

ABSTRAK

KAJIAN HEMATOLOGI DAN MORFOMETRI ERITROSIT IKAN LELE DUMBO (*Clarias gariepinus*) BERBAGAI UMUR

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Data parameter hematologi ikan lele penting sebagai indeks status kesehatan. Tujuan penelitian ini mengevaluasi hematologi rutin dan mengukur morfometri eritrosit berdasarkan umur ikan lele dumbo (*Clarias gariepinus*).

Penelitian ini melibatkan 30 ikan lele dumbo dalam tiga kelompok umur yaitu 1 bulan, 2 bulan, dan 4 bulan. Parameter yang dievaluasi adalah total eritrosit, hemoglobin, PCV, TPP, fibrinogen, MCV, MCH, dan MCHC. Morfometri eritrosit mencakup morfologi dan ukuran sel. Data dianalisis menggunakan SPSS.

Hasil penelitian menunjukkan perbedaan signifikan. Hasil kelompok I yaitu total eritrosit $2.74 \times 10^6/\mu\text{L}$, Hb 6.32 g/dL, PCV 18.16%, TPP 2.66 g/dL, fibrinogen 0.13 g/dL, MCV 66.30 fL, MCH 23.05 pg, MCHC 34.79%; kelompok II total eritrosit $3.43 \times 10^6/\mu\text{L}$, Hb 9.29 g/dL, PCV 22.84%, TPP 3.60 g/dL, fibrinogen 0.16 g/dL, MCV 66.71 fL, MCH 27.11 pg, MCHC 40.63%; dan kelompok III total eritrosit $3.83 \times 10^6/\mu\text{L}$, Hb 11.63 g/dL, PCV 11.63%, TPP 3.90 g/dL, fibrinogen 0.23 g/dL, MCV 72.86 fL, MCH 30.42 pg, MCHC 41.82%. Morfologi eritrosit berbentuk bulat hingga lonjong, sitoplasma eosinofilik, dan nukleus basofilik di tengah sel. Ukuran eritrosit (LA \times SA) kelompok I $7.33 \times 7.27 \mu\text{m}$, kelompok II $8.45 \times 8.52 \mu\text{m}$, dan kelompok III $8.70 \times 8.43 \mu\text{m}$. Dapat disimpulkan parameter hematologi yang diuji meningkat seiring dengan bertambahnya umur dan adanya variasi ukuran eritrosit dipengaruhi oleh kondisi lingkungan.

Kata kunci: hematologi, eritrosit, morfometri, lele dumbo, umur

ABSTRACT

STUDY OF HEMATOLOGY AND MORPHOMETRY OF ERYTHROCYTES IN AFRICAN CATFISH (*Clarias gariepinus*) AT VARIOUS AGES

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Data on catfish hematological parameters are necessary as an index of health status. The aim of this study was to evaluate routine hematology and measure erythrocyte morphometry based on the age of African catfish (*Clarias gariepinus*).

This study involved 30 African catfish in three age groups of 1 month, 2 months, and 4 months. The parameters evaluated were total erythrocytes, hemoglobin, PCV, TPP, fibrinogen, MCV, MCH, and MCHC. Erythrocytes morphometry included cell morphology and size. Data were analyzed using SPSS.

The results showed significant differences. Group I results were total erythrocytes $2.74 \times 10^6/\mu\text{L}$, Hb 6.32 g/dL, PCV 18.16%, TPP 2.66 g/dL, fibrinogen 0.13 g/dL, MCV 66.30 fL, MCH 23.05 pg, MCHC 34.79%; group II total erythrocytes $3.43 \times 10^6/\mu\text{L}$, Hb 9.29 g/dL, PCV 22.84%, TPP 3.60 g/dL, fibrinogen 0.16 g/dL, MCV 66.71 fL, MCH 27.11 pg, MCHC 40.63%; and group III total erythrocytes $3.83 \times 10^6/\mu\text{L}$; Hb 11.63 g/dL; PCV 11.63%; TPP 3.90 g/dL; fibrinogen 0.23 g/dL; MCV 72.86 fL; MCH 30.42 pg; MCHC 41.82%. Erythrocyte morphology was round to oval, eosinophilic cytoplasm, and basophilic nucleus in the center of the cell. Erythrocyte size (LA \times SA) of group I was $7.33 \times 7.27 \mu\text{m}$, group II was $8.45 \times 8.52 \mu\text{m}$, and group III was $8.70 \times 8.43 \mu\text{m}$. It can be concluded that the hematological parameters tested increase with age and the variation in erythrocyte size is influenced by environmental conditions.

Keywords: hematology, erythrocytes, morphometry, African catfish, age