Reserved feeding seasonal home range size of *Hapalemur g. griseus* in Maromizaha rainforest (Andasibe)

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Introduction

H. g. griseus individuals living in the Maromizaha rainforest are faced with ecological patterns and variation linked to the local environment such as seasonality. Scientific information on seasonality and its influence on the survival of *H. g. griseus* remains insufficient. Food ecology is a discipline of the food sciences. Individuals may move around their habitat both horizontally and vertically in order to seek out food, and traverse the different topographical features of their habitat in doing so. The goal is to determine the seasonal home range size reserved for feeding of *H. g. griseus*.

Methods

Study area
Maromizaha rainforest (18.9760S°; 48.4648E°), whose habitats frequented by the groups studied are between 870 and 1100m altitude.

Focal sampling (Altmann, 1974)
- Used a GPS to record the geographical coordinates of the direct observations
- Construction of maps of the seasonal spatial distribution of the studied groups using ArcGIS software version 9.3.

Kernel Estimator Density method (Worton, 1989)
This method was used to highlight the heterogeneity of the "feeding behaviour" within the vital domain and to define the contours of the domain through the kernel function by using the smoothing parameter "h" at each geographical coordinate. Two critical thresholds were usually used, including a 95% threshold to estimate the home range boundaries and a 50% threshold for the core of the home range. By this method, The animal's presence or occupancy in different areas of its habitat is represented by a scale of colors ranging from red to green (hot-cold scale).

Results

Tab. 1 : Seasonal home range and seasonal core home range

	Seasonal home range by Kernel Density Estimator of 95%				Seasonal core home range by Kernel Density Estimator of 50%			
	Group I		Group II		Group I		Group II	
Seasons	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry
N	2	2	2	2	2	2	2	2
Mean	1.17	1.99	2.43	2.80	0.35	0.37	0.60	1.09
Error standard	0.36	0.67	0.53	0.02	0.10	0.18	0.14	0.11
Result and test signification	Wilcoxon test (*Z* = -0.825 ; *p* = 0.009 ; n = 2) ; *significative*		Wilcoxon test (*Z* = 0.374 ; *p* = 0.481 ; n = 2) ; non significative		Wilcoxon test (*Z* = -0.021 ; *p* = 0.919 ; n = 2) ; *non significative*		Wilcoxon test (*Z* = -0.495 ; *p* = 0.005 ; n = 2) ; *significative*	

Fig. 1 : *H. g. griseus* recovering young leaves of *Panicum* sp1

- The red zone is the most frequented area and is considered the permanent occupancy zone or the center or core of the home range. The green color corresponds to the less traveled areas and less frequently occupied areas.
- The size of the reserved feeding home range reserved for *H. g. griseus* varies seasonally, and it can influence food availability.
- The smoothing parameter "h", which governs the propagation of the area of the home range (Hansteen *et al.*, 1997), is a critical component used when estimating this domain. In fact, the larger the smoothing parameter is, the less accurate the home range estimate is, sometimes at the risk of including areas that are not exploited by animals (Getz *et al.*, 2004). Conversely, a smoothing parameter with a small value reveals much more the internal structure of the home range, thus creating discontinuous islands of space use (Worton, 1989).

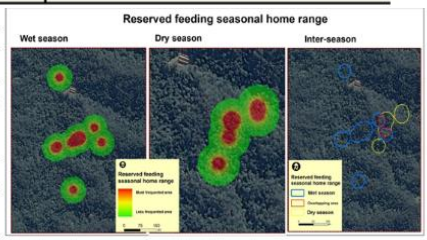

Fig. 2 : Group I (Valley)

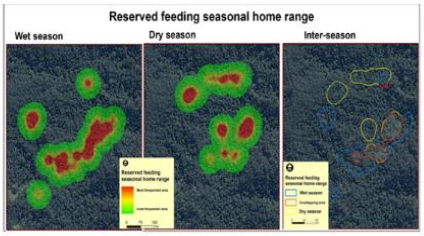

Fig. 3 : Group I (Versant)

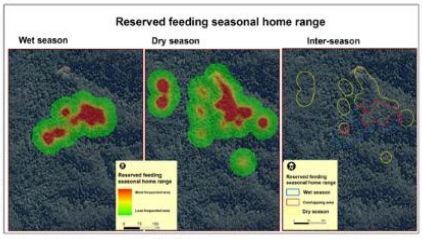

Fig. 4 : Group II (Valley)

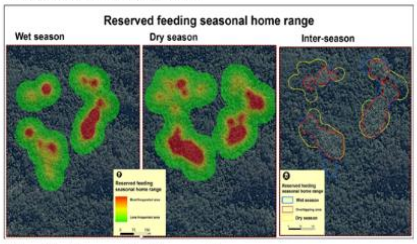

Fig. 5 : Group II (Versant)

Conclusion

Surface area of the reserved feeding seasonal home range of *H. g. griseus* varies according to the season. It increases considerably during the dry season.

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