



Some Behavioral traits of Striped Hyena under Captive Conditions

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ABSTRACT

This study was conducted to observe some behavioral traits of Striped Hyena under captive conditions. The observations have been carried during the period 5- 15 July, 2009, for 8 equal time period, extending for 24 hours from 0600 p.m hour to 0600 p.m hour next day. The Hyena flack consisted of two adult males, kept in the Collage farm (Kuku zoo) Khartoum north, in a cage joined to a fence to not allow for free movement. The recorded behavioral activities included: sleeping and rest, movement, clean other, eating, drinking, urination and gonad secretion. It was noticed that the most time consuming activities were sleeping and rest, movement, drinking, and urination. The longest period of the time budget was taken in sleeping and rest (6.7%), (11.15%) respectively in 12 hours and 24 hours systems. The shortest fraction of the time budget was spent in gonad secretion maneuvers (0.22%), (0.29%) respectively in the two systems. The main objective of the study was to provide hyena breeders with useful information for better management.

Keywords: Behavior, Budget, Hyena, Captive Conditions

INTRODUCTION

Botswana has the world's largest population of wild ostriches, indicating that the local climate is suitable for ostrich production (Moreki and Koloka, 2010),

The Striped Hyena (*Hyaena hyaena*) is a carnivorous mammal of the family Hyaenidae. It lives in Africa, the Middle East, Pakistan and western India. It is extinct in Europe, but can occasionally be spotted in Anatolia, Turkey. Striped Hyenas are largely scavengers, but will also eat small animals, fruit and insects. Larger subspecies are known to hunt animals as large as wild boar. They are nomadic, moving from water hole to water hole, but never straying more than 6 miles from one. Striped hyenas hunt in solitude but do congregate in small family groups (Wozencraft, 1993 and Di Silvestre, 2000).

Although establishing pairs of striped hyenas is generally easy, the female being dominant over the male, establishing a pair of brown hyenas can be difficult. Brown hyenas have a unique social order in nature that is seldom broken in captivity (Mills, 1982; Owens and Owens, 1979).

In nature some young males leave the "clan" to live solitary lives. Other males remain with their natal group. Those males that remain with the natal clan become non-breeders, tolerating periodic visits of nomadic males. Conversely, nomadic males periodically visit various clans to breed with estrus females. In captivity, most males assume the role of a clan male. If breeding does occur, reproduction usually ceases long before either animal is old, the male showing little interest in mating (East et al., 2001).

Although very hardy under the simplest of husbandry regimes, hyena exhibits must be stout enough to withstand their destructive tendencies. Longevities exceeding 20 years are not uncommon. Spotted hyenas have reached 41 years of age (Jones, 1982).

In the wild, striped hyenas have been studied during their day and two nightly activity foraging peaks. The activity budget is highly variable for these social animals depending on the social status the individual has in its clan. A radio-collared Ngorongoro female spent 84% of the time inactive (lying down), with the rest of the time spent sharing kills by other clan members. In the Kalahara, inactivity was less than 70% with the rest of the time involving extensive travel of over 15 miles and foraging Hyena (Specialist Group, 2000).

When more than one animal is maintained within the same cage, at least two feeding areas should be used to reduce aggression. Because hyenas are highly adapted to consuming bones, successful breeders recommend including several bones in their diet every day (Berger and Frank, 1992).

The target of the research work was to study some behavioral traits of striped hyena under captive conditions.

MATERIALS AND METHODS

This study was carried out at the farm of College of Veterinary Medicine and Animal Production Sudan University of Science and Technology. Two individuals male of striped hyaena 5-years old (*Hyaena hyaena*) were included in the study. They had been living in unit for at least 2 years.

The part of unit used for the study consisted of two rows of three identical outdoor paddocks, separated by an inspection corridor 6.5 meter wide. The paddocks were 6.5 m × 5 m (32.5 m²) in size and delimited by 6 m high wire mesh. Each paddock had a steel shelter of about 4 m² (three sides and roof), and contained pond at the middle of the paddock's 2 m length 120 wide cm in inside the cage.

The ground was natural. Behavioral activities which were observed and recorded included: sleeping and rest, movement, clean other, eating, drinking, urination, and gonad secretion. The finding data of this experiment were analyzed by T- test (student test) and SPSS version 17 as described by Comez and Comez (1984).

RESULTS

As shown in table1, and figure1. The total observation duration for the two individual hyaena as a whole is 60 hours in 12 hours system and in 24 hours system was 120 hours. Both hyena males were recorded equally. Both male were mostly involved in similar activities. The sleeping and rest behaviors took up 6.7 % and 11.15 % of time in 12 h and 24 h respectively, movement 3.33 % and 10.6 in the two systems. Hyena also spent 0.55 % and 1.55% of time in clean other, 0.44% and 1.33% in eating and 3.6% and 6.95% in drinking water. On the other hand, hyena was involved for 2.07% and 6.3 % of time in urination, 0.22% and 0.29% of time respectively in two systems in gonad secretion.

Table 1. The duration in minutes of some behaviors displayed by Striped Hyena in 12 h and 24h for 10 day.

Parameter	Area	12 hours system	24 hours system	Significant
		M±SD	M±SD	
Sleeping and rest		6.70±0.28	11.15±0.92	NS
Movement		3.33±1.15	10.60±1.84	NS
Clean other		0.54±0.08	1.15±0.50	NS
Eating		0.44±0.11	1.33±0.33	NS
Drinking		3.60±0.42	6.95±0.92	NS
Urination		2.07±0.09	6.30±1.41	NS
Gonad secretion		0.22±0.014	0.29±0.014	NS

NS: Not significant; M: Means; SD: Standard deviation

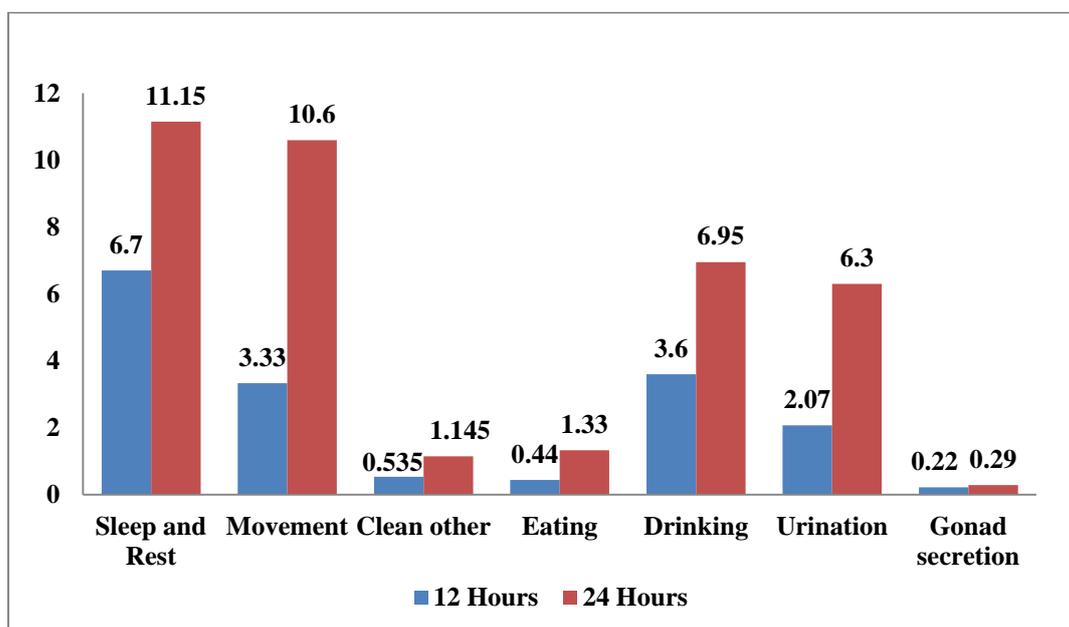


Figure 1. The duration in minutes of some behaviors displayed by Striped Hyena in 12 h and 24h for 10 day.

DISCUSSION

Behavioral studies have been widely used as means of assessing the activity of wild animal in natural habitat and in captivity.

The main target of this study is comparison the behavior of Striped Hyaena in two systems 12 hours and 24 hours in Kuku zoo the animal collected from Neyala town Eastern Sudan the results obtained revealed no significant different ($p < 0.05$) in all behavioral budget in the present study.

In cause of sleeping and rest there was no significant different in sleeping and rest behavior between 12 hours systems and 24 hours systems, sleeping and rest in 12 hours systems and 24 hours systems (6.70 ± 0.28), (11.15 ± 0.92) respectively in the studies hyena behavior were similar to the findings of (Estes et al0, 1991)

In the movement behavior there was no significant different in movement in cage between 12 hours systems and 24 hours systems, movement behavioral in 12 hours systems and 24 hours systems were at range (3.33 ± 1.15), (10.60 ± 1.84) respectively in this study were agree to the findings of (Jones, 1982). Wozencraft, (1993) reported that Striped Hyenas are largely scavengers, but will also eat small animals, fruit and insects. Larger subspecies are known to hunt animals as large as wild boar. They are nomadic, moving from water hole to water hole, but never straying more than 6 miles from one. Striped hyenas hunt in solitude but do congregate in small family groups.

The result revealed that there was no significant different in clean other behavior between the Hyaena behavior in 12 hours system and Blue 24 hours system ($p \leq 0.05$). Clean other activities in this study were at the range (0.54 ± 0.08), (1.15 ± 0.50) respectively in present study. Mills, (1982); Owens and Owens, (1979) reported that although establishing pairs of striped hyenas is generally easy, the female being dominant over the male, establishing a pair of brown hyenas can be difficult. Brown hyenas have a unique social order in nature that is seldom broken in captivity.

The results revealed no significant different in eating activities in the two systems eating activities in this study were at the range (0.44 ± 0.11), (1.33 ± 0.33) respectively in 12 hours systems and 24 hours system, but this budget take short time in the overall activities and this may be due to bad feeding. Study finding in agreement with Berger and Frank, (1992) who reported that when more than one animal is maintained within the same cage, at least two feeding areas should be used to reduce aggression. And this may be the reason that reduce eating budget.

Also in cause of drinking budget there were no significant different between 12 hour systems and 24 hour systems, the drinking activities in 12 hour systems and 24 hour systems were (3.60 ± 0.42), (6.95 ± 0.92) respectively in this study were in agreement to Wozencraft (1993) and Di Silvestre, (2000) who reported that the hyena are nomadic, moving from water hole to water hole, but never straying more than 6 miles from one. Striped hyenas hunt in solitude but do congregate in small family groups.

The result also obtained that no significant different in urination between 12 hours systems and 24 hours systems. The urination in 12 hours and 24 hours were (2.07 ± 0.09), (6.30 ± 1.41) respectively and this be due to similar environment.

The short time budget shown in this result is the gonad secretion in the two systems and in this cause time activities of gonad secretion were (0.22 ± 0.014), (0.29 ± 0.014) respectively in 12 hours and 24 hours systems.

In the wild, striped hyenas have been studied during their day and two nightly activity foraging peaks. The activity budget is highly variable for these social animals depending on the social status the individual has in its clan. A radio-collared Ngorongoro female spent 84% of the time inactive (lying down), with the rest of the time spent sharing kills by other clan members. In the Kalahara, inactivity was less than 70% with the rest of the time involving extensive travel of over 15 miles and foraging Hyena (Specialist Group 2000).

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