

Aesthetic and Scientific Values of Insects

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The aesthetic value of insects lies in their diverse and often vibrant colours, intricate patterns, unique shapes and graceful movements, which can be visually appealing to humans, particularly when considering species like butterflies, jewel beetles and dragonflies, making them subjects of admiration and inspiration in art and nature observation. However, this perception can vary greatly depending on cultural context and individual preference.

Importance

Colourful appearance: Butterflies are certainly one of the most appealing creatures in nature, with colours and patterns that are enjoyed by humans most of the year. Insects have been used by many societies throughout history and have not been limited to colourful and large butterflies and beetles. Native Americans in the United States used parts of insects in a manner similar to feathers in their crafts. Brightly coloured wing covers of certain beetles are used for earrings by Indians. The Egyptians chose a scarab beetle as a symbol of their sun God. Bees were depicted on ancient Greek coins. Most branches of art have exhibited insects in some form including a great selection of worldwide postage stamps.

Unique forms: Some insects, like the praying mantis or the stick insect, have unusual body shapes that can be aesthetically pleasing.

Movement and flight: The graceful flight of butterflies or the hovering dance of dragonflies can be captivating to watch.

Examples of insects with high aesthetic value

- **Butterflies:** Butterflies - symbol of beauty and widely recognized for their vibrant wing colors and patterns. In some cultures, butterflies are often portrayed as symbols of souls, freedom, love and peace. Maharashtra has become the first state in country to have a 'state butterfly'. Recently on 5th June 2022, The Chief Minister of Sikkim, Prem Singh Tamang (Golay), declared Blue Duke, Bassaronadurga, the "State Butterfly of Sikkim" during the celebration of World Environment Day-2022. India's First Butterfly Park - Butterfly Park, Bangalore. India's Second Butterfly Park - Butterfly Park, Shimla India's First Open-air Butterfly Park in Sikkim. The Most Beautiful Insect widely accepted to be the Sunset Moth from Malagasy (Madagascar), a day-flying moth of rainbow colours.
- **Jewel beetles:** Known for their metallic, shimmering colours belongs to Buprestidae family and order Coleoptera. Ornaments like necklaces, bracelets and made of whole insects. Nymphs of scale insects - made as stings. In some tropical countries the natives make necklaces of "ground pearls," the wax cysts of female scale insects.
- **Dragonflies:** Elegant appearance with their delicate wings and agile flight. Dragonflies are known to travel at the speed of 35 miles an hour. Hawk Moths, which have been clocked at a speed of 33.7 miles an hour, come in second.
- **Fireflies:** Fireflies are aesthetically valuable because they add beauty to natural environments and enhance human experiences. They are also ecologically important and can indicate the health of an ecosystem. This insect takes in oxygen and inside special cells, combine it with a substance called luciferin to produce light with almost no heat that is called bioluminescence which creates a mesmerizing visual effect hence they called as **Glow worms**. Fireflies are enchanting and create a beautiful show with their light displays. They are a source of inspiration for many societies and their glow can enhance outdoor experiences and promote appreciation for nature.

- **Silkworm:** Silk, it's a fibre obtain from Silk worm. Silk fabrics are widely used in South Asia. Depending upon the nature of the silk the value increased. Silk fabric is famous for its lusture, shine, tenacity, firmness.

Insects of Scientific value

- ❖ **Fruit flies** - *Drosophila melanogaster* useful in biological investigations such as cytology and genetics for studying principles of inheritance. These flies have short life cycle, easy to culture and multiply and also they have large chromosomes and easily recognizable heritable variations.
- ❖ **Mosquitoes** - Used in bioassay of insecticide residues. These mosquitoes are helpful in bioassays because they act as a living indicator to test the effectiveness of insecticides, allowing researchers to measure the mortality rate of mosquitoes exposed to different concentrations of a potential insecticide, thus determining its toxicity and identifying potential resistance levels in mosquito populations, crucial for developing effective mosquito control strategies.
- ❖ **Cockroaches** - Cockroaches are valuable in nutrition studies because they can serve as a model organism to understand how animals regulate their nutrient intake, particularly their ability to adjust their diet based on specific nutrient needs, their flexible feeding habits and capacity to thrive on diverse food sources, which can provide insights into human dietary behavior and potential strategies for addressing nutritional imbalances; additionally, the unique "cockroach milk" produced by certain species is being investigated as a potential source of high-protein, nutrient-rich food supplement.
- ❖ **Honey Bees:** Honey is a sweet and viscous substance prepared by various species of bees. Honey can be the all-natural cure when it comes to pesky colds. A persistent cough that won't go away can easily be remedied with two teaspoons of honey. The golden liquid's thick consistency helps to coat the throat while the sweet taste is believed to trigger nerve endings that protect the throat from incessant coughing. Honey is used treating dandruff by applying honey diluted with 10 percent warm water to problem areas and leaving it on for three hours before rinsing led to itch relief and no scaling within a week. Also used to treats wounds and burns. Hence honey is a natural antibiotic.
- ❖ **Silk worm:** 1. Silk as surgical suture Often obtain from *Bombyx mori* medically, biodegradable silkworm fibres are highly valued for their bio compatibility (i.e., minimal immune response) when sewn with human tissues as sutures or stitches. 2. Various formulations of silk are also useful in surgical or bioengineering such as growing new bones, nerves or blood vessels 3. The idea being to use silk "as SCAFFOLD material to prepare the tissue engineering for regenerating of tissues and nerve grafts for promoting peripheral nerve regeneration. 4. A bacterium that lives in the digestive system of silkworms contains a substance known as Serrapeptase. This substance appears to offer tremendous pain relief for people with things like back injuries and back pain.
- ❖ **Blister Beetles:** Beetles secreted a substance known as Cantharidin which helped alleviate pain for people experience kidney stones, urinary tract infections and burns. Now studies show that the blister beetle secretions attack hostile cells – including cancer. There are studies that indicate blister beetles might be used to battle tumors and in chemotherapy treatments.
- ❖ **Maggot Therapy:** Now a days maggots are being used to help people who suffer from flesh-eating bacteria or who are not responding to standard antibiotic treatment.
- ❖ **Blow flies:** These insects are often one of the first creatures to set up their homes in dead bodies. They often lay their eggs within just a few hours after they die. The life cycle of the average blow fly is so predictable and easy to follow that crime scene investigators can use them and their colonies to help determine a time of death.
