

ABSTRACT

THE EFFECTIVENESS OF POLAR DODDER (*Cuscuta* sp.) EXTRACT AS ANTIBACTERIAL TO *Aeromonas hydrophila* (Chester, 1901) AND TOXICITY ON CATFISH *Clarias gariepinus* (Burchell, 1822) FRY

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Dodder (*Cuscuta* sp.) contains several active compounds that have potential as antibacterial agents to treat disease in sangkuriang catfish (*Clarias gariepinus*). This research aimed to analyze the bioactivity of dodder against *Aeromonas hydrophila* bacteria and toxicity on sangkuriang catfish fry. Dodder extract (DE) was tested on an in vitro scale against *A. hydrophila* bacteria with a disc diffusion procedure (inhibition zone) and then DE was tested for MIC with concentrations of 100 ppm, 300 ppm, 500 ppm, and 700 ppm. Next, DE continued toxicity tests on catfish fry with a dose referring to the MIC test dose. The results obtained DE yield of 11.46%. The content of active compounds from the DE phytochemical test are steroids, flavonoids, alkaloids, saponins, and tannins. The results of the GCMS test showed that DE had dominant active compounds including 9-octadecenoic with a retention area value of 10.38%, tetranitromethane with a retention area of 8.16% and palmitic acid with a retention area of 4.37%. DE was able to inhibit *A. hydrophila* bacteria in the inhibition zone test from doses of 100 ppm to 700 ppm with clear zone diameters of 9.82 mm and 10.60 mm. The MIC test results showed that at a concentration of 12,5 ppm it was able to inhibit the growth of *A. hydrophila* bacteria. The LC₅₀ value was at a concentration of 374.8646 ppm. Based on the results that had been obtained, it showed that DE has the potential to be used as an antibacterial for *A. hydrophila*.

Keywords : *Aeromonas hydrophila*, , *Cuscuta* sp., Catfish, antibacterial test, minimum inhibitory concentration test

ABSTRAK

EFEKTIVITAS EKSTRAK POLAR TALI PUTRI (*Cuscuta* sp.) SEBAGAI ANTIBAKTERI *Aeromonas hydrophila* (Chester, 1901) DAN TOKSISITASNYA PADA BENIH IKAN LELE SANGKURIANG *Clarias gariepinus* (Burchell, 1822)

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Tumbuhan tali putri (*Cuscuta* sp.) mengandung beberapa senyawa aktif yang berpotensi sebagai antibakteri untuk menanggulangi penyakit pada ikan lele sangkuriang (*Clarias gariepinus*). Penelitian ini bertujuan menganalisis bioaktivitas terhadap bakteri *A. hydrophila* dan toksisitas terhadap benih ikan lele sangkuriang. Ekstrak tali putri diuji skala *in vitro* terhadap bakteri *A. hydrophila* dengan prosedur difusi cakram (zona hambat) selanjutnya ETP diuji MIC dengan konsentrasi 100 ppm, 300 ppm, 500 ppm, dan 700 ppm. Selanjutnya ETP dilanjutkan uji toksisitas pada benih ikan lele. Hasil penelitian didapatkan rendemen ETP sebesar 11,46%. Kandungan senyawa aktif dari uji fitokimia ETP adalah steroid, flavonoid, alkaloid, saponin, dan tanin. Hasil dari uji GCMS menunjukkan ETP memiliki senyawa aktif dominan antara lain 9-octadecenoic dengan nilai *retention area* sebesar 10,38%, tetranitro-methane dengan retensi area 8,16% dan palmitic acid dengan retensi area 4,37%. ETP mampu menghambat bakteri *A. hydrophila* pada uji zona hambat dari dosis 100 ppm hingga 700 ppm dengan diameter zona hambat sebesar 9,82 mm dan 10,60 mm. Hasil uji MIC menunjukkan bahwa pada konsentrasi 12,5 ppm sudah mampu menghambat pertumbuhan bakteri *A. hydrophila*. Nilai LC₅₀ berada di konsentrasi 374,8646 ppm. Berdasarkan hasil yang telah didapatkan, diketahui bahwa ETP memiliki potensi untuk digunakan sebagai antibakteri *A. hydrophila*.

Kata Kunci : *Aeromonas hydrophila*, *Cuscuta* sp., ikan lele, uji toksisitas, uji *minimum inhibitory concentration* (MIC)