

Srinagar mural shows first Indian record of supernova

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MUMBAI, JULY 12

A PIECE of artwork or mural, which was on the door-arch of Madani mosque in Srinagar, is the first Indian record of a supernova, a celestial event that was recorded by our ancestors, say researchers from the Homi Bhabha Centre for Science Education (HBCSE-Tata Institute of Fundamental Research) and the University of Kashmir.

The joint study, published in the German journal *Astronomische Nachrichten*

(Astronomical Notes), says the mural describes a supernovae event way back in 1604 AD. When massive stars blow up at once within a few seconds, the phenomenon is called supernovae.

"Astronomers globally have recorded such supernovae appearing in the sky. Such records have been found in China, Japan, Korea, Europe and among native Americans and are from 185 AD to 1604 AD. It was incidentally the golden era of Indian astronomy and during this period, eight such bright supernovae were recorded.

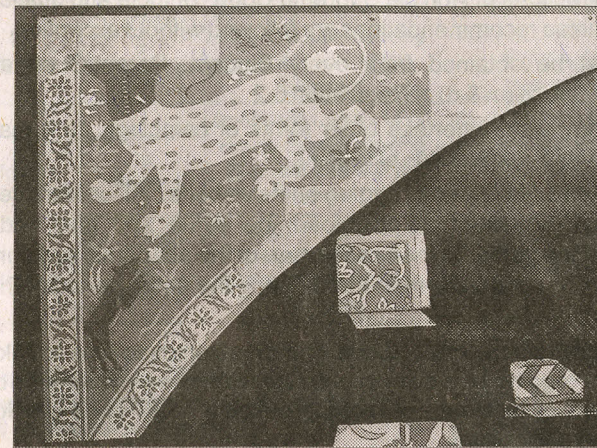
So it was baffling that no Indian record of a supernova was discovered till now," said HBCSE professor Aniket Sule, lead author of the study.

"The mural is the first record of supernova found anywhere in the Indian sub-continent in any form. It fills one big hole in the history of astronomy. It shows that Indians, like their contemporaries from other parts of the world, observed strange celestial events and recorded them, albeit in a different form," he said.

The mural depicts super-

nova as the head of a dragon on the tail of Sagittarius, a constellation of the zodiac, on a door-arch of the mosque in Srinagar. While the mosque is in a dilapidated condition, various parts of the mural have been collected and preserved by the Department of Central Asian Studies, University of Kashmir, in their museum.

Speaking to The Indian Express, Naseer Iqbal, professor at University of Kashmir and co-author of the study, said that a supernova had exploded in 1604 in the same region where the



Parts of the original mural found at Madani mosque in Srinagar; the bigger fragment depicts supernova as the head of a dragon on the tail of Sagittarius

dragon head is.

"Also, Mars, Jupiter and Saturn were close to the supernova when it exploded. When depicted together, it would seem that the tail of the Sagittarius was on fire. While the picture of Sagittarius is similar to ones found during the Mughal period, the dragon head on its tail was surprising. This led to collaborative work for years and the findings reveal astronomical events that occurred in this part," said Iqbal.

While the mosque is 150 years older than the supernova, the glazed square tiles

used for the mural indicate the date. "The material used was available only around early 1600 in India, at the time of Mughal emperor Jahangir. And it was Shah Jahan, a teenager then and a patron of the mosque, who is believed to have helped in carrying out extensive renovation of the Madani mosque. This particular mural was probably added then," said Sule.

It is the first time that pictographic representation was analysed; study of Sanskrit literature for years have not shown any record of a supernova.