

Characteristics and bacterial flora of *Horornis diphone* fecal and its utilization

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Fecal matter of *Horornis diphone* has been used as a cosmetic (facial cleanser and skin stain remover, etc.) for the last 1,000 years until recently. Due to the enforcement of the Law for the Protection and Management of Birds and Animals, it has become difficult to obtain fecal matter and to manufacture the cosmetic products utilizing this component. The mechanism of the cosmetic effects of feces of *H. diphone* has been little investigated, and one of the main components of the feces (the intestinal microflora) is still unknown. In this study, I attempted to analyze the properties of feces as well as the intestinal bacterial flora present in the feces of *H. diphone*. Elemental analysis of the fecal matter showed that the nitrogen content of the feces was higher than that of their feed. This suggests that the feed is digested and degraded as it passes through the digestive tract of the warbler and that the feces may contain proteins such as enzymes. In addition, the fecal matter exhibited weak activity of protease and trypsin, and also possessed antioxidant activity. Next-generation sequencing was used to analyze the intestinal bacterial community structure in the fecal matter of *H. diphone*. Analysis at the genus level, *Lactococcus*, *Macroccoccus*, and *Weissella* were detected as abundant bacteria.