Population Density and Habitat Preferences of the Sahamalaza Sportive Lemur (*Lepilemur sahamalazensis*) at the Ankarafa Research Site, NW Madagascar

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The present study investigates the population density and habitat requirements of the Critically Endangered (CR A4cd; IUCN, 2006) Sahamalaza sportive lemur (*Lepilemur sahamalazensis*) within major habitat types available on the Sahamalaza Peninsula, NW Madagascar. A plot-based methodology for estimating population density in relation to habitat characteristics was implemented. Five 1 ha forest plots representing typical habitat structures and varying degrees of habitat disturbance were described. Variables under investigation included tree density of small and large trees, trunk size, tree height, canopy cover, availability of sleeping sites (tree holes and vegetation tangles), as well as evidence of cyclone damage, livestock use, forest fires, cut trees, erosion, and abundance of tree debris, undergrowth, saplings, lianas and fourteen types of food plant. The population density of this nocturnal lemur was estimated by counting individuals in each plot during strategic diurnal searches, which revealed a mean density of 2.8 individuals per plot (range: 0-5). An activity budget was compiled to establish that the study species is truly nocturnal and individuals remain in the same place during the day, thereby providing reliable conditions for diurnal counts. This methodology enables density estimates without the need to cut transects, which increase the likelihood of forest penetration by free-roaming zebu cattle (*Bos indicus*) and hunters. Statistical analysis reveals that the population density of sportive lemurs is positively correlated with the density of large trees, canopy cover, the abundance of food plants, suitable sleeping holes and vegetation tangles, whereas the presence of livestock negatively correlates with lemur density.

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