

Avifauna of Manisan (Mt.) in Ganghwado

Jae-Pyoung Yu, Seon-Deok Jin, In-Hwan Paik, and Woon-Kee Paek*

Department of Natural History, National Science Museum, Daejeon 305-705, Korea

Abstract: In June and September of 2009, a total of 179 individuals of 25 species, 14 families and 6 orders were found in the region of Manisan (Mt.) of Ganghwado (island). Dominant species included *Aegithalos caudatus* (20.11%, 36 individuals), *Hypsipetes amaurotis* (15.08%, 27 individuals), *Parus palustris* (10.06%, 18 individuals), *Parus major* (6.70%, 12 individuals), *Parus varius* (6.15%, 11 individuals), *Pica pica* (5.59%, 10 individuals) and more. In the 1st survey (June), a total of 108 individuals of 22 species were recorded, and in the 2nd survey (September), a total of 112 individuals of 17 species were recorded. The 1st survey, which showed a higher number of species, showed higher species diversity (2.70) and species richness (4.49) than those of the 2nd survey.

Key words: Manisan, Dominant Species, Species Diversity, Species Richness

Introduction

Ganghwado (island) is located to the west of the center of the Korean peninsula and is a part of Ganghwa county of the district of Incheon metropolitan city. It is composed of 12 inhabited islands and 18 uninhabited islands and is one of the 5 biggest island regions of Korea with surface area of 410.57 km². Furthermore, it is located to the southwestern side of the Masingnyeong mountain range and is near the mountains Goryeosan, Hyeolgusan, Jingangsan, Manisan and other mountain ranges, with relatively fertile and wide plains between the ranges. The southern coast of Ganghwa's mud plain covers 20% of all mud plains in the region of Gyeonggi-do, and since the area has a high population of organic compounds sea invertebrates, the area is used a resting spot for migrating waders (Ganghwagun National History Compilation Committee, 2003).

Manisan (Mt.) (469.4 m) is the highest mountain located to the south of Ganghwado, and to its east is Maibong (hill), to Maibong's west, Bunori hill, and Mulpilbong (hill) to its northeast. It is well known for Chamseongdan, which was used as a worshipping spot for Dangun, the legendary founding father of Gojoseon, and the place is visited frequently by tourists.

Until recently, there have been almost no studies on wild birds residing in Manisan (Mt.). Therefore, this study wishes to study the bird fauna of the region of Manisan and to provide basic information which may be used in the protection of the ecology of the area.

Study Area and Method

Study Period

The study was conducted over 2 surveys, one in June and the other in September of 2009, in the area of Manisan of Ganghwado.

Study Sites

Manisan is a low mountain at 469.4 m above sea level, but is steep, and in the lower region of the mountain, the area is composed primarily of *Quercus acutissima* colonies. With higher altitude, *Quercus variabilis* and *Quercus mongolica* becomes more visible, and starting from 70% of the altitude, falling rocks and *Pinus densiflora* becomes visible. To the east side of the mountain, *Carpinus laxiflora*, *Quercus aliena*, *Exochorda serratifolia*, *Quercus variabilis*, *Styrax japonica*, among other various species, are present (Ganghwa County, 2003). This study was conducted on birds inhabiting the area of Chamseongdan on the northern side of Manisan (Fig. 1).

Study Method

The study was conducted while moving along the hiking path of Chamseongdan and recording the birds visible via Line transect (Bibby *et al.*, 1992). Binoculars (10×25, Nikon) and telescope (×15~45, Nikon) were used to examine the birds or sounds were used in distinguishing species for recording. Furthermore, GPS (Garmin, GPSmap 60CS) was used in order to measure location of the birds.

Results of the study was organized using the 25th volume of the Field Guide of Korea by Won (1981): Animal Records (bird life), and A Field Guide to the Birds

*To whom correspondence should be addressed.

Tel: +82-42-601-7989

E-mail: paekwk@mest.go.kr

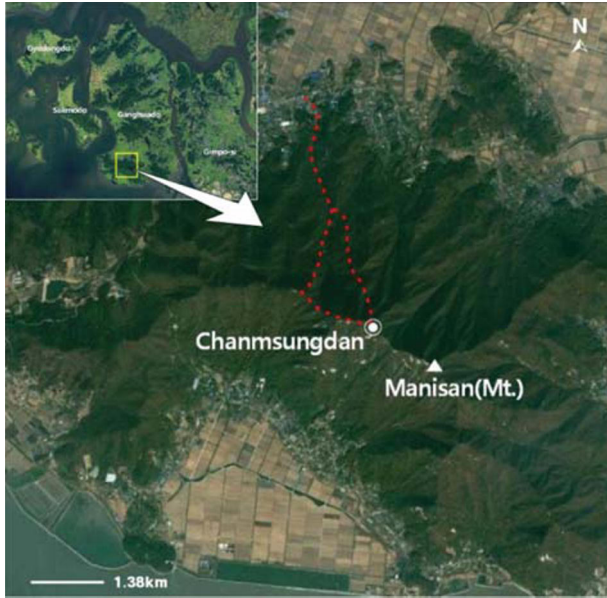


Fig. 1. The map showing survey areas in Manisan(Mt.) (..... survey route)

of Korea (Lee *et al.*, 2000) according to region, and government protected species were organized using the

Natural Monuments of Korea in Color (Yoon *et al.*, 1998) and the Endangered and Reserved Wild Species in Korea (Won and Yoon, 1998).

Equations used for the analysis of this study (Brower *et al.*, 1990; Shannon and Weaver, 1949; Margalef, 1963) are as follows.

Dominance

$$\text{Dom. (\%)} = \frac{n_i}{N} \times 100$$

[n_i : number of species i
 N : total number of birds in the study site

Species Diversity

$$H' = -\sum (n_i/N) \times \ln(n_i/N)$$

Species Richness (Da)

$$Da = (s-1)/\ln(N)$$

[s : total number of species found
 N : total number of birds found

Table 1. List of birds observed in Manisan(Mt.), June and September, 2009

No.	Scientific name	Korean name	Jun.	Sep.	Peak count	Dom.	Mig.
1	<i>Phasianus colchicus</i>	평	4	1	4	2.23	Res
2	<i>Streptopelia orientalis</i>	멧비둘기	8	2	8	4.47	Res
3	<i>Cuculus micropterus</i>	검은등빼꾸기	1		1	0.56	SV
4	<i>Cuculus canorus</i>	빼꾸기	1		1	0.56	SV
5	<i>Upupa epops</i>	후투티	1		1	0.56	SV
6	<i>Dendrocopos kizuki</i>	쇠딱다구리	7	1	7	3.91	Res
7	<i>Dendrocopos major</i>	오색딱다구리	1	2	2	1.12	Res
8	<i>Picus canus</i>	청딱다구리	2	1	2	1.12	Res
9	<i>Hypsipetes amaurotis</i>	직박구리	27	4	27	15.08	Res
10	<i>Turdus pallidus</i>	흰배지빠귀	5		5	2.79	SV
11	<i>Phylloscopus inornatus</i>	노랑눈썹솔새		2	2	1.12	PM
12	<i>Phylloscopus coronatus</i>	산솔새	2		2	1.12	SV
13	<i>Regulus regulus</i>	상모솔새		4	4	2.23	WV
14	<i>Aegithalos caudatus</i>	오목눈이	3	36	36	20.11	Res
15	<i>Parus palustris</i>	쇠박새	4	18	18	10.06	Res
16	<i>Parus ater</i>	진박새	1		1	0.56	Res
17	<i>Parus major</i>	박새	4	12	12	6.70	Res
18	<i>Parus varius</i>	곤줄박이	5	11	11	6.15	Res
19	<i>Emberiza elegans</i>	노랑턱멧새	6	3	6	3.35	Res
20	<i>Passer montanus</i>	참새	5	5	5	2.79	Res
21	<i>Oriolus chinensis</i>	피꼬리	3		3	1.68	SV
22	<i>Garrulus glandarius</i>	어치		3	3	1.68	Res
23	<i>Cyanopica cyana</i>	물까치	3		3	1.68	Res
24	<i>Pica pica</i>	까치	10	5	10	5.59	Res
25	<i>Corvus macrorhynchos</i>	큰부리까마귀	5	2	5	2.79	Res
Number of species			22	17	25		
Number of individuals			108	112	179		
Species diversity (H')			2.70	2.25	2.72		
Species richness (Da)			4.49	3.39	4.63		

Mig.: Migration, Res: Resident, SV: Summer visitor, WV: Winter visitor, PM: Passage migrant

J. KOREAN NATURE

Download English Version:

<https://daneshyari.com/en/article/4399658>

Download Persian Version:

<https://daneshyari.com/article/4399658>

[Daneshyari.com](https://daneshyari.com)