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PERBEDAAN PELARUT PENGEKSTRAKSI DAUN AFRIKA (*Vernonia amygdalina* Del.) TERHADAP DAYA HAMBAT PERTUMBUHAN *Pseudomonas aeruginosa*

ABSTRAK

Latar belakang : Daun afrika (*Vernonia amygdalina* Del.) memiliki kandungan senyawa metabolit sekunder flavonoid, saponin, tanin, steroid dan glikosida yang diduga berkhasiat sebagai antibakteri.

Tujuan : Untuk menganalisis perbedaan pelarut pengekstraksi daun afrika (*Vernonia amygdalina* Del.) terhadap daya hambat pertumbuhan *Pseudomonas aeruginosa*.

Metode : Penelitian ini digunakan 3 pelarut, yaitu pelarut non polar (n-Heksan), semi polar (etil asetat), dan polar (etanol 70%). Sedangkan uji antibakteri menggunakan metode difusi cakram dengan pengamatan diameter zona bening disekitar kertas cakram pertumbuhan bakteri *Pseudomonas aeruginosa*.

Hasil : Senyawa dalam ekstrak etil asetat dan etanol menunjukkan reaksi positif adanya kandungan metabolit sekunder flavonoid, saponin, tanin, steroid dan glikosida, sedangkan dalam pelarut ekstrak n-heksan negatif. Daya hambat dengan pelarut etanol 70% konsentrasi 20%, 30 % dan 40% sebesar $21,82 \pm 5,07\text{mm}$ (sangat kuat); $17,28 \pm 1,77\text{mm}$ (kuat); dan $24,16 \pm 2,72\text{mm}$ (sangat kuat), pelarut etil asetat konsentrasi 20%, 30% dan 40% adalah $9,58 \pm 1,8\text{mm}$ (sedang), $12,30 \pm 0,49\text{mm}$ (kuat), dan $15,05 \pm 1,29\text{mm}$ (kuat) sedang pelarut n-Heksan tidak menunjukkan penghambatan. Kadar 40% ekstrak etil asetat dan alkohol 70% daya hambat pertumbuhan *Pseudomonas aeruginosa* yang ekuivalen (berbeda tidak bermakna) dengan kontrol positif.

Simpulan : Ekstrak etil asetat dan etanol daun afrika (*Vernonia amygdalina* Del.) kadar 40% memiliki aktivitas daya hambat bakteri *Pseudomonas aeruginosa* ekuivalen dengan standar, sedangkan n-Heksan tidak memiliki aktivitas antibakteri.

Kata Kunci : *Vernonia amygdalina* Del., *Pseudomonas aeruginosa*, n-heksan, alkohol, etil asetat.

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**THE EFFECT OF DIFFERENT SOLVENT EXTRACTERS OF AFRICAN
(*Vernonia amygdalina* Del.) LEAF TO INHIBIT THE GROWTH OF
*PSEUDOMONAS AERUGINOSA***

(xv + 95 pages + 11 image + 14 tabel + 10 attachments)

ABSTRACT

Background: African (*Vernonia amygdalina* Del.) leaves contain secondary metabolites of flavonoid compounds, saponins, tannins, steroids and glycosides which thought to have antibacterial properties.

Objective: To analyze the effect of different solvent extraction of African leaves (*Vernonia amygdalina* Del.) On the inhibitory growth of *Pseudomonas aeruginosa*.

Methods: In this study three solvents were used, namely non-polar (n-hexane), semi-polar (ethyl acetate), and polar (70% ethanol) solvents. While the antibacterial test uses the disk diffusion method by observing the diameter of the clear zone around the paper disc growth of *Pseudomonas aeruginosa* bacteria.

Results: Compounds in ethyl acetate and ethanol solvent extracts showed positive reactions in the presence of secondary metabolites of flavonoids, saponins, tannins, steroids and glycosides, while in negative n-hexane solvents. Inhibition with 70% ethanol solvent concentration of 20%, 30% and 40% of 21.82 ± 5.07 mm (very strong); 17.28 ± 1.77 mm (strong); and 24.16 ± 2.72 mm (very strong), solvent ethyl acetate concentrations of 20, 30 and 40% are 9.58 ± 1.8 mm (moderate), $12.30 \pm 0,49$ mm (strong), and $15.05 \pm 1,29$ mm (strong) while the n-hexane solvent did not show inhibition. 40% concentration of ethyl acetate and alcohol extract 70% inhibitory growth of *Pseudomonas aeruginosa* are equivalent with positive control.

Conclusion: Ethyl acetate and ethanol extract of African leaves (*Vernonia amygdalina* Del.) 40% level has inhibitory activity of *Pseudomonas aeruginosa* equivalent to standard, while n-Hexane does not have antibacterial activity.

Keywords: *Vernonia amygdalina* Del., *Pseudomonas aeruginosa*, n-hexane, alcohol, ethyl acetate.