ABSTRAK

ISOLASI, IDENTIFIKASI, DAN UJI SENSITIVITAS BAKTERI DARI *SWAB* REKTUM LANDAK MINI AFRIKA (*Atelerix albiventris*) DAN LANDAK JAWA (*Hystrix javanica*) TERHADAP ANTIBIOTIK

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Landak mini afrika (*Atelerix albiventris*) dan landak jawa *(Hystrix javanica*) dikenal sebagai hewan peliharaan atau hewan ternak di Indonesia. Belum ada penelitian di Indonesia mengenai bakteri dari *swab* rektum pada kedua jenis landak tersebut. Penelitian ini bertujuan untuk mengisolasi, mengidentifikasi, serta menguji sensitivitas bakteri dari *swab* rektum pada kedua jenis landak tersebut terhadap antibiotik. *Swab* rektum yang diambil dari dua ekor landak mini afrika dan satu ekor landak jawa disimpan pada media kaldu *Brain Heart Infusion* (BHI). Kemudian, sampel dikultur pada media plat agar darah (PAD), dan diamati morfologi koloni, serta morfologi selnya dengan pengecatan Gram. Sampel diidentifikasi dengan media selektif agar *Eosin Methylene Blue* (EMB) dan *Mac Conkey Agar* (MCA), serta uji-uji biokemis. Sensitivitas bakteri terhadap antibiotik diuji dengan metode difusi cakram *Kirby Bauer.* Sampel bakteri dibuat suspensi dengan menggunakan *Phosphate Buffer Saline* (PBS) hingga konsentrasi 1,5 x 10^8 *colony forming unit* (CFU)/ml dan dikultur pada media *Mueller Hinton Agar* (MHA). Disk antibiotik yang digunakan berjumlah 12 jenis. Setiap enam disk antibiotik diletakkan pada satu plat media MHA dengan jarak antar disk yang seragam. Hasil penelitian menunjukkan bahwa bakteri yang teridentifikasi dari empat biakan sampel *swab* rektum landak mini afrika yaitu *Escherichia coli* (75%) dan *Proteus mirabilis* (25%), sementara bakteri yang teridentifikasi dari dua biakan sampel *swab* rektum landak jawa adalah *Escherichia coli* (100%). Berdasarkan uji Kirby Bauer, *Escherichia coli* yang teridentifikasi sensitif terhadap *Amikacin, Amoxicillin, Ampicilin, Enrofloxacin, Fosfomyin, Kanamycin, Chloramphenicol, Streptomycin, Tetracycline,* dan *Trimethoprim,* serta resisten terhadap *Erythromycin* dan *Penicillin G. Proteus mirabilis* yang teridentifikasi sensitif terhadap *Amikacin, Amoxycillin, Ampicillin, Kanamycin,* dan *Trimethoprim,* serta intermediet terhadap *Enrofloxacin,* dan resisten terhadap *Erythromycin, Fosfomycin, Chloramphenicol, Penicillin G, Streptomycin,* dan *Tetracycline.* Sebagai kesimpulan, didapatkan bahwa bakteri yang teridentifikasi pada *swab* rektum landak mini afrika dan landak jawa merupakan bakteri dengan spesies dan karakter yang cenderung sama.

Kata kunci: *Atelerix albiventris, Hystix javanica*, antibiotik, *Escherichia coli*, *Proteus mirabilis*

ABSTRACT

ISOLATION, IDENTIFICATION, AND SENSITIVITY TESTS OF BACTERIA FROM THE RECTAL SWAB OF AFRICAN PYGMY HEDGEHOG (*Atelerix albiventris*) AND JAVAN PORCUPINE *(Hystrix javanica*) TOWARD ANTIBIOTICS

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The African pygmy hedgehog (*Atelerix albiventris*) and Javan porcupine (*Hystrix javanica*) are known as pets or livestock in Indonesia. There has been no research in Indonesia about bacteria from rectal swabs of the African pygmy hedgehog and Javan porcupine. This research aims to isolate, identify, and test the sensitivity of bacteria from the rectal swab of both an African pygmy hedgehog and a Javan porcupine towards antibiotics. Rectal swabs taken from two African pygmy hedgehogs and one Javan porcupine were stored on Brain Heart Infusion (BHI) broth. Then, the samples were cultured on a blood agar plate to observe the colony morphology. The morphology of the cell from the suspect bacteria observed by Gram staining. Samples were identified by selective media such as Eosin Methylene Blue (EMB) agar, Mac Conkey Agar (MCA), and biochemical tests. The sensitivity of bacteria towards antibiotics was tested by Kirby Bauer's disk diffusion method. Suspensions were made from bacteria samples using Phosphate Buffer Saline (PBS) to reach concentrations of 1.5 x 10^8 colony-forming unit (CFU)/ml. The suspensions were cultured on Mueller-Hinton Agar (MHA). There are 12 types of antibiotic disks used in this test. Six antibiotic disks were placed on one MHA media plate. Antibiotic disks are placed on the MHA with an adjusted distance. The results showed that the bacteria identified from four rectal swab samples of African pygmy hedgehog were *Escherichia coli* (75%) and *Proteus mirabilis* (25%), while the bacteria identified from two rectal swab sample of Javan porcupine were *Escherichia coli* (100%). Based on Kirby Bauer's test, the identified *Escherichia coli* is known to be sensitive to Amikacin, Amoxycillin, Ampicillin, Enrofloxacin, Fosfomycin, Kanamycin, Chloramphenicol, Streptomycin, Tetracycline, and Trimethoprim, also resistant to Eryhtromycin and Penicillin G. The identified *Proteus mirabilis* is sensitive to Amikacin, Amoxicillin, Ampicillin, Kanamycin, and Trimethoprim, intermediate to Enrofloxacin, and resistant to Erythromycin, Fosfomycin, Chloramphenicol, Penicillin G, Streptomycin, and Tetracycline. In conclusion, the bacteria that were found from the rectal swab of the African pygmy hedgehog and Javan porcupine are bacteria with species and characters that tend to be the same.

Keywords: *Atelerix albiventris, Hystrix javanica,* antibiotics, *E. coli, Proteus mirabilis*