

# Sika deer

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**In news**— A study has highlighted that 1,400-year religious protection of sika deer in Japan's Nara have made them genetically unique.

## Key highlights of the study-

- They live around Japan's sacred and famous Kasuga Taisha Shrine in the city of Nara, on the main island of Honshu.
- A **ban on their hunting for almost 1,500 years given their status in Shintoism, Japan's national religion.**
- A team of researchers from Fukushima University found that the deer living near the shrine and the nearby Todaiji Buddhist Temple in Nara city **have unique mitochondrial deoxyribonucleic acid or DNA. MtDNA is only passed from mother to offspring.**
- The team collected 294 muscle and blood samples of sika deer from 30 sites on the Kii Peninsula between 2000 and 2016, and **classified them into eight populations spanning the Western, Central, and Eastern Kii regions.**
- The genomic DNA was extracted and analyzed for two genetic entities: short sequence repeats (SSR), which are inherited from both parents and tend to change frequently during evolution, and mitochondrial DNA (mtDNA), which is only passed down from mother to offspring.
- **The team found and identified three distinct genetic groups, of which only one had a unique haplotype (S4), indicating a very restricted flow of genes across its maternal lineage.**
- Interestingly, this isolated group included the deer around the Kasuga Taisha Shrine.

- This could be possible as **female sika deer tend to migrate less and prefer to remain in their own natal habitat, Toshihito Takagi.**
- **The researchers have hypothesised that the deer around the shrine split off genetically from the rest of the Kii Peninsula** (where the city and prefecture of Nara are located, in addition to other prefectures) 1,400 year ago, when the Shrine was established.

### **Japan's Nara and its link with sika deer-**

- Nara has a long history and connection with sika deer, with classic Japanese poems about the deer being composed there 1,200 years ago.
- **These deer are revered in this area as the messengers of the (Shinto) gods in Kasugataisha Shrine.**
- Deer are **still considered sacred creatures by the people of Nara.**
- The sacred deer of Nara, which are **designated as national natural treasures, date back to the Nara Period of Japanese history,** when the Kasuga Grand Shrine was built in the city of Nara.
- According to legend, the enshrined deity Takemikazuchi-no-Mikoto appeared on top of Mount Mikasa while riding a white deer after leaving Kashima Shrine in the Ibaraki Prefecture city of Kashima in eastern Japan to protect the ancient capital of Heijokyo. Deer in Nara have since been viewed as sacred entities serving deities.
- Sika deer have been found throughout Japan since millennia. Shintoism believes that even a stone is supposed to have life.

- **Since Shinto believes in a live and let live approach people did not have a problem in living alongside sika deer.**
- But over several centuries, their populations were wiped out by intensive hunting and an expanding human population.
- It was in the 1960s that the Japanese began a movement to conserve sika deer since they were the messengers of the gods.
- Nara and Kyoto were two places in Japan which still look mostly like what they did during the Meiji period (1868-1912).
- This is because they have been kept free of industrial activity unlike Osaka near Kyoto, for instance, which is highly polluted.

### **What is Shintoism?**

- Shinto is a religion from Japan. Classified as an East Asian religion by scholars of religion, its practitioners often regard it as Japan's indigenous religion and as a nature religion. Scholars sometimes call its practitioners Shintoists, although adherents rarely use that term themselves.
- A polytheistic and animistic religion, Shinto revolves around supernatural entities called the kami. The kami are believed to inhabit all things, including forces of nature and prominent landscape locations.
- The kami are worshiped at kamidana household shrines, family shrines, and jinja public shrines. The latter are staffed by priests, known as kannushi, who oversee offerings of food and drink to the specific kami enshrined at that location.
- This is done to cultivate harmony between humans and kami and to solicit the latter's blessing.
- Other common rituals include the kagura dances, rites of passage, and seasonal festivals.

- Public shrines facilitate forms of divination and supply religious objects, such as amulets, to the religion's adherents.
- Shinto places a major conceptual focus on ensuring purity, largely by cleaning practices such as ritual washing and bathing, especially before worship.
- Little emphasis is placed on specific moral codes or particular afterlife beliefs, although the dead are deemed capable of becoming kami.
- The religion has no single creator or specific doctrine, and instead exists in a diverse range of local and regional forms.