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Buteo brachypterus: Aerial predator of *Hapalemur g. griseus* in Maromizaha rain-forest

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Habitat can be defined as the set of resources (shelter, food) and environmental conditions (abiotic and biotic factors) that determine the presence, survival and reproduction of a species (Hall *et al.*, 1997; Gaillard *et al.*, 2010). Various authors have shown lemurs experience predation all across Madagascar (Goodman and Rakotozafy, 1997; Rakotondravony *et al.*, 1998; Wright, 1998; Mandl *et al.*, 2017). However, there is no information for the Maromizaha rainforest thus far. *Hapalemur griseus griseus*, classified as Vulnerable (Mittermeier *et al.*, 2010; IUCN, 2014) living in this forest has to deal with ecological issues including predators. Wet and dry season ecological surveys were conducted using focal sampling method (Altman, 1974) for groups of *Hapalemur g. griseus* in 2016.

Our results showed that *Hapalemur g. griseus* resides in low forest strata between 0.1-3 m in height during its behavioural activities. Major food sources were plants: *Panicum* sp. (Poaceae), *Cephalostachyum* sp., (Poaceae) and *Hypoestes* sp.

(Acanthaceae). These plants appeared to be spread from the valley to the versant of its habitat at the same strata level, explaining why *Hapalemur g. griseus* may prefer this level. On the other hand, vigilance behaviours were detected during surveys; the lower strata may provide good places to hide from predators such as *Buteo brachypterus*, an endemic raptor in Madagascar (Woog, 2006; GERP, 2008). When this aerial predator whistled, *Hapalemur g. griseus* was observed to disperse, flee and hide in a very tight place of the low stratum. Similarly, during the passage of human trackers or their dogs, the lemur was observed to remain motionless or flee.

As far as social organization, *Hapalemur g. griseus* stayed together and sometimes it dispersed. The minimum and the maximum mean distance (\pm standard error) between the focal animal and its nearest neighbour were: minimum 1.272 ± 0.039 m, $n = 756$; maximum 3.217 ± 0.054 m, $n = 1039$. The spatial occupation by *Hapalemur g. griseus* in the face of habitat disturbance and predators has a social implication that plays a key role in the dynamics of its population. *Hapalemur g. griseus* is certainly vigilant (Fig. 1). We found that the adult male took the main role of protector of the group, especially protector of infants.

In summary, for the exploitation and control of space in the face of ecological challenges, *Hapalemur g. griseus* uses an appropriate strategy in its social structure, including the vigilance system. In terms of conservation of this species in its natural habitat, given its plasticity against predators, a study on the latter would be encouraged.

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Fig. 1: Baby *Hapalemur g. griseus* protected by the adult male. Photo: Andrianandrasana Z.A. (2016).