Part II

Spiders consume an estimated 400-800 metric tonnes of insects annually and play a critical role of pest controllers in the ecosystem.

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Fortunately, no spider in India is considered harmful to humans and no fatal bites have ever been recorded.

Almost all spiders produce venom to paralyze their prey before they eat it. Only around 30 of the around 48,000 known species of spiders produce venom that is dangerous enough to pose a threat to human health.

Most spiders' fangs are too small or weak to puncture human skin.

Compiled and designed by Latha G. Ravikumar, ZOO

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Most of the spiders feed on mosquitoes and protect Us from Malaria and other similar mosquito borne diseases.

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They eat harmful insects, pollinate plants, and recycle dead animals and plants back into the earth.

The spider silk material is not only stronger than iron and tougher than Kevlar, the usual bulletproof material. This material offers the possibility of improving on products from bike helmets to parachutes to bulletproof jackets to airplane wings to earthquake-resistant building.

They are also a valuable food **SOURCE** for many small mammals, birds, and fish.

Spiders eat more insects than birds and bats combined.

Some spiders like tarantulas make burrows in soil that help in water percolation.

Spider web is extremely rich in Vitamin K, have natural antiseptic and anti-fungal properties that help keep wounds clean and free of infection. Their healing properties were popular with the Ancient Romans and Greeks hundreds of years ago.

> The mud wasps, many pollinators, lizards and some birds feed their younger ones with spiders as they are rich in simple proteins.

Spider silk is biocompatible, biodegradable and does not cause any immune, inflammatory or allergic reactions. A group of scientists developed an antibiotic synthetic spider silk that can be used in a variety of medical applications.

German scientists have manufactured guitar strings from spider silk.

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Because spider silk is smooth and antibiotic, most birds line their nests internally by spider silk to avoid bacterial infection.

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A pesticide made from spider venom has been found to kill nuisance insects without harming honebees that are most important pollinators.

Spider silk has already entered the marketplace in some cosmetics and medical devices.

Spider venoms may occupy a role in the development of anti-cancer drug. It is supposed to kill the cancer cell without affecting the rest of the cells.



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Spider populations are decreasing rapidly due to the following threats: (1) climate change, (2) grazing, (3) deforestation, (4) forest fires, (5) water scarcity, (6) pesticides use in agriculture, (7) burning of litter and waste of crop remains and ploughing, (8) pesticides used in mosquito control, (9) urbanization, (10) development of road networks, (11) trade and many more.

The various spider research proposes some solutions for spider conservation. A decrease in mechanical modifications to the land such as harvesting, ploughing and grazing would expand spider diversitys. In addition, the USE of insecticides ought to be progressively controlled, as in organic farming, and habitat fragmentation (large habitat is transformed into number of smaller patches) should be avoided.

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