

## RINGKASAN

Ikan yang termasuk kedalam Familia Cyprinidae dapat ditemukan di hampir seluruh sungai Indonesia termasuk Sungai Banjaran, Kabupaten Banyumas. Berdasarkan ketinggian dan jarak dari muara, Sungai Banjaran dapat dibagi menjadi 3 zona yaitu, zona hulu, zona tengah dan zona hilir dengan karakteristik habitat yang berbeda-beda. Karakteristik habitat yang berbeda dapat menyebabkan respon fisiologis ikan yang berbeda pula, sehingga terjadi perbedaan tingkat kesehatan dari ikan tersebut. Pemeriksaan hematologi dapat digunakan untuk melihat pola peningkatan respon imun, dilakukan dengan menghitung total leukosit dan diferensial leukosit dalam darah. Pemeriksaan hematologi penting dalam mendeteksi status kesehatan ikan atau imunitas. Diferensial leukosit bertujuan mengetahui perbedaan Persentase komponen sel leukosit. Penelitian ini bertujuan untuk mengetahui persentase diferensial leukosit dari beberapa spesies ikan familia Cyprinidae dengan lokasi pengambilan sampel berbeda (hulu, tengah, dan hilir) dan mengetahui gambaran apusan darah dari beberapa spesies ikan familia Cyprinidae. Penelitian dilakukan dengan metode Survei. Pengambilan sampel menggunakan teknik *purposive sampling* pada tiga stasiun yang berbeda. Parameter penelitian meliputi Persentase jumlah neutrofil, eosinofil, basofil, limfosit, serta monosit, dan gambaran apusan darah. Data yang diperoleh dianalisis dengan metode *Analysis of Variance* (ANOVA) dengan tingkat kesalahan 5% dan gambaran hasil pengamatan mikroskopis dari jenis-jenis leukosit dianalisis secara deskriptif.

Hasil penelitian menunjukkan bahwa perbandingan persentase sel leukosit pada Ikan Nilem (*Osteochilus vittatus*), Ikan Brek (*Barbonymus balleroides*), dan Ikan Lunjar (*Rasbora argyrotaenia*) dengan lokasi Hulu, Tengah, Hilir Sungai Banjaran, Banyumas, berbeda secara signifikan ( $p < 0,05$ ). Persentase sel leukosit yang paling tinggi ada pada zona Hilir di Sungai Banjaran, Banyumas yaitu sel neutrofil dan sel monosit. Presentase sel neutrofil Ikan Nilem didapatkan sebesar 9,5%, Ikan Brek sebesar 8,5% dan Ikan Lunjar sebesar 9,4%. Presentase sel monosit pada Ikan Nilem sebesar 8,9%, Ikan Brek sebesar 8,7% dan Ikan Lunjar sebesar 8,5%. Sel neutrofil memiliki sitoplasma bergranula halus dan ditengahnya terdapat inti bersegmen. Sel eosinofil mempunyai sitoplasma berwarna lebih merah, inti yang terletak memanjang di tepi sel, memiliki granula besar. Sel limfosit mempunyai bentuk bulat, memiliki sitoplasma berwarna biru gelap dan inti berbentuk bulat hingga oval. Sel monosit memiliki sitoplasma berwarna biru pucat dan bentuk inti bervariasi ada yang berbentuk seperti ginjal hingga yang berbentuk dua lobus besar.

**Kata kunci :** *Diferensial Leukosit, Familia Cyprinidae, Hematologi, Sungai Banjaran.*

## SUMMARY

Fish belonging to the family Cyprinidae can be found in rivers almost all over Indonesia, including the Banjaran River, Banyumas Regency. Based on the height and distance from the estuary, the Banjaran River can be divided into 3 zones, namely, upstream zone, middle zone, and downstream zone with different habitat characteristics. Different habitat characteristics can cause different physiological responses of fish, resulting in differences in the health level of these fish. The hematological examination can be used to see the pattern of an increased immune response, performed by counting total leukocytes and differential leukocytes in the blood. A hematological examination is important in detecting fish health status or immunity. Leukocyte differential aims to determine the difference in the percentage of leukocyte cell components. This study aims to determine the differential leukocyte percentage of several species of fish of the family Cyprinidae with different sampling locations (upstream, middle, and downstream) and to determine the description of blood smears of several species of fish of the family Cyprinidae. The research was conducted using the survey method. Sampling using purposive sampling technique at three different stations. The research parameters included the percentage of neutrophils, eosinophils, basophils, lymphocytes, and monocytes, and the appearance of blood smears. The data obtained were analyzed using the Analysis of Variance (ANOVA) method with an error rate of 5% and the description of the results of microscopic observations of the types of leukocytes was analyzed descriptively.

The results showed that the comparison of the percentage of leukocytes in Nilem Fish (*Osteochilus vittatus*), Brek Fish (*Barbonymus balleroides*), and Lunjar Fish (*Rasbora argyrotaenia*) with locations Upstream, Middle, Downstream of the Banjaran River, Banyumas, was significantly different ( $p < 0,05$ ). The highest percentage of leukocyte cells is in the Downstream zone in the Banjaran River, Banyumas, namely neutrophil cells and monocyte cells. The percentage of neutrophil cells for Nilem Fish was 9.5%, Brek Fish 8.5%, and Lunjar Fish 9.4%. The percentage of monocyte cells in Nilem Fish was 8.9%, Brek Fish 8.7%, and Lunjar Fish 8.5%. Neutrophil cells have a finely granular cytoplasm and a segmented nucleus in the center. Eosinophil cells have a redder cytoplasm, the nucleus is located elongated at the edge of the cell, has large granules. Lymphocyte cells have a round shape, have a dark blue cytoplasm, and a round to oval nucleus. Monocytes have pale blue cytoplasm and the shape of the nucleus varies from kidney-shaped to two large lobes.

**Keyword :** *Leukocyte Differential, Family Cyprinidae, Hematology, Banjaran River.*