The change in the blue colorants used in the making of green and purple colors in *Nishiki-e*

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This study investigates whether blue colorants used as blue colorants were also used to make green and purple colors. While we know that blue pigments were used, we did not have information about the exact colorants. The investigation focuses on *Nishiki-e* after the Bunsei era in which the blue colorant is deemed to have changed. A survey of 37 *Nishiki-e* pieces from the National Museum of Japanese History was conducted. Optical microscopy for ordinary light and ultraviolet fluorescence microscopy, X-ray fluorescence (XRF) analysis, and UV-visible reflectance spectroscopy were used.

The results confirmed that the blue areas of *Nishiki-e* made in Bunsei 12 (1829) used Prussian blue, an affordable, foreign synthetic pigment, in lieu of indigo, which is a traditionally used natural dye. It was only after the use of Prussian blue became widespread that it started being used with yellow to make green. Colorants from indigo and the Asiatic dayflower were used to make purple with red. This practice continued until the first year of the Bunkyū era (1861), unaffected by the transition to Prussian blue from indigo at the end of the Bunsei era. Organic red colorants that were traditionally used to make purple have fallen into disuse in favor of synthetic burgundy since the Keiō era. Similarly, as a colorant for mixed colors, the natural blue colorants used to make purple were replaced by the synthetic Prussian blue pigment.

Key words : *Nishiki-e*, Asiatic dayflower, Indigo, Prussian blue