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# Report on the Observation of a Dark morph Tree Sparrow (*Passer montanus*) in Daejeon Metropolitan City

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**Abstract:** On March 16th, 2010, at 13:35, a single count of dark morph tree sparrow (*Passer montanus*) was observed for approximately 15 minutes while it was resting with approximately 30 ordinary tree sparrows at a terrace land on water (east longitude 127°21'31.4", north latitude 36°18'20.2") under Gasuwon Bridge (Gasuwongyo) of Gasuwon-dong, Seo-gu in Daejeon Metropolitan City. Dark morph tree sparrow has not been observed in nature for 16 years since its observation in Pyeongtaek-gun of Gyeonggi-do by the Korean Avian Association in 1994.

**Keywords:** Dark morph, Melanism,Tree Sparrow, Daejeon metropolitan city

## Introduction

Since old times, Koreans were referred to as the "people of white," since they enjoyed wearing white as a result of the culture which revered the Sun and wore white to symbolize the color of light (Joo, 1996). Since the color white is associated with a positive connotation in Korea, the presence of white birds signify "good luck." However, the presence of black birds is associated with bad luck or death in Korea, as well as many other nations, and crows or birds which are not typically black but have turned black as a result of melanism imply bad luck (Michael, 1998). However, in an ecological point of view, black is a better color for survival than white, since black is less visible to predators (Bengt, 1993; Michael, 1998).

Melanism, like albinism, is expressed on the entire body or on parts of the body, but in nature, melanism occurs much less frequently than albinism. Outside of Korea, birds observed in the same time period showed 1,847 birds of 304 species with albinism and 29 birds of 29 species with melanism, revealing that melanism occurs in significantly lower frequency (Alfred, 1965). Studies on avian melanism have generally been on fowls, but there have been studies on melanism of wild birds on rare occasions (Nicholas, 2005). This document was created as a report on a tree sparrow (*Passer montanus*) with dark morph found at a terrace land on water under Gasuwon Bridge (Gasuwongyo) of Gasuwon-dong, Seo-gu in Daejeon.

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## Results and Discussion

On March 16th, 2010, at 13:35, a single count of dark morph tree sparrow (*Passer montanus*) was observed and filmed for approximately 15 minutes while it was resting

**Fig. 1.** Melanism *Passer montanus* was observed at Daejeon metropolitan city on 16 march, 2010.

**Fig. 2.** An image of Commonly *Passer.*

with approximately 30 ordinary tree sparrows at a terrace land on water (east longitude 127°21'31.4", north latitude 36°18'20.2") under Gasuwon Bridge (Gasuwongyo) of Gasuwon-dong, Seo-gu in Daejeon Metropolitan City (Fig. 1).

During the time of observation, a partially black feathered tree sparrow was found moving across the plain of terrace land on water, while feeding and resting, with a flock of typical tree sparrows. It is assessed that the wings of the tree sparrow had turned black as a result of over-expression of brown melanin. Unlike typical sparrows, the melanistic tree sparrow was all black, with the exception of its white cheeks and brown crown and parts of its wings, making it highly distinguishable from typical tree sparrows. Furthermore, while it is possible that the tree sparrow may have turned black as a result of living in a city and collecting dust and pollution, this sparrow was considered the dark morph individual that was not absolute melanism, since the sparrow had white cheeks and white wing-bar and pink legs (Fig. 1).

Melanism occurs as a result of over-expression or collection of melanin, and it is known to be caused generally by genetic mutation which has been passed down to offsprings as dominant genes. Melanism, unlike albinism, occurs when there is an excessive amount of melanin, and it is known to be also caused by sudden external stress, such as exposure to abnormal temperature during pregnancy or incubation period, causing mutation during gene transcription and translation (Alfred, 1965). The melanistic tree sparrow was first observed in Pyeongtaek-gun, Gyeonggi-do by the Korean Avian Association (media report) in 1994 and then in Jeju-do (unofficial document) and the study area. With such little official record, it is assessed that the observation of melanistic tree sparrows is very rare in nature.

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