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Description of breeding management Timor deer (*Cervus timorensis*) in Merauke, Papua Province, Indonesia

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ABSTRACT

The purpose of this study is to know the description of timor deer in captive breeding. The research was conducted for a month from January until February, 2019 at two locations of timor deer captive breeding in Merauke. The method of research includes interviews with the staffs involved about reproductive ability of deer in the deer captive breeding, and direct observation in the field. The results showed that captive breeding of timor deer in the two locations are have a different population, and sex ratio. Sex ratio 1:2 show that it has low productivity. One of the captive breeding have a low birth rate. Births that occur each year in captivity unit 2 is higher than breeding unit 1, but the death of a newborn young deer are more common in captivity unit 2. The process of weaning essential for reducing the risk of high mortality of young deer and factor deer mortality that occurs in captivity unit 2. The length of time for lust in 2 captivity is the same but different times. The characteristics of lust in 2 captivity shows different characteristics in each captivity. The length of pregnancy in captivity is for ± 8 months. Reproductive disorders have never occurred in the two reindeer breeding.

Key words : *Breeding management, Timor deer (Cervus timorensis), Merauke*

Introduction

Timor deer (*Cervus timorensis*) is a type of native deer whose population continues to decline in nature. This condition is caused by various factors, one of them is illegal hunting in their natural habitat to meet economic needs (IUCN, 2008). Since 1931 through Wildlife Protection Law No. 134 and No. 266 in 1931, the Dutch East Indies government had designated deer as protected animals from hunting, capturing and possessing activities. Indonesian government through Law No. 5 of 1990 concerning Conservation of Biological Natural Resources and their Ecosystems, and Government Regulation No. 7 of 1997 concerning Preservation of Wild Plants and Animals, reindeer was reaffirmed as a protected animal.

This means that efforts must be made to ensure its preservation in nature. An effort to preserve the existence of deer is to make captivity efforts. Captive breeding is one of activities for breeding wild animals that aims to increase populations while maintaining genetic purity, so that the preservation and presence species of animals can be maintained in their natural habitat (Thorari *et al.,* 1991).

Therefore deer breeding efforts need to be made to anticipate the deer extinction (Afzalani *et al.,* 2008). In addition, management of deer breeding is also carried out to produce healthy deer in captivity and sustainable breeding to create sustainable deer. A deer breeding business is dependent on a management that applied, both maintenance management or reproduction management.

To support the development of captive breeding, especially to increase the productivity of timor deer to the fullest, objective, actual, information data and information standards are required. To find out the potential productivity of timor deer in captivity that does not yet have much known information such as captivity in Merauke Regency, it is necessary to evaluate and observe the reproductive properties of timor deer in captivity.

Materials and Methods

Materials and Research Objects

The tools used to conduct this research were the camera and questionnaire sheets. While the object observed was the deer that were in captivity in Merauke Regency.

Research methods

Observations and interviews were conducted to find out the reproduction profile and the deer maintenance procedures. An initial survey was conducted to collect information on breeding sites in Merauke. Direct observations in the field included identification of deer sex and estimation of age. Information gathering about several aspects of captivity is done through interviews with breeders.

Data analysis

Data analysis by collecting data from captive breeding in Merauke Regency was then tabulated and displayed in the form of description.

Results and Discussion

General Conditions Deer in Captivity

Data on general condition of deer such as broodstock beginning, tagging, deer population, and labor from deer breeding were obtained from observations and results of interviews with breeding managers. These results are tabulated in Table 1.

Reproductive aspects

The reproduction is one of the most important in a, captivity because of better reproductive development in a breeding the more good management in captivity was. From the results of 2 captivity interviews, the reproductive aspects of captivity are tabulated based on observations in the field.

The feed aspect

Feed is the most important thing for living because acts as a source of energy for basic living needs, growth, and reproduction. Observation data regarding deer feed in 2 captivity can be seen in Table 3.

Conclusion

Births that occur each year in captivity unit 2 is higher than breeding unit 1, but the death of a newborn young deer are more common in captivity unit 2. The process of weaning essential for reducing the risk of high mortality of young deer and factor deer mortality that occurs in captivity unit 2. The length of time for lust in 2 captivity is the same but different times. The characteristics of lust in 2 captivity shows different characteristics in each captivity. The length of pregnancy in captivity is for ± 8 months. Reproductive disorders have never occurred in the two reindeer breeding. The feed system, breeding unit 1 needs to improve the quality of feed by increasing the type of routine grass feeding.

Acknowledgment

The gratitude and appreciation are high and given

Table 1. General conditions of timor deer in captivity in Merauke Regency

ASPECT	CAPTIVY	
	UNIT 1	UNIT 2
1. The initial amount	1 female (2014)	5 deers. 4 females and 1 male (2005)
2. Population	10 deers(2019)	18 deers (2019)
3. Tagging	Only on brood deer	There is no
4. Tame the deer	3	3
5. Labor	3 persons (1 keeper, 1 person in charge of cleaning, 1 person in charge of security)	2 persons (1 keeper, 1 person in charge of security)
6. Captive breeding system	Semi intensive	Semi intensive

Table 2. Reproductive aspects of deer in captivity

Reproduction Aspect	Captivy	
	UNIT 1	UNIT 2
1. Number of fertile broodstock	3 fertile broodstock	8 fertile broodstock
2. Characteristics of moderate deer lust	1. Stag riding on a deer female. 2. The deer don't shoutshouted. 3. Stag and female deer hand in hand.	1. Male deer often run amok. 2. The female deer rubs against the body. 3. The male deer often approaches the female deer.
3. Number of children in 1 birth	1 time in 1 birth	1 time in 1 birth
4. Birth of twin deer		
5. Distokia events	Never	Never
6. Weaning process	Never Applied After delivery immediately put a special enclosure	Never Not applied
7. Long time lust		
8. The sex of a deer calf	± 1 week (August)	± 1 week (December)
9. Comparison of male and female deer (sex ratio)	Frequent births of male sex Male 4 & female 6 (2: 3) sex ratio 1: 1.5	Frequent births of female sex Male 4 & female 14 (2: 7) sex ratio 1: 3,5
10. Number of births from the beginning to the present	3x deer births from early 2014	15x deer births from early 2005
11. Tiller deer body weight	± 2 kg	± 3 kg

Table 3. Feed Aspects Applied in captivity

SPECT	CAPTIVY UNIT 1	UNIT 2
1. Laying system feed	Placed in the dining area	Placed in the dining area
2. Type of feed	100 kg of grass and fruits (Mango and Papaya)	10 kg of grass and 50 kg of bran
3. The pattern of feeding per day	3 times a day (morning, afternoon and evening)	2 times a day (morning and evening)
4. Origin of drinking deer water in captivity	PDAM water (flowed in the pond)	PDAM water (flowed in the pond)
5. Patterns of drinking per day	Ad libitum	Ad libitum

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References

Afzalani. Muthalib, R. A. and Musnandar, E. 2008. Feed preferences, food behavior and nutrient requirements for Sambar deer (Cervus unicolor) in captivity in the province of Jambi. *Journal of Animal Husbandry Media.* 31 (2) : 114-121.

Thorari, M., Haryanto, B. Masy'ud, D. Rinaldi, H. Arief, W.A. Djatmiko, S.N. Mardiah., N. Kosmaryandi and Sudjatnika, 1991. Feasibility study and deer breeding site design at BKPH Jonggol, KPH Bogor, Perhutani Unit III West Java. Cooperation between the Directors of Perum Perhutani and the Faculty of Forestry, Bogor Agricultural University.

[IUCN] International Union for Conservation of Nature and Natural Resources. 2008. IUCN Red List of Threatened Species.http: //www.iucnredlist.org. [May 13, 2009].