alongside its mythological elements, including descriptions of feeding behaviour, territorial rivalry, and physical struggle that bear some resemblance to predator-prey dynamics in large reptile ecology.<sup>17</sup>

#### **4.2 The Puranas: Cosmological Creatures and the Scale of Being**

The Puranic literature offers the richest trove of extraordinary animal descriptions in the Sanskrit corpus. The Bhagavata Purana (Srimad Bhagavatam), one of the most influential of the eighteen major Puranas, contains in its fifth skandha (book) a detailed cosmological geography that includes descriptions of animals of extraordinary scale inhabiting the various continents and cosmic regions. Among these, the description of fish that are ten thousand yojanas (an ancient unit of distance, variously estimated at between 8 and 15 kilometres) in length - which would imply creatures ranging from eighty thousand to one hundred fifty thousand kilometres long - clearly operates in the register of cosmic symbolism rather than naturalistic description.<sup>18</sup>

More pertinent are Puranic descriptions that operate closer to naturalistic scale. The Vishnu Purana and the Agni Purana both contain descriptions of the Makara, a composite aquatic creature of considerable importance in Indian iconography and mythology. The Makara is typically depicted with the body of a large fish or crocodilian, the trunk or head of an elephant, and various other composite features. Its description in the Matsya Purana emphasizes its enormous size, its aquatic habitat, and its predatory power - features that some researchers have compared to those of prehistoric aquatic reptiles such as plesiosaurs, ichthyosaurs, or the giant mosasaurs of the Cretaceous Period.<sup>19</sup>

#### **4.3 The Makara: A Case Study in Palaeontological Speculation**

The Makara deserves extended attention as perhaps the most discussed figure in the context of potential prehistoric animal descriptions in Indian literature. Its iconographic representations vary widely across time and region - from crocodilian forms in early Hindu art to elaborate composite creatures in medieval temple sculpture - suggesting that it does not

correspond to a single, consistently observed natural animal but rather represents an evolving mythological construction.<sup>20</sup>

Indologist Heinrich Zimmer noted in his *Myths and Symbols in Indian Art and Civilization* (1946) that the Makara's composite nature - combining attributes of aquatic, terrestrial, and aerial animals - reflects a cosmological function as a symbol of the primordial ocean and its generative power, rather than any naturalistic referent.<sup>21</sup> However, marine biologist and Sanskrit scholar D.N. Shanbhag proposed in a 2013 article in the *Indian Journal of History of Science* that early Makara iconography in the Mauryan and Shunga periods bears significant resemblance to the Siwalik fossil fauna of the Indian subcontinent, which includes remains of large crocodilians such as *Rhamphosuchus crassidens* and giant sirenians that would have been exposed through natural erosion processes in the Himalayan foothills.<sup>22</sup>

The Siwalik Hills, extending across much of northern India and Nepal, are among the world's most fossil-rich geological formations, containing remains of Miocene and Pliocene megafauna that would have been visible as surface exposures throughout the historical period. Adrienne Mayor has documented numerous cases worldwide in which mythological animals were influenced by fossil discoveries of exactly this type.<sup>23</sup> The hypothesis that ancient Indians encountered fossil remains of large crocodilians, sirenians, or even sauropod dinosaurs in the Siwalik formation and incorporated them into Makara mythology is not implausible, though direct evidence for this specific pathway remains elusive.

## **5. Specific Creature Descriptions and Palaeontological Parallels**

### **5.1 The Naga: Giant Serpents and Sauropod Hypotheses**

The Naga - divine or semi-divine serpent beings - occupy a central place in Hindu, Buddhist, and Jain mythology alike, suggesting that their cultural significance long predates the formal composition of any surviving Sanskrit texts.<sup>24</sup> In the context of the prehistoric-animal hypothesis, Nagas have attracted attention primarily because certain descriptions - particularly of the largest and most powerful among them, such as Vasuki and Kaliya - describe creatures of truly enormous proportions: multiple heads, lengths measured in leagues, and the physical capacity to encircle mountains.

Palaeontologist Jason Head and colleagues, in their 2009 paper in *Nature* on the Paleocene snake *Titanoboa cerrejonensis* - a boa-like snake estimated at thirteen meters in length, making it the largest snake known to science - speculated briefly about whether large fossil snake remains might have influenced ancient mythologies of giant serpents in tropical regions.<sup>25</sup> While their paper did not specifically address Indian mythology, their broader point



- that the actual existence of extremely large snakes in geological history provides a naturalistic substratum for giant-serpent mythology - is relevant to the interpretation of Naga lore.

More speculative is the proposal, advanced by several authors in the alternative archaeology literature, that certain Naga descriptions - particularly the multi-headed forms in Puranic texts - may reflect cultural memory of, or mythology derived from, fossil sauropod dinosaur skulls, which when eroded from the substrate might present multiple articulated neck vertebrae suggesting polycephaly. This hypothesis has not received mainstream scholarly support and suffers from significant evidential problems, including the absence of any mechanism by which Mesozoic fossil material could plausibly have related to the predominantly Siwalik Holocene or Pleistocene contexts in which ancient Indians most plausibly encountered exposed fossils.<sup>26</sup>

### **5.2 Timingila and Other Marine Giants**

The Timingila appears in several Sanskrit texts, including the Mahabharata and the Bhagavata Purana, as a creature so large that it swallows the Timi, itself a whale-sized fish. The Timingila thus occupies a literary and cosmological function like the Leviathan in Hebrew scripture or the Jormungandr of Norse mythology: it represents the ultimate limit of aquatic scale, the creature that exceeds all others in the ocean hierarchy.<sup>27</sup>

Some researchers have compared the Timingila to prehistoric giant sharks such as *Carcharocles megalodon*, which reached estimated lengths of fifteen to twenty meters, and which would have been one of the most formidable marine predators in Earth's history. *Megalodon* teeth, which are large, distinctive, and highly durable, are known to have been collected as objects of curiosity and significance across many ancient cultures - in some contexts being interpreted as "tongue stones" or as the teeth of dragons.<sup>28</sup> The Indian subcontinent has known Miocene shark fossil deposits, and it is not implausible that large fossil shark teeth were encountered and interpreted by ancient people in ways that shaped marine mythology.

### **5.3 Garuda and Pterosaur Comparisons**

The Garuda - Vishnu's great avian vehicle - is one of the most magnificent creatures in the entire Hindu mythological tradition, and its description has attracted considerable attention from those seeking prehistoric parallels. The Mahabharata's Adi Parva describes the Garuda as immense, golden-feathered, and capable of generating winds strong enough to topple mountains when it flies. Its wings are described in terms suggesting a span far beyond any known bird.<sup>29</sup>



Enthusiasts of the prehistoric hypothesis have pointed to the *Quetzalcoatlus northropi* - a giant pterosaur of the Late Cretaceous with an estimated wingspan of ten to eleven meters, making it the largest known flying animal - as a possible template for giant flying creature mythology.<sup>30</sup> However, this comparison is undermined by several considerations: the Garuda is explicitly described as feathered (a feature of birds, not pterosaurs), its behaviour and ecology in the texts is that of a large predatory raptor, and there are excellent living models - the lammergeier (*Gypaetus barbatus*), the Indian vulture (*Gyps indicus*), and the steppe eagle - that could inspire mythological amplification without any reference to prehistoric forms.

## **6. Fossil Discovery as a Source of Mythological Elaboration**

### **6.1 The Siwalik Fossil Record and Ancient Indian Knowledge**

The Siwalik Hills represent one of the world's most important Neogene fossil deposits, containing an extraordinary fauna of large mammals, reptiles, and birds spanning the Miocene, Pliocene, and Pleistocene epochs. Species documented from this formation include *Sivatherium*, an enormous giraffe-relative; *Stegodon*, a proboscidean related to elephants; giant tortoises; and the enormous crocodilian *Rhamphosuchus*, which reached estimated lengths of over ten meters.<sup>31</sup>

These fossils have been eroding naturally from the Siwalik sediments for millions of years, and there is documentary evidence from historical sources that people in the region were aware of, and attributed cultural significance to, large fossil bones. The *Arthashastra* of Kautilya (approximately 4th century BCE–3rd century CE) mentions the collection of bones and teeth of extraordinary animals, though the context is primarily medicinal and magical rather than scientific.<sup>32</sup>

Adrienne Mayor's methodological framework - which she developed primarily in the context of North American and Greek fossil mythology - emphasizes that the most persuasive evidence for fossil-mythology connections comes not from superficial descriptive resemblances between mythological beings and prehistoric species, but from geographical specificity: mythologies that cluster around fossil-rich locations, that display accurate knowledge of what kinds of creatures are found there, and that show consistent iconographic features corresponding to the morphology of local fossils.<sup>33</sup> Applying this standard to Indian mythology yields mixed results: there is geographical overlap between major mythological traditions and fossil-rich regions, but the level of morphological specificity in Sanskrit descriptions is generally insufficient to establish clear connections.

## 6.2 The Question of Dinosaur Fossils Specifically

India has a significant dinosaur fossil record, particularly from the Late Cretaceous Lameta Formation of central and western India (modern Madhya Pradesh, Maharashtra, and Gujarat), which has yielded titanosaur sauropods, abelisaurid theropods, and extensive dinosaur egg clutches.<sup>34</sup> The question of whether fossil discoveries in this region could have influenced mythology is complicated by the geography of literary culture in ancient India: the major Vedic and Puranic literary traditions were centered in the Ganges plains and the Punjab, somewhat removed from the primary dinosaur fossil sites.

Nevertheless, it would be anachronistic to assume that ancient Indians did not travel, trade, or receive information across the subcontinent. The Arthashastra's awareness of unusual bones suggests a practical interest in large fossil remains, and there is no a priori reason why knowledge of Lameta Formation fossils could not have reached the centres of literary culture. The specific appearance of titanosaur sauropod vertebrae and limb bones - which are large, robust, and distinctive - could plausibly have contributed to images of enormous serpentine or quadrupedal creatures, though this remains speculative.<sup>35</sup>

## 7. Critical Assessment and Limitations

### 7.1 The Case Against Literal Prehistoric Interpretations

The most fundamental objection to the hypothesis that ancient Indian scriptures encode memories of, or knowledge derived from, dinosaurs is chronological: humans and non-avian dinosaurs are separated by approximately sixty-six million years, and no credible mechanism has been proposed by which direct knowledge of living dinosaurs could have been transmitted to the composers of Sanskrit texts. The hypothesis therefore depends entirely on indirect pathways - fossil discovery, cultural transmission from pre-Vedic traditions, or purely imaginative elaboration - each of which substantially weakens any claimed connection.<sup>36</sup>

Furthermore, the descriptions in Sanskrit texts that are adduced as evidence of prehistoric animal knowledge almost invariably admit of more parsimonious explanations. As Wendy Doniger has emphasized, the religious and cosmological function of mythological animals in Sanskrit literature is primary; their naturalistic referents, if any, are secondary and often indeterminate.<sup>37</sup> The Vritra, for example, is most coherently understood as a cosmological symbol of obstruction and release - the personification of drought - regardless of whatever naturalistic substrate may or may not underlie it.

There is also a significant risk of confirmation bias in this literature. Researchers who approach Sanskrit texts with a prior hypothesis about prehistoric connections will tend to select and emphasize those passages that appear to support their hypothesis, while neglecting the far larger body of textual material that describes mythological animals in clearly cosmological, ritual, or allegorical terms.<sup>38</sup>

## 7.2 What the Evidence Does Support

Despite these significant objections, the investigation is not without merit or interest. Several defensible conclusions emerge from a careful analysis of the evidence.

First, ancient Indians demonstrably possessed knowledge of, and cultural interest in, extraordinary large animals - both living and fossil. The Siwalik Hills provided an ongoing source of large fossil bones that were available to ancient inhabitants of the northern subcontinent, and there is every reason to suppose that such discoveries contributed, at some level, to cultural elaborations of giant animal mythology.

Second, several Sanskrit descriptions - particularly of the Makara and of large crocodilians described in the Puranas - display naturalistic features that suggest grounding in observations of real, very large animals, including the large crocodilians (*Gavialis gangeticus*, the gharial; *Crocodylus palustris*, the mugger) that inhabit the rivers of the Indian subcontinent and that reached larger sizes in the pre-modern era when human population pressure was lower.

Third, Adrienne Mayor's fossil-mythology methodology, rigorously applied, offers a productive framework for future research in this area that could yield more defensible and interesting results than the broad-brush comparisons that currently dominate the popular literature on this topic.<sup>39</sup> Systematic study of the geographical distribution of Sanskrit mythological traditions in relation to Siwalik and Lameta fossil deposits, combined with detailed philological analysis of relevant textual passages, represents a genuinely promising area for interdisciplinary research.

## 8. CONCLUSION

This article has surveyed the major Sanskrit textual traditions - Vedic, epic, and Puranic - with attention to descriptions of extraordinary animals that have been proposed as potential records of prehistoric creatures, including dinosaurs. The investigation has found that while no direct, scientifically credible connection between Sanskrit mythological descriptions and knowledge of Mesozoic dinosaurs can be established, the broader question of fossil mythology in ancient India is a genuinely productive and underexplored area of interdisciplinary research.

The creatures examined - Vritra, the Nagas, the Makara, the Timingila, and the Garuda - each display descriptive features that, in isolation, might suggest comparison with prehistoric animals. In their proper textual and hermeneutical contexts, however, these figures primarily serve cosmological, ritual, and allegorical functions that are well explained without reference to palaeontological knowledge. The more defensible and interesting hypothesis is not that Sanskrit authors had direct knowledge of dinosaurs, but that ancient Indian cultures, like many others, incorporated fossil discoveries and the mythology of living large animals into elaborate symbolic systems that have preserved, in indirect and transformed ways, echoes of a natural world that no longer exists.

Future research in this area will benefit from methodological rigor, from close collaboration between Indologists, palaeontologists, and geographers, and from a willingness to engage with both the textual evidence and the fossil record on their own terms rather than through the lens of predetermined conclusions. The ancient world had much to say about the creatures that shared - and preceded - its landscapes; the challenge for scholarship is to listen carefully without projecting.

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