

# **PENGARUH LIMBAH CAIR PABRIK TAHU TERHADAP STRUKTUR MAKROANATOMI INSANG IKAN CETOL (*Gambusia affinis* SF Baird & Girard, 1853)**

**Ashari Puspita Dewi**

**(16/393151/BI/09571)**

Pembimbing: Zuliyati Rohmah, S.Si., M.Si., Ph.D.Eng

## **ABSTRAK**

Kulonprogo mempunyai sungai yang panjang, yaitu Sungai Progo. Sungai ini memiliki beberapa anak sungai, hulu dari Gunung Sindoro di Jawa Tengah dan hilir ke Samudera Hindia. Banyak manusia memanfaatkan keberadaan sungai untuk berbagai aktivitas seperti memancing, sumber air pertanian, sumber air untuk konsumsi, dan pariwisata. Air limbah mengandung berbagai zat organik dan anorganik beracun. Tujuan yang akan diperoleh dari penelitian ini untuk mengetahui kerusakan insang ikan cetol (*Gambusia affinis*) yang hidup di sungai yang tercemar limbah cair pabrik tahu; dan mengetahui struktur morfologi insang ikan akibat limbah pabrik tahu; serta mengetahui perbedaan tingkat kerusakan insang ikan dengan radius yang berbeda dari sumber pencemaran.

Pengambilan sampel dilakukan di sungai dekat pabrik tahu di bawah Jembatan Kaliwiru I, Desa Tuksono, Kecamatan Sentolo, Kabupaten Kulonprogo. Lokasi sampling dibagi menjadi tiga, dengan masing-masing berjarak 50 meter. Titik pertama berada di area 50-meter sebelum outlet limbah, titik kedua berada tepat di area pembuangan limbah, dan titik ketiga berada 50-meter setelah titik kedua. Hasil penelitian ini menunjukkan bahwa air sungai yang mengandung limbah cair industri tahu memiliki pengaruh terhadap insang ikan, yaitu menyebabkan ikan *Gambusia* kesulitan bernapas sehingga insang berubah warna, peningkatan lendir pada *lamellae*, dan *lamellae* menyatu (fusi).

**Kata Kunci:** insang, limbah cair, ikan cetol, sungai

# **EFFECT OF LIQUID WASTE FROM TOFU PRODUCTION TO THE ANATOMICAL STRUCTURE OF MOSQUITO'S (*Gambusia affinis* SF Baird & Girard, 1853) GILLS**

**Ashari Puspita Dewi**

**(16/393151/BI/09571)**

Supervisor: Zulyati Rohmah, S.Si., M.Si., Ph.D.Eng

## **ABSTRACT**

One of Kulonprogo river is namely the Progo River. This river has several tributaries, upstream from Mount Sindoro in Central Java and downstream into the Indian Ocean. Many people take advantage of the existence of rivers for various activities such as fishing, water sources for weapons, water sources for consumption, and tourism. Wastewater contains a variety of toxic organic and inorganic substances. The objective of this research is to determine the damage to the gills of cetol fish (*Gambusia affinis*) that live in rivers polluted by tofu factory wastewater; and knowing the morphological structure of fish gills due to tofu factory waste; as well as knowing the difference in the level of damage to the gills of fish with a different radius from the pollution source.

In this research, sampling was carried out in the river near the tofu factory under the Kaliwiru I Bridge, Tuksono Village, Sentolo District, Kulonprogo Regency. The sampling locations were divided into three, with each being 50 meters apart. The first point is in the area 50 meters before the waste outlet, the second point is in the waste disposal area, and the third point is exactly 50 meters after the second point. The results of this study indicate that river water containing tofu industrial wastewater has an effect on fish gills, which causes *Gambusia* fish to have difficulty breathing so that the gills change color, increase in mucus in the lamellae, and the lamellae fuse (fusion).

**Keywords:** gills, liquid waste, gambusia fish, river