

# **ANIMAL BEHAVIOR**

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## INTRODUCTION :

Animal behavior can be defined as the activities animals perform during their lifetime. These activities include locomotion , feeding , breeding , capture of prey , avoidance of predators , and social behavior . Animals send signals , respond to signals or stimuli , carry out maintenance behavior , make choices, and interact with one another .

Observations of Animal behavior have been made by naturalists and philosophers for centuries . there are three significant progress in understanding this behavior.

One approach to the study of Animal behavior is that of the **comparative psychologists** , who emphasize studies of the genetic , neural , and hormonal bases of Animal behavior . psychological conduct experimental studies in both laboratory and field settings , that relate to animal learning and to the development of behavior .The explore the manner in which information is received by animals , and the processes and nature of the behavior patterns constituting the animals' responses to their surroundings .

**Ethology** is the study of Animal behavior in which evolution and the natural environment are important considerations . The leaders of this approach have been Konrad Lorenz , Niko Tinbergen , and Karlvon Frisch , who were awarded the Nobel Prize in Physiology in 1973 , **Ethologists** observe the behavior of variety of animals in their natural environments , and study the behavior of closely related species in order to consider the evolution and origin of certain behavior patterns . Ethologists rarely deal with learning and

are interested instead in questions of animal communication , mating Animal behavior , and social behavior .

**Behavioral ecology** emphasize the ecological aspects of animal behavior . Predator- prey interactions , foraging strategies , reproductive strategies , habitat selection , intraspecific and interspecific competition and social behavior are topics of interest of behavioral ecologists.

**Sociobiology** is the study of evolution of social behavior .It combines many aspects of ethology and behavioral ecology . Sociobiologists emphasize the importance of natural selection on individuals living in groups .

## **1-What is Behavior ?**

Simplest definition of behavior is movement , whether is the movement of legs in walking ,wings in flying , or heads in feeding , such as the honking of peacocks , which we should wish to count as behavior , are not movements of the whole animal in the ordinary sense , . The honking sound is produced as air is forced by the contraction of muscles out of the peacock's lungs. which causes a region of the throat to vibrate. The movement here of the pulmonary musculature , just as there is muscular movement when an animal feeds or walks ; in a more accurate sense , therefore, animal behavior consist of a series of muscular contractions.

Naturalists had recorded incidental observations of behavior for many centuries , but no real attempt at the

scientific study of behavior was made earlier than about a century ago . A crucial insight of the earliest workers – Charles Darwin , Oskar Heinrot , Konrad Lorenz - was that behavior is orderly enough to allow that necessary criterion of all science , Behavior or muscular contractions comes in orderly sequences , recognizable patterns of behavior which can be called **behavior units** ; the same animal will produce the same pattern of movements again and again, different members of the same species will also behave in recognizably similar ways . Behavior can only be studied because of this fact .

Behavior is so regular , the classical example of behavioral unit, the ' egg retrieval studied by Lorenz , it breeds in monogamous pairs .it nests on the ground ,the nest being little more than an area of grass shaped into a bowl with the edge built up, though not enough to prevent an egg from occasionally rolling out .This is the occasion for the egg – retrieval response . when a goose sees an egg just outside its nest , it enacts the following sequence of muscular movements :

- 1- Standing in the nest
- 2- Extends its neck outwards until its head is above the egg .
- 3- Puts the underside of its bill against the further side of the egg.
- 4- Starts to roll it back.
- 5- While rolling the egg , the goose moves its bill from side to side – to prevent the egg from slipping away to the side .

The behavior is not always effective as the egg may slip away . when it does the goose does not immediately stop

moving its bill backwards and re-establish contact with the egg .instead it moves its bill all the way back to the nest and only then, when it again sees an egg outside the nest , does it place its bill against the egg, and try again .In other words , once started , the behavioral unit is continued until it is finished .Moreover, when Lorenz removed the egg from a goose while it was in the middle of rolling it back, the goose still continued and completed the sequence of movements. The two observations prove that sensory feedback, of the feel of the egg against the bill. Is not needed to stimulate the continuing movement of the neck muscles.