

#RESEARCH

Covid 19 Variants Emerging Rapidly

Virus that causes the disease COVID-19 is actually undergoing short-lived mutational bursts and returning to its 'normal' rate.



New research led by the Doherty Institute has found the SARS-CoV-2 virus has the ability to momentarily accelerate its evolutionary pace, enabling variants to emerge more rapidly than other viruses.

Recently published in Molecular Biology and Evolution, the team, led by University of Melbourne Dr Sebastian Duchene, an Australian Research Council DECRA Research Fellow at the Doherty Institute and lead author on the paper found the virus that causes the disease COVID-19 is actually undergoing short-lived mutational bursts and then returning to its 'normal' rate.

Dr Duchene explained that usually all viruses mutate at a fairly constant rate, with most taking a year or more to develop a new variant.

"However, what we were seeing with the variants of SARS-CoV-2, particularly the variants of concern is that they have undergone many more mutations than we would expect under the normal evolutionary pace of similar Corona viruses," Dr Duchene said.

"The Delta variant, for example, emerged within just six weeks from its ancestral form."

To understand why this

was occurring, Dr Duchene's laboratory conducted computational analyses of hundreds of genome sequences from SARS-CoV-2 strains to understand the mechanisms under which variants of concern emerge, with a focus on the first four: Alpha, Beta, Gamma and Delta.

"Initially it was believed that SARS-CoV-2 must have increased its evolutionary rate in general, but actually it's the virus's ability to temporarily increase its speed which is causing the difference in pace," Dr Duchene said. "It's like someone pumping the accelerator on a car."

Dr Duchene said these bursts could be driven by a number of factors including prolonged infections in individuals, strong natural selection, which is enabling the virus to favour immune escape, or increased transmissibility with unvaccinated populations allowing the virus to rapidly spread and evolve.

"The discovery highlights the importance of continued genome surveillance efforts to ensure early detection of new variants."

"With this virus evolving so rapidly early detection is paramount in enabling us to monitor and respond to the virus," said Dr Duchene.

He also stressed the need for increased vaccination.

#PRIVACY

Data from Friends & Strangers

Data about our habits and movements are constantly collected via mobile phone apps, fitness trackers, credit card logs, websites visited, and other means. But even a little off data collected from acquaintances and even strangers can predict your location.

"Switching off your location data is not going to entirely help," says Gourab Ghoshal, an associate professor of physics at the University of Rochester.

Ghoshal and colleagues applied techniques from information theory and network science to find out just how far-reaching a person's data might be. The researchers discovered that even if individual users turned off data tracking and didn't share their own information, their mobility patterns could still be predicted with surprising accuracy based on data collected from their acquaintances.

"Worse," says Ghoshal, "almost as much latent information can be extracted from perfect strangers that the individual tends to co-collect with."

Slippery Slope
The ability to predict the locations of individuals or groups can be beneficial in areas such as urban planning and pandemic control, where contact tracing based on mobility patterns is a key tool to stopping the spread of disease. In addition, many consumers appreciate the ability of data mining to offer tailored recommendations for restaurants, TV shows, and advertisements.

However, Ghoshal says, data mining is a slippery slope, especially because the research shows individuals sharing data via mobile apps may be unwittingly providing information about others.

"We're offering a cautionary tale that people should be aware of how far-reaching their data can be," he says. "This research has a lot of implications for surveillance and privacy issues, especially with the rise of authoritarian impulses. We can't just tell people to switch off their phones or go off the grid. We need to have dialogues to put in place laws and guidelines that regulate how people collecting your data use it."



Hanuman statue, Sidhbari. Maj Chandrakant Singh Vrc (Retd) Military Historian

Jai Hanuman gyan gun sagar
Jai Kapis thihun lok ujaar
Ram doot atulil bal dhama
Anjani putra Pavan sut nama

It will be hard to find anyone in India who is not familiar with the opening verses of the Hanuman Chalisa and stories of the exploits of Hanuman and Bhim. The former after Rama and Sita is the most loved and revered character in the Ramayana; the latter though not revered is the most popular character amongst the Pandavas in the Mahabharata. No pilgrimage to Ayodhya, Benaras and Chitrakut is considered complete without a visit to Hanumangarhi in Ayodhya, Sankatmochan Hanuman Mandir in Benaras and Hanumandhara in Chitrakut. Though Hanuman and Bhim belong to different eras as sons of the Wind God Pavan, they are blood brothers. Hanuman has a unique status in the Hindu pantheon. He is a bridge between the two main sects of Hinduism - Shaivism and Vaishnavism. To the Shaivites he is a manifestation of Shiva himself, and for the Vaishnavas he is the foremost devotee and companion of Ram. He is the perfect example and product of Hindu genius for reconciling opposites and incorporating them as complimentary deities in their pantheon. Similarly the other popular Hindu Deity Ganesha a son of Shiva is honoured by being placed at the top of the entrance of every

when unaccompanied and alone one would fear of finding a ghost creeping upon and devouring one. To overcome this fear and make the ghosts themselves afraid of us we were told to take the name of Hanuman which would frighten the ghost and make him run away. Later in life one learnt to recite the Hanuman Chalisa which is both a laudatory prayer and protection charm. Although no one questions the supremacy of the Trinity of Brahma, Vishnu and Mahesh, but if a popularity poll was taken Hanuman would win hands down. Sometime during the middle ages the Vaishnav bhakti tradition gradually replaced the older Shaivites tradition as the popular form of worship and with it started the process of building of temples devoted to Ram and Krishna, and

#THE GOD

Vaishnav temple and home. The importance of Hanuman in the Hindu Pantheon can be gauged from the fact that to all Hindus Tuesday is the day devoted to the worship of Hanuman, very much like Sundays to Christians, Fridays to Muslims and Saturdays to Jews. Orthodox Hindus will fast on Tuesdays and most will forgo alcohol and eating of meat. In fact in most towns in North and Central India, butchers shops are closed and sale of meat prohibited on Tuesdays. In urban areas Tuesdays is the day off for most markets and shops.

Popular Form of Worship
As children we have all grown up listening to their tales from grandmothers, elders of the family and servants who in many cases had been with the family for generations and were as much family as anyone else were never addressed by the names but were called Kaka or Kaki. In my case even more so, for as a child and till early teens spent most of the time with them than with my parents or siblings. In those days it was customary for children and elders alike to have a glass of milk before going to bed at night and once in bed an old retainer would tell us stories from the two great epics and animal stories from the Panchatantra. Sometimes they would even tell us ghost stories and I grew up believing in them. Having grown living in old and crumbling havelis and forts with most of the rooms empty and some whose locks had not been opened for decades, in many cases banyan and Peepal trees had taken over the old walls and the compound, sometimes

few temples to other deities including Shiva are now constructed. However in the last two or three decades all over North and Central India gigantic statues of Shiva and Hanuman are being installed. In Delhi there are over a hundred feet tall statue of Shiva at the approach of the airport runway, on which aircraft coming in to land or take off have to avoid. Another Shiva statue even bigger and visible from miles around has been built surprisingly at Nathdwara which after Mathura and Dwarka is the most favoured Vaishnav Pilgrimage site. But even more than those of Shiva, the gigantic statues of Hanuman have been built in almost every town and village in North India. These shrines to Hanuman and Ganesha which one finds in every nook and corner of the country are the most



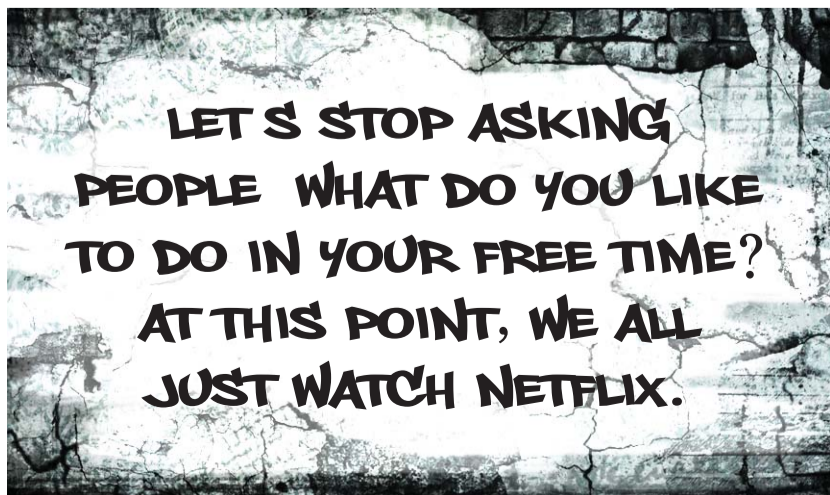
Ram and Sita in heart of Hanuman.

BABY BLUES



By Rick Kirkman & Jerry Scott

THE WALL



ZITS



By Jerry Scott & Jim Borgman

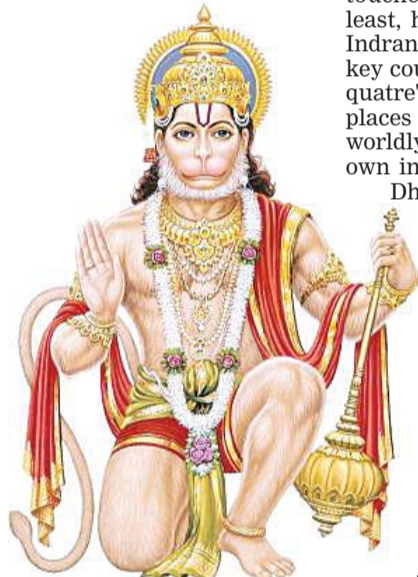


Save The Elephant Day

Elephants are known as the most enormous land animal and a surprisingly gentle giant in the animal kingdom. Emotional, intelligent and beautiful in the wild, sadly elephant populations have been rapidly decreasing due to various threats, perhaps most significantly poaching. Save The Elephant Day aims to change this alarming trend by educating people about elephants and the plights they face, encouraging everyone to do their bit and help save them from extinction.

Jai Hanuman Gyan Gun Sagar...

This hymn marks the intermediate phase of Sanatan Dharma when tribal deities acquired an equal and even superior position than the Vedic and Dravidian Deities; the three traditions then merge and form a new spiritual tradition that we call the Sanatan Dharma. Much in the same way as the Ganga and Brahmaputra flow into Eastern Bengal and become the Padma. However, the Vedic and Aboriginal and Dravidian deities though yielding status to the Hindu Sanatan Trinity of Brahma, Vishnu and Mahesh have not given up their individual identity and retain an honoured place in the Hindu Pantheon and worship. In the following verse from the Rig Veda it must be stated the Vrsakapi is not Hanuman for he is later entrant into the Hindu pantheon. But the Hanuman legend has its roots in this Vedic tradition as it does from some aborigine and Dravidian beliefs. The name Hanumant or Hanuman is derived from Sanskrit 'hanumant' which means large jawed and in Tamil the meaning for 'aana mandil' is male monkey.



Harmony' has used similar metaphorical analogy to explain and make compressible the complexities of ancient Greek philosophy and mythology. It surprising that though both Ganesha and Hanuman occupy such a prominent place in our pantheon we find little mention in the Vedas except for an oblique reference to a monkey deity in perhaps the most enigmatic hymn in the Rig Veda. It is a dialogue between Indra, his spouse Indrani, Vrsiskapi (monkey) and Vrsiskapi's wife. The hymn is a 'dialogue' hymn with overtly sexual overtones. But a careful reading of it along with commentaries by scholars throws up many interesting and multiple interpretations and meaning.

RIG VEDA 10.6

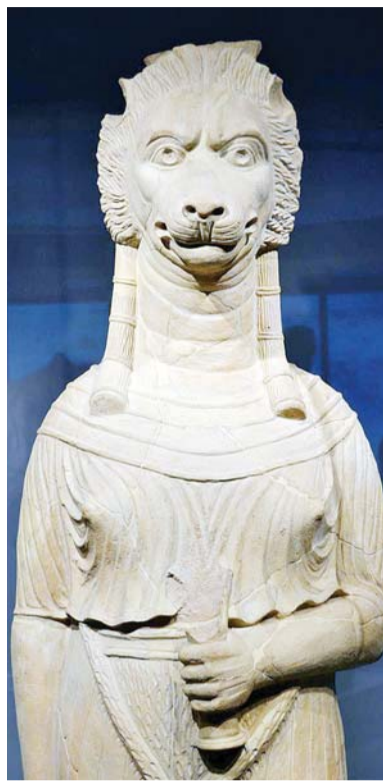
Indra and the Monkey

This hymn has been called 'the strangest poem in the Rig Veda'; it deals with conflict and resolution on at least four levels, alluded to in a conversation between four people - Indra and his wife, Vrsakapi and his wife. On the house hold level, there are crude arguments in which Indrani accuses the monkey of having taken liberties with her. Indra tries to calm her by flattery and Vrsiskapi's wife alternately flatters her, engages her in sexual banter about their husbands' powers, and insists either Vrsakapi never touched Indrani or that now at least, he has ceased to do. Finally, Indrani relents and asks the monkey couple to resume the 'menage a quatre'. This aspect of the myth places it among other bawdy and worldly hymns in the Vedas. My own interpretation is that Sanatan Dharma has its sources in two streams flowing into it which make it what it is today. One stream is the Vedas and the second of the aboriginal land Dravidian traditions.

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Searching for the Roots

The worship of a monkey god is not confined to India only even today in China the monkey God known as Sun Wukong is the most popular Taoist deity and there are thousands of temples devoted to him. In Egypt, he was considered as the God of Wisdom and worshipped under several names, the most popular being Toth, Hapi, Tehuti and Babi. In central and south America he was the patron god of the artisans. An English officer of the Indian Army, General Miller, discovered an ancient Hanuman temple in Wadi Tyin in Oman. He was led to it after reading 'The Periplus of the Erythraean Sea', a work by a Greek ship's captain in the first century CE. As purely an intellectual exercise for scholars and of interest as devotees it would be of interest to search for the roots of the Hanuman legend and his worship. Hinduism's roots are in the Vedic tradition and it is here that we must begin our inquiry. Here I must warn the readers that the language of some of the hymns in the Vedas is quite explicit as is the case in some verses of the Old Testament of the Bible and the Quran. Even Buddhism which otherwise sets much score on celibacy does not shy away from using the sexual metaphor in making explicable complex philosophical matters. The present Dalai Lama has written a whole article on the meaning and significance of the Yub and Yum figures in religious art. For the uninitiated in the subject, the Yub-Yum figures are paintings or statues of a male and female figures copulating. They represent the union of wisdom and compassion. Roberto Calasso in his classic work 'Marriage of Cadmus and



Monkey God Carthage.

- off his head, and I will not be good to that evil deer. Indra is supreme above all."
- "No woman has finer loins than I, or is better at making love. No woman thrusts against a man better than I, or raises and spreads her thighs more. Indra is supreme above all."
 - Vrsakapi:** "O little mother, so easily won, as it will surely be, my loins, my thigh, my head seem to thrill and stiffen, little mother. Indra is supreme above all."
 - Indra:** "Your arms and fingers are so lovely your hair so long, your buttocks so broad. You are wife of a hero - so why do you attack our Vrsakapi. Indra is supreme above all."
 - Indrani:** "That one is not powerful, whose penis hangs between his thighs; that one is powerful, for whom the hairy organ opens and it swells and sets to work. Indra is supreme above all."
 - Vrsiskapi's wife:** "That one's not powerful for whom the hairy organ opens as it swells and sets to work. That one is powerful whose penis hangs between his thighs. Indra is supreme above all."
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 - Indrani:** "That one is not powerful for whom the hairy organ opens as it swells and sets to work. That one is powerful whose penis hangs between his thighs. Indra is supreme above all."
 - Indra:** "I am coming forward, looking about and distinguishing between enemy slave and noble ally. I am drinking with the one who has prepared a simple brew; I am looking for an expert. Indra is supreme above all."
 - Indra:** "How many miles separate the desert and the ploughed field. Come home Vrsakapi, to the closer houses. Indra is supreme above all."
 - Indrani:** "Come back Vrsakapi and we two will meet in agreement, so that you who destroy sleep may come again on the homeward path. Indra is supreme above all."
 - Poet:** "As you went home to the north, Vrsakapi where the beast of many sins was? To whom O Indra, did the inciter of people

Hanuman Jayanti

The Hindu Trinity of Brahma, Vishnu and Mahesh have day of the year marked as their special day, though poor Brahma the Creator doesn't even have any one celebrating his day, and his spouse the Goddess of beauty, fine arts and learning has to play second fiddle to Lakshmi - the Goddess of wealth in our worship. It says something about our priorities and it is perhaps understandable, but what is not understood is that whereas we devote only one day in a year to Vishnu and Mahesh, we devote one day in every week Tuesday, making it 52 days in a year to Hanuman, a monkey God. This week we celebrate two very important festivals Ramnavami - the birth of Ram and on 16th April is Hanuman Jayanti - the day of his birth as his Pratham sevak. With the Navratri Celebrations

ending, the celebrations of Hanuman Jayanti have started, the most popular being the Mela at Salasar Balaji. So important and popular is the shrine and mela that a Delhi to Jodhpur train, the Salasar Express is named after it. So now is perhaps the right time to inform ourselves about Hanuman. Hanuman is a Pan-India deity, he is worshipped as Murrugan in the South, where a 150 meter tall statue has recently been installed, and elsewhere in the country a Hanuman shrine is never more than a five to ten minutes walk away from every home which is worshipped by all Hindus round the year, particularly on Tuesdays. The account is in two parts. Part I, Origins of Hanuman mythology; Part 2 History and legends of Kishkindha, the birth place of Hanuman.



go? Indra is supreme above all."

- The daughter of Manu, name Parsu, brought forth twenty children at once. Great happiness came to her whose womb felt the pains. Indra is supreme above all."

Commentary on the Hymn

1. The hymn begins with Indrani's jealous outburst against Vrsakapi, who is companion and friend of Indra. A characteristic trait of wives in all ages till date. To turn Indra against Vrsakapi Indrani goes to the extent of accusing Vrsakapi of making sexual overtures towards her.
2. The relationship of Vrsakapi (Hanuman) with Maruts the Wind God (Pavan) and through the Maruts with Rudra an incarnation of Shiva is established. Hanuman is considered an incarnation of Shiva in some traditions.
3. Hanuman is physically strong and powerful and also a celibate. The connection between celibacy and physical strength is established in verses 16 & 17. If one loses his celibacy one loses his strength too. The concept of celibacy in the Catholic Church seems to have been adopted by the Essenes during the Seleucid

period and from them into Christianity. John the Baptist was an Essene. According to Dr Radhakrishnan the Essenes were a Judaic sect influenced by Indian spiritual and ritualistic traditions.
4. Because Hanuman is a Brahmachari, celibate women do not touch his image when worshipping him. Similarly at Sabarimala Shrine in Kerala women of child bearing age are not allowed inside the temple premise because Lord Ayappa like Hanuman is a celibate bachelor.
5. The hymn mentions about the sacrifice of bulls and eating their flesh. Blood sacrifice was sanctified in some Vedas and was common in all aboriginal religions. This practice however is abhorrent in Sanatan Dharma. Present Hinduism whilst incorporating these tribal deities have substituted blood with smearing of red sindoor mixed with oil on the images of all aboriginal origin deities like Ganesha, the Devis, Devtas and Hanuman.
6. There is allusion to 'Ménage-a-Quatre' and sexual liberty of women to chose their own partner. Indra and Indrani are notorious libertines. Amongst the Nairs who were the ruling class in Kerala, the women were known to exercise their freedom to choose their partners till very recent times. Kerala deities like Kishkindha, Hanuman's home and birthplace, are in south India and belong to the same cultural and social tradition. Bali before he dies, asks Rama why he has killed him, Ram accuses him of all aboriginal origin deities like Ganesha, the Devis, Devtas and Hanuman.
7. In the last two verses Parsu the daughter of Manu is mentioned. Parsu means rib, which connects her to the creation myth in the Old Testament of the Bible according to which God created Eve out of a rib taken from Adam's chest. Surprising? No, really, knowledge of Indian mythology was common amongst people of the Eastern Arabian Peninsula and along the coast of the Persian Gulf and the Red Sea. A 7th century BCE statue of a goddess found in Mesopotamia which shows the goddess accompanied by owls and lions, as is Lakshmi with owls and Devi with lions in Indian iconographic tradition attests to the existence of many commonalities in the Middle Eastern and Indian traditions.
8. The hymn can also be seen as a record of the transitional and evolutionary phase in Hinduism. A move away from Vedic deities like Indra, Mitra and Varun, to the beginnings of deities like Brahma, Vishnu and Shiva, who are a hybridization of the Aryan and Dravidian traditions. This incorporating of divergent and often rival traditions into one homogenous whole is a genius peculiar to India and the Indians. |||||

Indra keeping Vrsakapi away from Indrani. Khajuraho Indra and Indrani.

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