Animal behavior

- **Ethology**: is the scientific study of animal behavior. It explains responses observed in the field in terms of stimuli eliciting the behavior.

  • The importance of studying ethology:

  1- Animal behavior science and its application plays a vital role in maximizing production efficiency in animal projects.

  2- Studying the behavioral expressions have important implications in the welfare assessment protocols of captive animals and for their ease of management.

- **Animal behavior**: refers to the physical expression of bodily movements that result from an internal drive or motivation. It includes all the manners/ behaves of the animal as it interacts with other organisms surrounding them, the physical environment and the expression of the emotional state of animal.
- Behavior is **the intervening step between** the identification of a need and the satisfaction of that need. The behavior performed at any given moment is often the outcome of many different motivations, some of which compete (for example the motivations to feed and to hide from predators).
- **What are behavioral needs?** Behavioral needs may be defined as behaviors that are motivated largely by internal stimuli.
- **Stimulus:** any change in the biotic and abiotic environments capable of eliciting or causing some kind of reaction or response in a living organism. E.g. temperature, hunger, sound, pain, visual cues, pressure, radiation, gravity, activities of other organisms within the immediate environment and hormonal changes.
- **What does influence animal behavior?**

1- External factors as environmental factors.
2- Internal influences as hormones.
3- Genetic predisposition.

- **What are the types of animal behavior?**

1- Normal behavior: is the synonym of natural/innate behavior; that means the 'average' behavioral expression shown by the majority of a population/group in the nature is normal and all deviations from this is abnormal. The ability to behave naturally is the basis for good welfare.

2- Abnormal behavior: is usually reserved to describe only those behaviors that are problematic for humans, the animals themselves or their group members, even if they are performed in the wild but at a level that does not cause the same problems.

- **Describe the types of animal behavior by examples?**

Example 1: Fighting behavior between unfamiliar poultry is completely natural in its form of expression and, under the right circumstances, can be observed in wild birds, but it is the heightened frequency and duration of the behavior that is abnormal under captivity rather than the behavior itself.

Example 2: Reduction in predator avoidance behavior shown in many domesticated species. Whilst this deviates from natural expression, it is not regarded as 'abnormal' behavior since it does not lead to practical or welfare problems in an environment where predation is rare.

- **Types of normal animal behavior:**

1. General behavior:

✓ It includes the wide and general details about animal's behavior.

✓ For example: the domestic fowl by nature is a wary, shy animal with limited ability and short-term flexibility. However, it displays a good ability to adapt to different circumstances and changing conditions. It has excellent vision and hearing, but its other senses tend to be poorly developed.

2. Innate = inherited behavior:

➢ It is the specific behavioral patterns of any individual reflect the interaction of its "innate" behavior with the environment in which it is reared.

➢ Traits of innate behavior are:

a) Automatic, inheritable, passing from generation to generation through genes.
b) Developmentally fixed and are not modified by experience, because are behaviors that fully developed from the animal's birth.
c) Despite different environments, all individuals exhibit the behavior.

For instance, chickens use dark and quiet places (nests) while laying egg.

3. Learned behavior:

- Learning can be defined as adaptive changes in individual's behavior as a result of experience. Learning alters the range of behaviors shown by an individual, and allows it to adapt to and control its environment.
- **Types of learned behaviors:**
  1. Imprinting
  2. Non-associative learning as habituation and sensitization
  3. Associative learning as classical conditioning and operant conditioning
  4. Latent or exploratory learning
  5. Insight learning

*** Examples on Learned behaves in poultry**:

1- Individuals will copy others and this is an important part of the learning process. When a bird sees another pecking at something, it will copy, thus learning what to eat, and where to find food (and water).

2- Fowls are highly adaptable and become conditioned to many environmental and management situations. Training in relation to a number of management requirements is an important part of flock management. Fowls soon learn to pull, tug, peck, and scratch and their nature is such that they will remain at these tasks for lengthy periods.

Differences between inherited and learned behaviors

Inherited (innate) behavior	Learned behavior
1. Set at birth	1. Acquired after animal is born
2. Species characteristic behavior	2. Individual characteristic behavior
3. Largely influenced by genes (inborn)	3. Largely influenced by environment
4. Inflexible (stereotype patterns of behavior)	4. Flexible