

RINGKASAN

Bakteri endofit merupakan organisme yang hidup di dalam jaringan tanaman seperti xylem, floem, daun, akar, buah, dan batang. Bakteri endofit ini dapat menghasilkan senyawa metabolit sekunder yang sama dengan inangnya. Tujuan dari penelitian ini, yaitu ingin mendapatkan isolat bakteri endofit dari daun *Piper crocatum* Ruiz & Pav, mendapatkan karakteristik isolat bakteri endofit, serta mendapatkan aktivitas antibakteri endofit *Piper crocatum* Ruiz & Pav. terhadap *Staphylococcus aureus* dan *Escherichia coli*. Penelitian ini dilakukan beberapa tahap, yaitu sterilisasi permukaan daun menggunakan pelarut alkohol 75 % dan NaOCl 5,3 %, isolasi bakteri endofit dari daun *Piper crocatum* Ruiz & Pav, pemurnian isolat bakteri endofit, karakterisasi bakteri endofit secara makroskopis dan mikroskopis, peremajaan bakteri uji (*S. aureus* dan *E. coli*), pembuatan suspensi bakteri uji dan bakteri endofit sesuai standar Mc Farland 0,5, persiapan kontrol positif dan kontrol negatif, dan uji aktivitas zona hambat. Berdasarkan penelitian yang telah dilakukan, maka dapat disimpulkan bahwa pada daun *Piper crocatum* Ruiz & Pav ditemukan sebanyak 3 isolat dengan karakteri *Monococcus* bersifat gram positif, *Streptococcus* bersifat gram negatif, dan *Staphylococcus* bersifat gram positif dimana hanya 1 isolat dengan karakter *Streptococcus* yang memiliki aktivitas zona hambat antibakteri kategori lemah sebesar 0,53 terhadap *E. coli* dan aktivitas zona hambat 1,22 mm kategori lemah terhadap *S. aureus*.

Kata kunci : Bakteri endofitik, *Piper crocatum* Ruiz & Pav, zona hambat

SUMMARY

Endophytic bacteria are organisms that live in plant tissues such as xylem, phloem, leaves, roots, fruits and stems. These endophytic bacteria can produce secondary metabolites with the same ability. The aims of this study were to obtain endophytic bacterial isolates from *Piper crocatum* leaves, to obtain the characteristics of endophytic bacterial isolates, and to obtain the antibacterial activity of the endophytic *Piper crocatum* Ruiz & Pav. against *Staphylococcus aureus* and *Escherichia coli*. This research was carried out in several stages, namely leaf surface sterilization using 75% alcohol and 5.3% NaOCl solvent, isolation of endophytic bacteria from *Piper crocatum* Ruiz & Pav. leaves, purification of endophytic bacterial isolates, macroscopic and microscopic characterization of endophytic bacteria, rejuvenation of test bacteria (*S. aureus* and *E. coli*), Preparation of test suspensions of bacteria and endophytic bacteria according to Mc Farland standard 0.5, preparation of positive control and negative control, and test of zone of inhibitory activity. Based on the research that has been done, it can be concluded that in the leaves of *Piper crocatum* Ruiz & Pav there were 3 isolates with the characteristics of *Monococcus* which were gram positive, *Streptococcus* which were gram negative, and *Staphylococcus* which were gram positive where only 1 isolate with *Streptococcus* characters had weak category antibacterial inhibition zone activity of 0, 53 mm against *E. coli* and had weak category activity of 6.5 mm inhibition zone against *S. aureus*.

Keywords : Endopyhtic bacteria, *Piper crocatum* Ruiz & Pav, Inhibitor zone