PENGARUH LIMBAH MERKURI DARI PENAMBANGAN EMAS TERHADAP STRUKTUR HISTOLOGI HEPAR IKAN WADER PARI (*Rasbora lateristriata* Bleeker, 1854)

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INTISARI

Emas merupakan salah satu hasil bahan tambang yang bernilai ekonomi tinggi. Kegiatan penambangan emas pada umumnya terdiri dari penggalian, penghancuran, dan amalgamasi batuan. Namun sebagian besar industri penambangan emas tradisional tidak memiliki izin dan instalasi khusus pengolahan limbah. Zat sisa penambangan yang mengandung merkuri (Hg) dibuang langsung ke dalam badan air. Akibatnya, merkuri dapat terbawa aliran air dan mengendap di sedimen sungai. Merkuri juga dapat terakumulasi pada komunitas akuatik seperti ikan Wader Pari. Oleh karena itu penelitian ini dilakukan untuk memelajari pengaruh limbah merkuri dari penambangan emas terhadap struktur histologis hepar ikan Wader Pari. Limbah merkuri diambil dari penambangan emas tradisional di Desa Sangon, Kokap, Kulonprogo. Penelitian dilaksanakan di Laboratorium Histologi Fakultas Biologi UGM. Pembuatan preparat histologis hepar menggunakan metode paraffin yang mengacu Genten et. Al. (2009). Hasil penelitian menunjukkan adanya beberapa sel hepar yang mengalami piknosis. Jumlah sel yang mengalami piknotik pada konsentrasi 0%, 25%, 50%, dan 100% limbah meningkat secara berurutan sebesar 5,728%; 16,248%; 21,612%; dan 37,304%. Semakin tinggi konsentrasi limbah yang diberikan, maka semakin banyak sel hepar mengalami piknosis.

Kata kunci: penambangan emas, merkuri, hepar, ikan Wader pari

EFFECTS OF MERCURY WASTE FROM GOLD MINING ON HISTOLOGICAL STRUCTURE OF YELLOW RASBORA LIVER (*Rasbora lateristriata* Bleeker, 1854)

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ABSTRACT

Gold is one of the mining products with high economic value. Gold mining activities generally consist of excavation, destruction, and amalgamation. However, most of the traditional gold mining do not have government approval and special installation for wastewater treatment. The wastewater containing mercury (Hg) are released directly into water bodies. As a result, the mercury could be transported through water flow and deposited in the sediments. Mercury can also accumulate in aquatic communities like in yellow rasbora (*Rasbora leterstriata*). Therefore, this study was conducted to determine the effects of mercury waste on the histological structure of the liver of yellow rasbora. The mercury waste was taken from traditional gold mining in Desa Sangon, Kokap, Kulonprogo. The research was conducted at Histology Laboratory of Faculty of Biology UGM. The preparation of histology slide of the liver was made by paraffin method which refers to Genten et. Al. (2009). The results showed that pyknotic cells occur in some hepatocyte cells. The number of pyknotic cells at wastewater concentration 0%, 25%, 50%, and 100% increased sequentially at 5,728%; 16.248%; 21,612%; and 37.304%. The higher level of mercury exposure may increase pyknotic hepatocytes cell.

Keywords: gold mining, mercury, liver, Yellow Rasbora