



A Narrative Review on the Stereo Behaviours of Zebras (Perissodactyla: Equidae)

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Abstract

Unlike horses, zebras are somewhat the asses or donkeys. Zebras are very flighty animals, so they cannot tame easily. To protect this cute hooved mammal, we should understand their all behaviours. Any reviews on this fact may help to accumulate all sorts of behaviours. Out of 10 behaviours of zebra, the result suggested that 8 were instinct behaviour (social, reproductive, escaping, feeding, migratory, aggressive, joyful, painful), learning behaviour was 1, and 1 so-called abnormal behaviour (dust-bathing). To assess the instinct behaviours is more significant than the other expressions that allow their conservation in wild or captivity.

Keywords: Animal; Zebra; Behaviours; Stereo; Nervousness; Conservation

Introduction

Zebras exhibit the two mating systems [1-4]. For example, plains zebras (Figure 2) live in closed membership family groups (which is called harems), compared to stallion, females, their infants, and juveniles. On the other hand, Grevy's zebras (Figure 3) live in open groups where males and females change their partners frequently. Sometimes, the group of Grevy's zebra consists of only adult females, some with young and others without; while at other times females associate with a male whose territory they occupy [5]. Female plains zebras are monandrous and remain tightly bonded to one male for long periods, while Grevy's zebra (females) are polyandrous since they move among males during single reproductive episodes [6]. Reproductive success is measured by the age of independence and the survival rate of the young [7,3]. Throughout Africa, habitats of plains zebras are being fragmented. In central Kenya, especially in Laikipia, plains zebras have been increasing over the last decade, apart from temporary declines associated with a La Nina-driven drought in 2000 [8]. Since over 70% of Kenya's wildlife still inhabits private lands [9], human activity on their shared

lands is likely to be a problem. The objective of this study is to observe all behaviours of zebra for their successful handling in any natural or captive habitat.

Classification

Phylum: Chordata
Subphylum: Vertebrata
Class: Mammalia
Order: Perissodactyla
Family: Equidae
Genus: *Equus*

Species: 1. *E. zebra* (Mountain zebra) [10]
2. *E. grevyi* (Grevy's zebra) [11]
3. *E. quagga* (Plains zebra) [12]

Stereo Behaviors in the Zebra Community

Instinct Behaviour (Table 1)

Social Behaviour: It is most commonly seen between mothers and foals as well as in their siblings. Social grooming

is used to strengthen social bonds as a whole [13]. Female-female bonds in all zebras are weak [14].

Reproductive Behaviour: This is a very natural and universal fact in all animals. Through this process not only zebras but also all living creatures give birth. Through a courtship, the zebra performs many sexual displays like copulatory, parenting, and caring behaviour to the foals. In the breeding season, it may take weeks for the mares to accept the new stallion [13].

Escaping Behaviour: This helps for escaping from the predators in the wild. Crocodiles, lions, tigers, or other carnivore animals are the enemy of zebras. When any predators come in front of zebras group will adjust their running speed to suit the weak individuals and the stallion will guard the rear and attack any pursuing predators [12]. When zebras take a rest, just stand oppositely their stripes exhibit as the branches of the trees. This type of behaviour leads to camouflage, so predator animals do not understand the location of these zebras.

Feeding Behaviour: After taking sufficient food, their all physiological functions run well for producing adequate energy. Some chemical reactions promote their attraction to such foods. In husbandry, we need to provide adequate nutrients to zebras or other equids [15].

Aggressive Behaviour: At the time of taking food they can show aggressiveness to others if they have heavily hunger. After fulfilling some food materials into their stomach, this behaviour may disappear. Fighting is most common between terrestrial stallions; it mostly involves biting and wrestling [13]. The initiating female repeatedly kicked and bit the mother, reacted aggressively and by guarding her foal [16].

Joyful Behaviour: This can be shown after the birth of colt. When a colt runs, it looks very joyful. Sudden running of the adults is somewhat this type of behaviour. Sometimes, this type of behaviour could be observed in the post-mating stage [17].

Painful Behaviour: When zebras are affected by diseases or any injuries they cannot take food properly and vertigo appears. Due to lacking their facial muscles, they cannot show this expression but their normal attitude explains such pains. Silent sitting and semi- or close-eyed are seen in this illness behaviour [17].

Migratory Behaviour: The zebras travel a 300-mile round-trip to find their water and fresh grass [18].

Learning Behaviour (Table 1)

Learning Behaviour: Zebra is a restless and flighty animal at all [15]. This type of behaviour applies to the animals that have a well-developed brain and zebra is not an exception here. Zebras have serious nervousness, so, till now, zebras could not tame properly. Zebra is a feral animal like horse. In any circus show, the playful activities of zebras are a common act.

Abnormal Behaviour (Table 1)

Dust-bathing: This activity is mandatory for removing their ectoparasites from the body. This behaviour is not abnormal as a whole. Zebra maintains their grooming by this activity. Dust-bathing and rubbing on trees, rocks, and termite mounds are routinely used in plains zebra bathing rituals [13].

Features	Example	References
Social behaviour	Due to living in the various environments animals show different behaviour	Estes, et al. [13]; Nunez, et al. [14]
Reproductive behaviour	This behaviour is very common and obvious at all	Estes, et al. [13]
Escaping behaviour	At the time of frightening, escape is the only way	Estes, et al. [13]
Feeding behaviour	In a day, animals show feeding behaviour accordingly	Husher, et al. [15]
Aggressive behaviour	The most common phenomenon in all animals	Estes, et al. [13]
Joyful and painful behaviour	Except humans, animals do not have facial muscles, so they cannot express their emotions	Kabir, et al. [17]
Migratory behaviour	Only for the fresh grass and water, zebra migrates	[18]
Learning behaviour	Zebra have well-developed brain, so they could receive any trainings by humans	Husher, et al. [15]
Dust-bathing behaviour	For maintaining zebras social bonding, this is important	Estes, et al. [13]

Table 1: Various features of zebras with their significant data.

Several Factors on Such Behaviours

Environment: The coldness and heat of the environment influence the colour of animals. For instance, research suggests that in cooler environment black stripes of zebras decrease and in hotter it becomes increase (Table 2; Figures 1-3). In addition, in hot weather animals' brains secrete many unwanted chemicals that show excessive anger. In contrast, in cold weather, their peptic juice which is responsible for digestion exhibits a slower function that could lead to their different behaviour.

Genetic: Aggressive behaviour [13] is a genetic phenomenon in the animal kingdom. They get it from their ancestor and are common and very obvious at the first sight. Hormonal secretion and other chemical components depend on the genetic basis of the generation.

Training: Animals can be habituated to take a lesson from humans. During pet or in circus team [19,20], animal trainers ensure training of their pursued animals. Since zebra is a very nervous animal and cannot tame easily but in that show, they could perform.

Different Habitats: Habitat of course influences the feeding behaviour of zebra. The races of zebra are somewhat different in their behaviour for living in different habitats (Table 2) [21].

Diseases: If zebras are affected by any diseases their physiological functions will be hampered, so they show abnormal behaviour to humans or other animals in the wild. Any types of illnesses [17] or infections within the brain, spinal injury, rabies attack, and indigestion effects on their behaviour.

Food: If they get sufficient food they will show very polite behaviour otherwise show anger.

Hormonal Disturbance: For faulty diet or autoimmune diseases their hormonal secretion can be slowed down, so they could be focused on abnormal behaviour. This behaviour can be visualized in their breeding season.

Predator: Lions, tigers, hyaenas, crocodiles are the major predators in the jungle. Zebras are always get feared by these predators. For coping with these predators, zebras pass very vulnerable life in the wild. Maybe there are some links between these predators and the nervousness of zebra. To control such attacks biological control could be the best [22].

Medicines: Some medicines that are prescribed by the veterinarian could change their behaviour. Antidepressants, relaxants, and antibiotics have side effects, so they show abnormal behaviour at all [21].



Figure 1: Mountain zebra.



Figure 2: Plains zebra.



Figure 3: Grevy's zebra.

Features	Mountain zebra, <i>Equus zebra</i>	Plains zebra/Common zebra, <i>E. quagga</i> (formerly <i>E. burchellii</i>)	Grevy's zebra/Imperial zebra, <i>E. grevyi</i>
Stripes	Reverse stripes start from the thigh of the hindlimb	Reverse stripes start from the mid of the belly	All stripes are comparatively narrower than others
Size	Head and body length 208-259 cm	Head and body length 217-246 cm	The largest and tallest zebra species (229 cm); Large pinna
Habitat	Hot, rock, mountain, dry habitat	Treeless grasslands, woodlands	Semi-arid grassland
Subspecies	2	6	-
World status	Vulnerable	Near threatened	Endangered

Table 2: Races of zebra with their present status [21].

Concluding Remarks

Zebras have much behaviour like other animals, but their nervousness or flighty attitude creates puzzles in captivity. There might have a relation between predators and this nervousness. There is no alternative to keep this animal without further studies on these behaviours. In addition, their present status in the world is not mentionable. Immediately we should give more emphasis on these groups of animals.

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