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## PREVALENCE OF FLYING SQUIRRELS RECORDED FROM SELECTED AREAS OF AJK

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### ABSTRACT

Squirrels belong to the Sciuridae family. This family comprises of small and medium-sized rodents. They are native in regions of US, Eurasia, and Africa. Different nature parks were selected for survey. Dhirkot Nature Reserve (DNR) was observed in February, 2008, Banjosa Nature Reserve (BNR) in May to June, 2009, Tolipir National Park (TNP) in April to May, 2008, Pir Chanasi National Park (PCNP) in April to May, 2010 and Pir Lasura National Park (PLNP) in June to July, 2009. Only two species from the family Sciuridae were found in the study area; *Hylopetes fimbriatus* (Small Kashmir flying squirrel) and *Petaurista petaurista* (Giant red flying squirrel).

**Keywords:** Flying squirrel, mammal, rodent, marmot, Kashmir

**Abbreviations:** AJK: Azad Jammu and Kashmir,

### INTRODUCTION

Squirrels belong to the Sciuridae family. This family comprises of small and medium-sized rodents. Some other members of this family are chipmunks, marmots and prairie dogs. The Sciuridae family consists of more than 270 species (Brown et al., 2014). They are native in regions of US, Eurasia, and Africa. However, they were non-native to Australia (Seebeck, 1984). This family is further classified into Ratufinae, Sciurillinae, Sciurinae, Xerinae, and Callosciurinae subdivisions.

Srinivasulu et al. (2004) describe 28 species of mammals belonging to the Sciuridae family in the South Asian region. They report the presence of *Funambulus pennantii* (the Northern Palm squirrel), *Marmota chordata* (the long-tailed marmot), *Marmota himalayana* (the Himalayan marmot), *Eupetaurus cinereus* (Woolly flying squirrel), *Hylopetes baberi* (Small Afghan flying squirrel), *Hylopetes*

*fimbriatus* (Small Kashmir flying squirrel) and *Petaurista petaurista* (Red Giant flying squirrel). This study was conducted to find the biodiversity and density of species belonging to the Sciuridae family in protected areas of Azad Jammu and Kashmir.

### MATERIALS AND METHODS

Different nature parks were selected for survey. Dhirkot Nature Reserve (DNR) was observed in February, 2008, Banjosa Nature Reserve (BNR) in May to June, 2009, Tolipir National Park (TNP) in April to May, 2008, Pir Chanasi National Park (PCNP) in April to May, 2010 and Pir Lasura National Park (PLNP) in June to July, 2009. The information on distribution and biology of different species was managed depending upon the direct survey of the area, camera surveillance (Arc View GIS 3.3, 1992-2002), collection of information from the locals and the available

literature on the distribution and species biology. and at the same time indirect indicators such as squirrel scats, walking

tracks and fur samples were noted for presence of squirrels.

**Table 1: List of mammalian species of family Sciuridae recorded from AJK.**

Names	Food	Breeding season	Remarks	Local sightings (%)
<i>Hylopetes fimbriatus</i> Small Kashmir flying squirrel	Acorns of evergreen Holly Oak ( <i>Quercus ilex</i> ), seeds of young fir cones, those of Silver fir ( <i>Abies pindrow</i> ), immature cones of Blue Pine ( <i>Pinus wallichiana</i> ), young shoots and buds of Silver fir ( <i>Abies pindrow</i> ), leaves of other deciduous species, ripe melons and their seeds, sometimes insects as well.	Summer Litter size: 2-3	Confined to Himalayan moist temperate forest, having mixture of deciduous and coniferous species. Strictly nocturnal	(21- BNR) (32-DNR) (15-PCNP) (22-PLNP) (22-TNP)
<i>Petaurista petaurista</i> Giant red flying squirrel	Young green leaves, fir, Pine twigs, Tree buds, Acorn of Hill oak ( <i>Quercus dilatata</i> ), Horse chestnut ( <i>Aesculus indica</i> ), Walnuts ( <i>Juglans regia</i> ), insects, eggs of wild birds. Peanuts.	March-early august. Litter size: 2	Confined to the forest areas, mainly in Himalayan moist temperate forest. Strictly nocturnal.	(38- BNR) (3- DNR) (11-PCNP) (28-PLNP) (17-TNP)



a



b

**Figure 1. Squirrels in AJK (a) *Hylopetes fimbriatus* (b) *Petaurista petaurista***

## DISCUSSION

Only two species from the family Sciuridae were found in the study area. The highest density of the Small Kashmir flying squirrel was recorded in Dhirkot Nature Reserve (32%). The least population density was observed in Pir Chanasi National Park (15%). Global status of this species according to IUCN is of Least Concern. PLNP area falls in their altitudinal range of distribution, suggesting presence of a regular population of this species. This species was observed in all the protected areas surveyed. Small Kashmir flying squirrel presented a moderate level of sightings (20 – 29%). It is regarded as abundant in this area. Kashmir flying squirrel is adapted to living on the top branches of trees and using snags for roosting.

Abbasi et al. (2010) conducted a study on this species in District Bagh from October 2008 to June 2009 and found most species to be present during June and least in February. On the contrary, in the present study, the highest number of squirrels observed was in Dhirkot Nature Reserve in February while the lowest number observed was in Pir Chanasi during April and May. Although it may be found from Afghanistan to Indonesia, in Pakistan it is limited to some hill areas in Punjab, Khyber Pakhtunkhwa and Azad Jammu and Kashmir (Awan et al., 2004).

The highest density of the Giant red flying squirrel was observed in Banjosa Game Reserve (38%). The least population density was observed in Dhirkot Nature Reserve (3%). Global status of this species according to IUCN is of Least Concern. However, its population is decreasing (Duckworth, 2016). Giant red flying squirrel inhabits tracts having denser forested vegetation and is nocturnal, requiring tree holes or snags for daytime roosting and feeding during night. giant flying squirrels were more frequent, presenting 30 – 39%

sightings. Giant flying squirrels exploit tree tops and snags, and their habitat is under threat with increasing logging activities. Awan et al. (2004) reported sightings of both *Hylopetes fimbriatus* and *Petaurista petaurista* from Machiara National Park in AJK. They classified *H. fimbriatus* as a vulnerable species. Eagles are natural predators of this species (Awan et al., 2004).

## CONCLUSION

Only two species from the family Sciuridae were found in the study area. *Hylopetes fimbriatus* and *Petaurista petaurista*. The highest density of the Small Kashmir flying squirrel was recorded in Dhirkot Nature Reserve (32%). The least population density was observed in Pir Chanasi National Park (15%).

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