MORPHOLOGY AND GENETIC DIVERSITY OF MITOCHONDRIAL DNA D-LOOP REGION USING PCR-RFLP ANALYSIS IN MAGELANG DUCK AND OTHER NATIVE DUCK

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Abstract	The aim of this study was to investigate the different of plumage colors on morphological diversity of Magelang duck and genetic diversity using PCR-RFLP mtDNA D-loop region analysis of Magelang duck and four others native duck population (Tegal, Mojosari, Bali and Alabio duck) in Indonesia. Blood sample was taken from 50 Magelang ducks and 20 of each native ducks. Morphological characteristics of body measurement, production ability and egg quality of Magelang duck were analyzed using Completely Randomized Design with 11 plumage colors as treatments. PCR technique was administered to amplify fragments in mtDNA D-loop region and PCR products were digested with endonuclease restriction enzyme Alul and HaeIII. The result showed that morphology diversity of Magelang duck was statistically affected by different plumage colors. PCR-RFLP analysis using Alul and HaeIII restriction enzyme resulted in six combinations of restriction fragment pattern shown in six haplotypes (A, B, C, D, E and F). Haplotype difference showed genetic diversity in the population of Magelang duck and the other native ducks. In conclusion, the different plumage colors affected morphology diversity of Magelang duck and the other native ducks on the duck and population could be identified by using PCR-RFLP analysis on mtDNA D-loop region.
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