INTISARI

Inflamasi dan nyeri merupakan basis patofisiologis bagi banyak penyakit kronis. Tumbuhan famili Chloranthaceae kaya akan senyawa fenolik yang berpotensi sebagai antiinflamasi dan analgesik. Secara tradisional daun *Chloranthus erectus* (dikenal sebagai Ketut Manuk, di Pulau Lombok) digunakan untuk meredakan peradangan dan nyeri, namun bukti ilmiah terkait efek farmakologisnya masih terbatas. Penelitian ini bertujuan memberikan dasar ilmiah bagi penggunaan tradisional *C. erectus* melalui evaluasi aktivitas antiinflamasi dan analgesik secara *in vivo*.

Setelah dilakukan determinasi tumbuhan, daun kering kemudian diserbukkan dan ditetapkan susut pengeringannya. Serbuk diekstraksi dengan metode dekokta, dekok kemudian dikeringbekukan. Rendemen ekstrak dihitung, kemudian dilakukan pemrofilan secara kualitatif (KLT dan KCKT) dan kuantitatif melalui penentuan kadar fenolik total dengan metode Folin-Ciocalteu. Aktivitas antiinflamasi dan analgesik beserta potensi dievaluasi berturut-turut pada model udem kaki tikus terinduksi karagenan dan model geliat mencit terinduksi asam asetat. Data susut pengeringan, rendemen ekstrak, karakteristik serbuk dan ekstrak dianalisis secara deskriptif. Data persentase penghambatan udem antar kelompok perlakuan dianalisis menggunakan uji Kruskal–Wallis, dilanjutkan dengan uji Mann–Whitney, sementara persentase penghambatan geliat dianalisis menggunakan ANOVA satu arah, dilanjutkan uji Tukey HSD. Perbedaan dinyatakan signifikan pada $p<0,05$. Estimasi ED_{50} dianalisis dengan regresi linear dan korelasi Pearson.

Susut pengeringan serbuk yang diperoleh sebesar 9,33±0,06% b/b dan rendemen ekstrak 14,42% b/b. Profil kromatogram menunjukkan senyawa fenolik selain asam klorogenat. Kadar fenolik total ekstrak 40,02±1,43 mg EAG/g ekstrak. Ekstrak secara signifikan mengurangi udem kaki dan respons geliat bergantung dosis. Nilai ED_{50} untuk aktivitas antiinflamasi dan analgesik masing-masing 733,46 mg/kg dan 563,75 mg/kg BB. Temuan ini menunjukkan bahwa senyawa fenolik berkontribusi pada aktivitas bioaktif ekstrak. Ekstrak daun *C. erectus* memiliki efek antiinflamasi dan analgesik yang signifikan, sehingga memberikan landasan bagi penggunaan tradisional. Temuan studi menjadi basis riset lanjutan, terutama pada optimasi pemisahan fitokimia dan penguatan metodologi uji farmakologi.

Kata kunci: antiinflamasi, analgesik, ekstrak air daun *Chloranthus erectus*, ED_{50}, pemrofilan kimia senyawa fenolik

ABSTRACT

Inflammation and pain constitute fundamental pathophysiological processes underlying many chronic diseases. Plants of the Chloranthaceae family are known to contain phenolic constituents with potential anti-inflammatory and analgesic activities. *Chloranthus erectus* leaves (locally known as Ketut Manuk on the island of Lombok) are traditionally used to relieve inflammation and pain; however, scientific evidence supporting these uses remains limited. This study aimed to provide a scientific basis for the traditional utilisation of *C. erectus* by evaluating its anti-inflammatory and analgesic activities in vivo.

Following botanical identification, the dried leaves were pulverised and their moisture content determined. The powdered material was extracted using a decoction method and subsequently freeze-dried. Extract yield was calculated, after which qualitative profiling (TLC and HPLC) and quantitative assessment of total phenolic content using the Folin–Ciocalteu method were conducted. Anti-inflammatory and analgesic activities were assessed in a carrageenan-induced rat paw oedema model and an acetic acid-induced mouse writhing model, respectively. Drying shrinkage, extract yield, and powder and extract characteristics were analyzed descriptively. Edema inhibition was analyzed using the Kruskal–Wallis test followed by the Mann–Whitney post hoc test, whereas writhing inhibition was analyzed using one-way ANOVA followed by Tukey's HSD test ($p < 0.05$). ED_{50} values were estimated by linear regression, and dose–response relationships were assessed using Pearson correlation analysis.

The powdered material had a moisture content of 9.33 ± 0.06% w/w, and the extraction process yielded 14.42% w/w of dried extract. Chromatographic profiling revealed phenolic constituents other than chlorogenic acid, and the total phenolic content of the extract was 40.02 ± 1.43 mg GAE/g extract. The extract significantly reduced paw oedema and writhing responses in a dose-dependent manner. The ED_{50} values for anti-inflammatory and analgesic activities were 733.46 mg/kg and 563.75 mg/kg body weight, respectively. These findings suggest that phenolic constituents contribute to the observed biological activities. nd these outcomes provide a rationale for subsequent studies, particularly those directed at optimising phytochemical separation and advancing methodological robustness in pharmacological assays.

Keywords: anti-inflammatory, analgesic, chemical profiling of phenolic compounds, ED_{50}, water extract of *Chloranthus erectus* leaves