

# The relationship between bird community and structure of Satoyama landscape in Seya Highlands, Tango Peninsula

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## 1 Introduction

Satoyama is a secondary nature which consists of fuel wood forests, grass, and the settlements, and is an area rich in biodiversity<sup>1)</sup>. However, Satoyama is changing the shape, because of abandonment of secondary forest or into residential land, many bird species that inhabit the secondary nature has been described as a rare species in the Red Data Book. In this situation, about the birds that inhabit Satoyama, to evaluate the habitat and knowing the bird community is an important research issues. The effect of a secondary nature disposed on the bird community at the level of land cover almost have not been investigated in Satoyama at hilly and mountainous area. The purpose in this study is to report on the bird community by bird survey in Satoyama in Seya Highlands, Tango Peninsula, and to find the characteristics of the birds of Satoyama landscape as habitat by clarify the relationship between the birds that live there and the characteristics of the habitat such as mosaic structure and land cover type.

## 2 Methods

To investigate the relationship between the landscape of Satoyama and birds, I surveyed birds by route censuses method in the course of 11 sites and by points counts method using the IC recorder in the 45 points. By the each results, I found species composition and characteristics of bird community. Using the data of points counts method, I made a grouping of birds and research sites using the TWINSpan targeted research sites and frequency of occurrence of bird species in the research sites. Then I obtain the correlation between frequency of occurrence of the top five species of birds species in each group and the type of land cover in research sites in two of scale radius 50m and 200m from research point. I clarified the relationship between the each group and the Satoyama landscape and made a discussion about the results.

## 3 Result and Discussion

I was confirmed 59 species of birds by route censuses method, and was confirmed 48 species of birds by points counts method. I was confirmed a variety of rare species what are specified in the Red Data Book. In the route censuses survey, rare species accounted for 42.4% of the total in terms of the number of species and accounted for 10.3% of the total in terms of the number of individuals. As a result of grouping of birds and research sites using TWINSpan, birds were classified into four groups. I determined the correlation between land cover type in each of the four groups, I was able to capture the trend as a species group that may strong preference to the forest and a group called seed species edge, a group of preference to man-made open space and a group of species that may strong preference to huge derelict land.

From this result, I think complex landscape found in Satoyama is attributable to the habitat of birds, and this factors have contributed to the diversity of the bird community of the region as a whole in Satoyama at hilly and mountainous area. I think it is important that upon capture Satoyama as bird habitats, focusing on the species group that may strong preference to the forest and the group of preference to man-made open space, and the group of species that may strong preference to derelict land because, the First group have many species that are listed in the rare species, and the second group habitat is limited, and the third group change the species composition depending on area

i ) Izumi Washitani, Tetsukazu Yahara (1996) : Introduction to conservation ecology, bunichi publication, 270pp