POTENSI BAKTERI PENGHASIL ANTIOTIKA DARI CAIRAN KANTUNG TUMBUHAN KANTONG SEMAR (*Nepenthes* spp.) CAGAR ALAM LEMBAH HARAU SUMATERA BARAT

OLEH :

YOSMED HIDAYAT
B. P. 1021208022

Dosen Pembimbing:

1. **Dr. Anthoni Agustien**
2. **Dr. Nasril Nasir**

PROGRAM STUDI BIOLOGI
PASCASARJANA UNIVERSITAS ANDALAS
PADANG, 2014

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Yosmed Hidayat, Anthoni Agustien, Nasril Nasir

ABSTRAK

Tumbuhan Kantong semar (*Nepenthes* sp.*)* merupakan tumbuhan karnivora yang mampu mencernanya organisme yang tertangkap dalam kantungnya. Beberapa jenis tumbuhan kantung semar diketahui hidup diwilayah Cagar Alam Lembah Harau Sumatera Barat. Beberapa jenis bakteri diketahui dapat bertahan dalam cairan kantung dan menunjukkan aktivitas antibakteri. Namun belum ada informasi tentang potensi bakteri cairan kantung semar yang terdapat pada Cagar Alam Lembah Harau sebagai penghasil antimikroba. Sampel cairan kantung tumbuhan *Nepenthes* spp., diperoleh disekitar daerah perbukitan cagar alam Lembah Harau Sumatera Barat. Isolasi dan uji antibakteri isolat hasil isolasi cairan kantung tumbuhan *Nepenthes* spp., dilakukan menggunakan metoda kertas cakram (*Kirby-Bauer*). Karakterisasi dan pengujian potensi antibakteri isolat dilakukan terhadap bakteri dengan kemampuan antimikroba terbaik. Hasil pengujian antibakteri isolat hasil isolasi cairan kantung tumbuhan *Nepenthes* spp., yang diperoleh dari cagar alam Lembah Harau Sumatera Barat menunjukkan kemampuan antibakteri terhadap bakteri uji *E. coli* dan *S.aureus*. Kemampuan antibakteri terbaik ditunjukkan isolat KS.4-3 dan KS. 1-7. Hasil karakterisasi isolat terbaik menunjukkan kedua isolat merupakan bakteri mesofilik kelompok Gram negatif dengan bentuk sel batang pendek (*bacil*). Produksi tertinggi antibakteri isolat terbaik terdeteksi setelah 18-22 jam inkubasi, tepatnya pada akhir fase stasioner kurva pertumbuhan. Berdasarkan hasil tersebut dapat disimpulkan isolat bakteri cairan kantung tumbuhan *Nepenthes* spp., cagar alam Lembah Harau Sumatera Barat memiliki kemampuan sebagai penghasil antibakteri dan berpotensi untuk dikembangkan.

Kata kunci – **antibakteri, antibiotik, zona hambat, gram negatif**

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Pitcher plants (*Nepenthes* sp.) are carnivorous plants that are able to digest organisms caught in their pitchers. Several types of pitcher plants are known to live in the Harau Valley Nature Reserve, West Sumatra. Several types of bacteria are known to survive in pitcher fluid and show antibacterial activity. However, there is no information yet about the potential of pitcher fluid bacteria found in the Harau Valley Nature Reserve as antimicrobial producers. Samples of pitcher fluid from Nepenthes spp. plants were obtained around the hilly area of the Harau Valley nature reserve, West Sumatra. Isolation and antibacterial testing of isolates from the isolated pitcher fluid from Nepenthes spp. plants were carried out using the disc paper method (*Kirby-Bauer*). Characterization and testing of the antibacterial potential of the isolates were carried out on bacteria with the best antimicrobial abilities. The results of antibacterial testing of isolates from the isolated fluid of the Nepenthes spp. plant sac obtained from the Harau Valley nature reserve, West Sumatra, showed antibacterial ability against the test bacteria E. coli and S. aureus. The best antibacterial ability was shown by isolates KS.4-3 and KS. 1-7. The results of the characterization of the best isolates showed that both isolates were mesophilic bacteria of the Gram-negative group with short rod-shaped cells (*bacilli*). The highest antibacterial production of the best isolates was detected after 18-22 hours of incubation, precisely at the end of the stationary phase of the growth curve. Based on these results, it can be concluded that the isolates of bacteria from the Nepenthes spp. plant sac fluid, the Harau Valley nature reserve, West Sumatra, have the ability to produce antibacterials and have the potential to be developed.

Kata kunci – **antibacterial, antibiotic, inhibition zone, gram negative**