

In this lecture we will learn :, Example of Innate behavior : Taxes, Reflexes, Instincts.

Taxes : A taxes is an innate behavioural response by an animal to adirectional stimulus or gradient of stimulus intensity.

Type of taxis :

*on the basis of stimuli scientists recognized different types of taxis as:

1. Phototaxis: Reaction of an animal to light. For example: the attraction of light bugs towards light and cockroaches away from light.
2. Thermotaxis: Reaction of an animal to heat. For example: outbreak of mosquitoes during summer, increase in bedbug attack, and the frog go into hibernation.
3. Chemotaxis: Reaction of an animal to different chemical. For example: the attraction of ants to sugar and snakes staying away from carbolic acid.
4. Thigmotaxis: An animals reaction to touch. For example: negative attraction of *Mumosa pudica* to touch.
5. Hydrotaxis: Reaction of an animal to water. For example: positive attraction of earthworms towards water as earthworms are attracted to wet soil.
6. Anemotaxis: Reaction of an animal to wind. For example: flight of birds towards and away from wind is positive and negative.
7. Reotaxis: Reaction of an animal to flowing water. For example : movement in water of waterborn animals is positive reotaxis.
8. Geotaxis: Reaction of an animal to gravity. For example: several insects climbing the tree.
9. Galvanotaxis: Reaction of an animal to electricity. For example: Amoebas movement from anode to cathode during the flow of electricity is negative attraction.
10. Phonotaxis: Reaction of an animal to sound. For example: during any sound in the water, some fish swim towards and others swim away.
11. Conditional taxis: when animal shows two or more taxis at a time then it is called conditional taxis. e.g. Butterflies moves towards the special smell and color of plant for ovipositing.

There are five types of taxis based on the movement of organisms-

- i. Klinotaxis: Animal's reaction to two different stimulus after comparison. For example: a caterpillar constantly moving its antennae to analyze touch, temperature, wind pressure and moving forward.
- ii. Menotaxis: An animal's reaction to a stimulus at an angle. For example: birds fly at an angular direction to a landmark.
- iii. Mnemotaxis: It is the use of memory to follow trails that organisms have left when travelling to or from their home.
- iv. Telotaxis: Animal's reaction to the strongest stimulus out of many. For example: a bee is attracted to flower instead of the sun.
- v. Tropicaxis: An animal's balancing reaction to different stimulus. For example: a fish's movement due to light stimulus from two different directions.

Significance of Taxis:

Different taxis result in response to different types of stimuli. Actually taxes are locomotory behavior of animal. In response to specific stimulus they displaced suitable position in the environment and thus taxes help animals to survive in nature.