Review

An Investigation of the Characteristics of Taiwan National Bird — Urocissa caerulea — in Terms of Color Technology

Lan-sheng Kuo¹, Sally S. Wang², Yinli Cheng³

【Abstract】Formosan Blue Magpie is about the size of 64-65 cm and tail measures 40 cm in length. The colors of male and female look alike. Its head, neck and breast are black; eyes are iridescent yellow; bill and legs are red; the rest of the plumage on the bird is a rich dark blue to purple in color. It has white markings on the wings and the tail. Due to its bright golden yellow bill and legs which are similar to a girl with black hat, blue shirt and trousers with golden shoes, dressing in blue clothes (plumage), Formosan blue magpie can be called as nature colorful dress and had been elected as the national bird of Taiwan in 2008.

【Keywords】National bird, Urocissa caerulea, color technology, plumage

Introduction

The Formosan blue Magpie (Urocissa caerulea) also called the Taiwan Magpie or the long-tailed mountain lady, is a member of the Crow family. It is an epidemic species living in the mountains of Taiwan at elevations of 300 to

¹ Lan-sheng Kuo, Professor / Corresponding author, Dept of Environmental Resources Management (ERM), The Overseas Chinese Institute of Technology (OCIT), 407 Taichung, Taiwan / Corresponding author, e-mail address: friend@ocit.edu.tw

² Sally S. Wang, M.S. Asia University, Wufong, Taichung County, Taiwan

³ Yinli Cheng, Assistant Professor, ERM, OCIT
In 2007 national bird voting Campaign held by Taiwan International held by Taiwan International birding Association, there were over 1 millions votes from 53 countries. Formosan blue Magpie defeated Mikado Pheasant and was chosen as Taiwan’s national bird.

We aim to investigate the reason of Formosan blue magpie be voted as the national bird in Taiwan in terms of color technology (Munsell color system) of its plumage other than common subjective assessment assessment “it looks so beautiful!” for most Taiwanese people.

Color measurement by Munsell color

The Munsell color system consists of 3 independent dimensions which can be represented cylindrically in 3 dimensions as an irregular color solid as: hue, measured by degrees around horizontal circles; chroma, measured radically outward from the neutral (gray) vertical axis; and value, measured vertically from 0 (black) to 10 (white). (see Figure 1) The color of Formosan blue bird can be easily measured with the Munsell Book of Color, in which can be expressed objectively as Hue Value / Chroma. And then the color of Formosan blue bird can be evaluated objectively by Munsell color and the significance in color psychology.

Results and Discussion

Table 1. Munsell color of national bird

<table>
<thead>
<tr>
<th>Position/part</th>
<th>Hue</th>
<th>Chroma</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill, leg</td>
<td>2.5 YR</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>Abdomen, back</td>
<td>5PB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eyes</td>
<td>white</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tail (white markings)</td>
<td>5PB</td>
<td>12</td>
<td>5</td>
</tr>
</tbody>
</table>

The bill and the legs are golden yellow, the head, the neck and the other parts are bright blue. The end of two longest tail are black and white sequentially. It is evident that youthful vigor and skinny body/figure ca be seen from its bright color and wonderful color matching in terms of Munsell color.

Table 1 showed that black hat, blue shirt and trousers with golden shoes make Formosan blue magpie an elegant pretty lady; plumage of it can be called as the nature colorful dress. Additionally, white round eyes in black face is corresponding to a very strong contrast of whit to black when one is concerning the color matching in terms of lightness (see Figure 2).
Conclusions

It is evident that youthful vigor and skinny body/figure can be seen from Formosan blue bird's bright color and wonderful dress—a look of a pretty lady. Undoubtedly, most Taiwanese people gave it a vote of the national bird of Taiwan in 2008.

References

Wikipedia, 2009, Formosan Blue Magpie
Munsell Book of Color, 2008, Gretag Macbeth LLC, 617 Little Britain Road, New windsar, NY 12553


Lan-sheng Kuo, 1999, Paper properties, National Chung Hsing University.