

Learning Intentions

Another way of classifying behaviour patterns is by their **function** or **purpose**. These behaviours are usually adaptive. They help the animal survive and/or reproduce.

Examples of Behaviours based on function.

- | | |
|-----------------|------------------------|
| 1. Territorial | 6. Social and Solitary |
| 2. Aggressive | 7. Communication |
| 3. Submissive | 8. Cyclical or |
| 4. Reproductive | Rhythmical Patterns |
| 5. Appetitive | |

Territorial Behaviour

This is behaviour carried out in defence of a specific area which is used for the provision of food or breeding purposes.

Examples

1. A honeyeater chasing off other honeyeaters from an area that has many nectar-producing plants.
2. A group of magpies defending an area used for breeding from other magpies.
3. Kookaburra's laughing.



Aggressive Behaviour



Aggressive behaviour involves a physical act or threat by one individual against another. Some territorial behaviours are also aggressive behaviours.

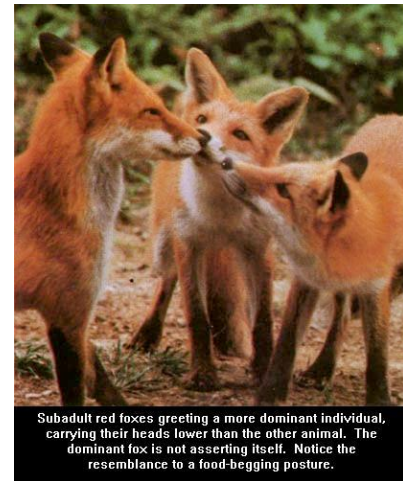
Examples

1. A dominant male baboon chasing off a subordinate male that got too close to a female.
2. Kookaburras attacking a goanna that is approaching the nesting hollow (with chicks) of the kookaburras.
3. Magpies dive bombing during the breeding season.



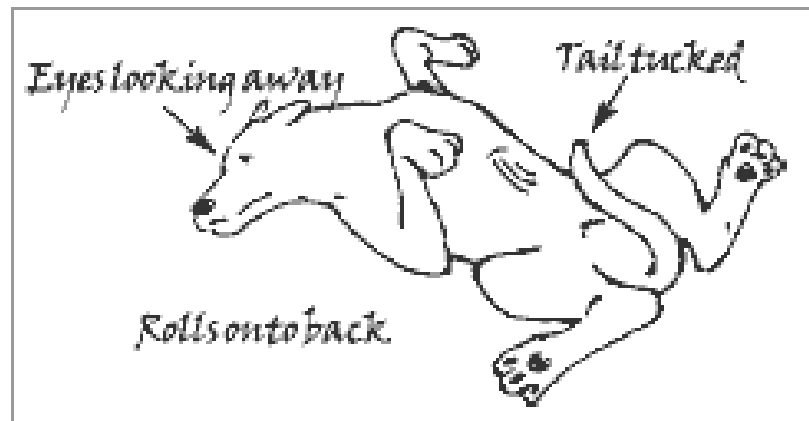
Submissive Behaviour

These are behaviours designed to stop or reduce the intensity of the aggressive behaviour of another individual.



Examples

1. A young male dog rolling on its back in the presence of an older and stronger male dog.
2. A young male gorilla turning its face away from the stare of a silverback (male) gorilla.



Reproductive Behaviour

Reproductive behaviours are those that are carried out in the production and rearing of offspring. Reproductive behaviours can be classed into several types.

Examples

1. Courtship Behaviour, such as the display of colours and song shown by male lyre-birds to attract females.
2. Nest building, such as the preparation of a nest hollow for breeding by budgerigars.
3. Parental Care, such as the feeding and protection given to a newborn whale calf by its mother.

Reproductive Behaviour

Example : Courtship Behaviour In Egrets



Reproductive Behaviour

Example: Courtship Behaviour: Male Tern Feeding Female Tern.



Reproductive Behaviour

Example: Courtship Display In A Male Chameleon



Reproductive Behaviour

Example: Courtship Display In Zebra Doves



Reproductive Behaviour

Example:Nest Building Behaviour In Paper Wasps



Reproductive Behaviour

Example: Nesting Material Used By Red Eared Firetail



Reproductive Behaviour

Example: Young Birds Requiring Significant Parental Care

What's for Tea????



About time mum and dad showed up with the food.

Looks like it's insects again.



Biozone

Behaviour and Species Recognition(Courtship)
Biozone Page 264

Breeding behaviour page 267 (Territorial and
Reproductive)

LEARNING FROM ANIMAL BEHAVIOUR

If we understand the natural behaviour of animals, we can also analyse and interpret any change in behaviour.

A change in animal behaviour can sometimes indicate a change in the environment

Biozone: Breeding in a harsh climate page 268
(Reproductive strategies)

Appetitive Behaviour



An appetitive behaviour is one that leads indirectly to the satisfaction of a motivation. They are usually instinctive or sequence behaviour patterns.

Example looking for food or sequential courtship patterns prior to mating.

Appetitive Behaviour

Example: Feeding Behaviour In Pelicans



Appetitive Behaviour

Example: Spider use silk to weave webs for feeding



Social and Solitary Behaviours

Social behaviours are those carried out by several individuals of the same species.

Solitary behaviours are those carried out by a single individual.

Advantages of living in a social group include:

1. Greater degree of protection from predators.
2. Increased care of offspring.
3. Greater ability to find food sources.
4. Increased ability to defend territories.
5. Better access to potential mates



Disadvantages of living in a social group include:

1. Increased competition for mates, food and nesting sites.
2. Increased risk of infection.
3. Greater risk of injury from other members in the group.

Social Species

Example: Elephant herd led by an older dominant female (matriarch)



Social Species

Example: Eastern Grey Kangaroos



Social Species

Example: Swarm of Honey Bees



***Bees working on honey
(by Antonio Couto)***

Solitary Species

Example: Koala with young. Looking after dependent offspring doesn't mean the species is social.



Solitary Species

Example:Tigers are solitary



Most cat species are solitary. One big cat is a social species.
Which One????



Solitary Species

Example: Ruby Tailed Wasp:



Communication

Important components of communication include:-

Stimulus for the communication

Sender of a signal

Receiver to whom the signal is directed

The kind of signal sent

How the signal is sent

The behaviour of the receiver

The setting in which the communication occurs

How does the peacock communicate that he is a good potential mate?

Methods of Communication

Visual Communication

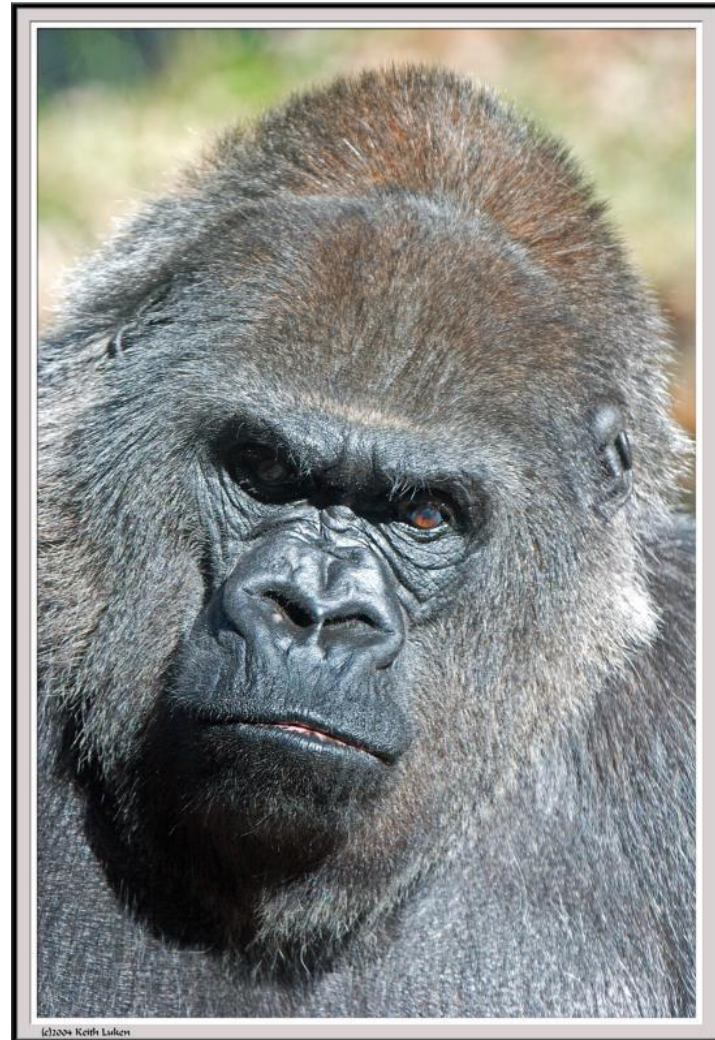
Based on sight.



Visual Communication

Example: Gorilla Stare

Have you got a problem?



Vocal Communication

Based on sound

Example: Chest
Beating



Vocal Communication

Example: Wolf Pack Calling



Vocal Communication

Example: Dolphins

Use various sounds to communicate different information

Use sounds for location and navigation

Echolocation for determining position

Navigation, hunting	Clicks
Play-chase, pain	Squawk
Courtship, mating	Yelp
Threat	Buzz
Alarm, fright, distress	Squeaks, cracks, pops
Resting, predator nearby	Silence

Chemical Communication

Based on Taste and Smell

Example Phermones:

Many animals produce chemicals that affect the behaviour of other individuals of the same species. These substances are called pheromones

Scent gland used to repel other male koalas. It may also function to attract females



Chemical Communication

Example: Pheromones Vapour Moths



Female on left cannot fly. It uses pheromones to attract the male on the right.

Tactile Communication

Based on Touch



Why might they be doing this?

Other types of communication

The language of bees



The dance to indicate the location of a food source. Bees also use smell

Why is it important for survival for worker bees to communicate to each regarding the location of a food source?

<http://www.youtube.com/watch?v=ywdTfEBVcS>

Biozone

Animal Communication Page 265-266

Cyclic or Rhythmical Patterns of Behaviour

These are patterns of behaviour based on specific periods of time.

Animals repeat behaviours at regular intervals

- Different species of animals may follow different patterns of rhythmic behaviour
- Differences in rhythmic behaviours may be a significant factor in the ability of a group of animals to exploit the resources within the area in which they live and avoid competition from other species.

Regulated by both internal and external factors

- internal – biological clock
- external – light

Cyclic Patterns of Behaviour

1. **Circadian Rhythms:** Based on a daily cycle.

Example: Sleeping

<http://www.youtube.com/watch?v=M9wDNaNqWrI>



Includes more than just sleeping. We often refer to this as our body clock

<http://www.youtube.com/watch?v=43E6Q7a8X68&feature=related>

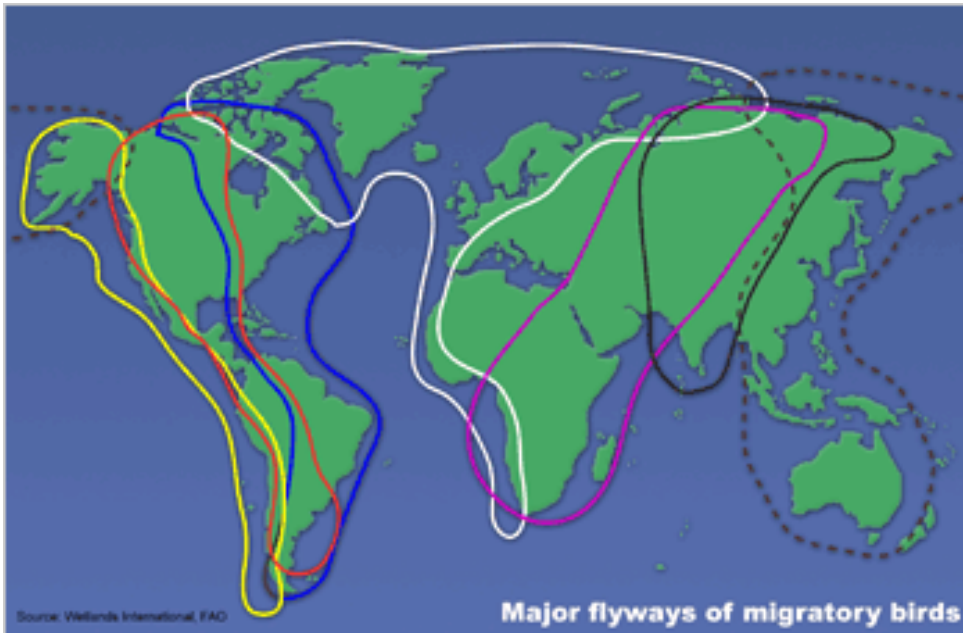
2. **Circannual Rhythms:** Based on a yearly cycle.

Example: Migration

- The movement of large numbers of animals over long distances from one area to another area, and their subsequent return to their original home, is called migration.
- Animals usually migrate using the same route each time.
- A diverse range of species migrate – birds, fish, eels, insects and mammals
- Some animals may take years to complete their migration cycle
- Winter and the disappearance of food – migration. Very low temperatures can be fatal to some species
- Migration is an important survival strategy

2. Circannual Rhythms.

Migratory habits in many birds



Red-necked Stint – An Australian Migratory Bird

<http://www.youtube.com/watch?v=4-GI8sxIREQ>

2. Circannual Rhythms.

Migratory habits in many birds

- More than 1/3 of the world's species of birds migrate
- Innate, young birds are born 'knowing' to migrate
- Sun, stars, Earth's magnetic field help determine the direction of flight
- Magnetite has been found in the tissues of some birds. Its presence is related to the bird's ability to navigate using the magnetic field.

3. Lunar Rhythms: Based on the phases of the moon.

Example: The release of gametes from many species of coral is associated with the full moon of the lunar cycle.



4. **Tidal Rhythms:** Based on the rise and fall of the tide.

Example: Feeding by crabs at low tide when food is plentiful.

Soldier Crabs



Biozone

Biological rhythms Page 270

Activity patterns in animals Page 271-272

Migration patterns Page 274.