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 diversityof Magelang duck and genetic diversity using PCR-RFLP mtDNA D-loop region analysis of Magelangduck and four others native duck population (Tegal, Mojosari, Bali and Alabio duck) in Indonesia. Bloodsample was taken from 50 Magelang ducks and 20 of each native ducks. Morphological characteristicsof body measurement, production ability and egg quality of Magelang duck were analyzed usingCompletely Randomized Design with 11 plumage colors as treatments. PCR technique was administeredto amplify fragments in mtDNA D-loop region and PCR products were digested with endonucleaserestriction enzyme AluI and HaeIII. The result showed that morphology diversity of Magelang duck wasstatistically affected by different plumage colors. PCR-RFLP analysis using AluI and HaeIII restrictionenzyme 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 theother native ducks. In conclusion, the different plumage colors affected morphology diversity ofMagelang duck. Genetic diversity of Indonesian native duck population could be identified by usingPCR-RFLP analysis on mtDNA D-loop region.
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