

## INTISARI

### **ISOLASI, IDENTIFIKASI DAN UJI SENSITIVITAS BAKTERI PADA KASUS DIARE ORANGUTAN KALIMANTAN (*Pongo pygmaeus*) ASAL YAYASAN KONSERVASI ALAM YOGYAKARTA DAN BORNEO ORANGUTAN SURVIVAL**

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Orangutan kalimantan merupakan salah satu satwa yang berada dalam status genting. Populasi orangutan kalimantan di habitat alamnya terus mengalami penurunan akibat hilangnya habitat orangutan di alam, perburuan dan perdagangan liar. Upaya konservasi dilakukan untuk mencegah kepunahan orangutan, namun di lokasi rehabilitasi seperti di Yayasan Konservasi Alam Yogyakarta dan Borneo Orangutan Survival, penyakit gastrointestinal dapat menjadi masalah utama pada orangutan sebagai akibat dari terjadinya infeksi bakteri secara fekal-oral. Gejala klinis penyakit gastrointestinal pada primata berupa feses encer atau lembek disertai darah, dehidrasi, emasi dan kolaps. Penelitian ini dilakukan untuk mengetahui bakteri penyebab gangguan gastrointestinal orangutan kalimantan (*Pongo pygmaeus*) mekemudian sampel swab feses, serta mengetahui sensitivitas bakteri terhadap 20 jenis antibiotika. Dua buah sampel swab feses orangutan penderita diare diperoleh dari Yayasan Konservasi Alam Yogyakarta dan Borneo Orangutan Survival diisolasi dan diidentifikasi. Isolasi bakteri dilakukan dengan media selektif Gram negatif yaitu agar *Mac Conkey*, dan *Esoin Methylene Blue*, pengecatan Gram, kemudian dilakukan identifikasi dengan berbagai media uji biokimiawi yaitu indol, *Methyl Red*, urea, sitrat, *Voges Proskauer*, KCN, gula-gula. Bakteri yang berhasil diisolasi dan diidentifikasi kemudian diuji terhadap 20 antibiotika untuk mengetahui sensitivitas bakteri tersebut. Hasil pengujian dibandingkan dengan *Bergey's Manual of Determinative Bacteriology 9<sup>th</sup> Edition*, dan diperoleh bakteri *Escherichia coli* dan *Proteus mirabilis*. Uji sensitivitas dengan metode *Kirby Bauer* menunjukkan bahwa isolat *Escherichia coli* sensitif terhadap tigeccyclin, amoksisilin, karbenisilin, ampisilin dan kloramfenikol. Isolat *Proteus mirabilis* menunjukkan hasil sensitif terhadap ciprofloksasin, levofloksasin, *tygeccyclin*, enrofloksasin, norfloksasin, flumequin, amikasin streptomisin, kloramfenikol dan oksitetrasiklin.

Kata kunci: Orangutan kalimantan, *Enterobacteriaceae*, *Escherichia coli*, *Proteus mirabilis*, antibiotika

## ABSTRACT

### **BACTERIAL ISOLATION, IDENTIFICATION AND SENSITIVITY TEST FROM DIARRHEA CASE IN KALIMANTAN ORANGUTAN (*Pongo pygmaeus*) FROM YAYASAN KONSERVASI ALAM YOGYAKARTA AND BORNEO ORANGUTAN SURVIVAL**

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Borneo orangutan is one of the critically endangered animals. Borneo orangutan populations in their natural habitat continues to decline due to loss of habitat in the wild, as well as poaching and illegal trading. The conservation efforts have made to prevent the extinction of orangutans, but at the rehabilitation site, for examples in Yayasan Konservasi Alam Yogyakarta and Borneo Orangutan Survival, gastrointestinal disease can be a major problem for the orangutan as a result of bacterial infection by fecal-oral route. Clinical symptoms of gastrointestinal disease in primates are watery or mushy stool with blood, dehydration, emaciation and collapse. This research was conducted to determine the bacteria causing gastrointestinal disorders Borneo orangutan (*Pongo pygmaeus*) through faecal swab samples, as well as knowing the sensitivity of bacteria to 20 types of antibiotics. Two faecal swab samples obtained from were Yayasan Konservasi Alam Yogyakarta and the Borneo Orangutan Survival isolated and identified. Isolation of bacteria carried by the selective media for Gram-negative that was Mac Conkey agar and Eosin Methylene Blue, Gram staining, then identified by a variety of biochemical test media including indole, Methyl Red, urea, citrate, Voges Proskauer, KCN, sugar fermentation media. The bacteria were isolated and identified and then tested by applying 20 antibiotics to determine the sensitivity of the bacteria. The test results compared to a Bergey's Manual of Determinative Bacteriology 9th Edition, and the results were *Escherichia coli* and *Proteus mirabilis*. Sensitivity test againsts twenty antibiotics with Kirby Bauer method showed that *Escherichia coli* isolate was sensitive to tigecyclin, amoxicillin, carbenicillin, ampicillin and chloramphenicol. *Proteus mirabilis* isolate was sensitive to ciprofloxacin, levofloxacin, tygecyclin, enrofloxacin, norfloxacin, flumequin, amikacin streptomycin, chloramphenicol and oxytetracycline.

Keywords: Borneo orangutan, *Enterobacteriaceae*, *Escherichia coli*, *Proteus mirabilis*, antibiotics