

The Government of
The Republic of the Union of Myanmar
Ministry of Education

Department of Higher Education

Universities
Research Journal

Vol. 6, No. 2

March, 2014

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Habitat Selection of Some Ungulates in Hlawga Wildlife Park

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Abstract

The present study deals with the examination on ecology aspects like habitat selection of some ungulates such as Sambhur *Cervus unicolor* Kerr, 1792, Hog deer *Axis porcinus* Zimmermann, 1780, Wild boar *Sus scrofa*, Linnaeus, 1780 and Barking deer *Muntiacus muntjak*, Zimmermann, 1780 in Hlawga Wildlife Park from 2008 to 2010. Availability of resource in different habitats and the percentage of use were varied in different ungulate species. Their selections of ungulates mainly depend on the availability of food resources and shelters. Hog deer, wild boar and barking deer are ecologically similar species. Although they have had niche differences. So far, the effective management depends on the maintaining habitat as proper conservation process in the future.

Key words: Ungulates, habitats, distribution, niche, conservation

Introduction

Resource selection is used in studies to identify resources critical to an animal population (Cardozo *et al.*, 2010). Due to resource partitioning or niche differentiation in ungulate communities could be attributed to both ecological forces and evolutionary history (Connell, 1980) and differential selection of available resources is one of the primary factors that allow species to co-exist (Rosenzweig, 1981).

Habitat is defined as the "conditions and resources present in an area that produce occupancy (including survival and reproduction) by an organism" (Hall *et al.*, 1997). It provides food and cover essential for the population to survive (Subramanian *et al.*, 2008). The habitat use is a critical facet in the management of wildlife species (White and Garrot, 1990). Habitat provides food and cover essential for the animal to survive. In fact, understanding how distribution of ungulates is affected is necessary for examining resource partitioning and competition. Therefore the understanding of habitat selection of animals was important for the conservation of resources which is generally carried out by comparing its habitat use to habitat availability (Calenge, 2007).

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Most studies carried out on habitat selection. It was considered by using the analysis selection ratios (Manly *et al.*, 2002) or compositional analysis (Aebischer *et al.*, 1993). This selection can be influenced by the habitat types, the landscape as well as net gain in visiting patches of resources (Herfindal *et al.*, 2009). Moreover, many factors which can influence resource selection including predation risk (Riginos and Grace, 2008), food availability (Senft *et al.*, 1987), water availability (Redfern *et al.*, 2003) and season and leaf phenology. Therefore, habitat selection changes seasonally due to changes in resources (Boyce and Waller, 2000).

In fact the quantities information of the long-term resource requirements of a population of wildlife animals are vital role for future conservation steps. So far, the present study has essentially focused on the examination of habitat selection of some ungulate species such as such as Sambhur *Cervus unicolor* kerr, 1792, Hog deer *Axis porcinus* Zimmermann, 1780, Wild boar *Sus scrofa*, Linnaeus, 1780 and Barking deer *Muntiacus muntjak*, Zimmermann, 1780 in Hlawga Wildlife Park. The main objectives were to study on habitat condition of Hlawga Wildlife Park; to investigate the habitat selection among ungulate species; to observe how the ungulates do the coexisting across different habitat types.

Material and methods

Study area

The present study was conducted at Hlawga Wildlife Park located between longitude 96°05'E to 96°08'E and latitude 17°02'N to 17°04'N during 2008 to 2010. Survey on data of habitat selection by different ungulates was carried out in wildlife core area (331.04 ha) which is surrounded by 2.5m high fence to prevent emigration of large ungulates. The survey area was subdivided into five areas (Area: I – V) depend on the roads & paths, etc (Fig. 1). A total of 58 plots were set down for all areas in area I (n = 20), area II (n = 6), area III (n = 9), area IV (n = 12) and area V (n = 11). Plant density, canopy cover and shrub density and species composition were recorded in each plot (Sale and Berkmuller, 1988). Habitat condition was delineated an 1:50,00 scale topographic map according to that of four habitat types such as close forest (CF), grassland (GL), shrub land (SL) and feeding site (FS).

