

**PENGUNAAN EKSTRAK SIMPLISIA DAN REBUSAN DAUN SIRIH
(*Piper betle* L.) TERHADAP PERTUMBUHAN *Candida albicans***

Oleh

Sri Suci Utami, NIM 1513041027

Jurusan Pendidikan Biologi

Fakultas MIPA, Universitas Pendidikan Ganesha

ABSTRAK

Penelitian ini bertujuan untuk mengetahui: (1) perbedaan diameter zona hambat konsentrasi ekstrak simplisia dan rebusan daun sirih terhadap pertumbuhan *Candida albicans* dengan variasi konsentrasi: (2) konsentrasi ekstrak simplisia dan rebusan daun sirih yang paling optimal dalam menghambat pertumbuhan *Candida albicans*. Jenis penelitian ini adalah penelitian eksperimental sungguhan (*true experimental*) dengan rancangan percobaan Rancangan Acak Lengkap (RAL) dan desain penelitian *randomized post-test only control group design*. Populasi dalam penelitian ini yaitu seluruh stok kultur *Candida albicans* yang ditumbuhkan kembali pada media *Sabouraud Dextrose Agar* (SDA). Sampel yang digunakan yakni *Candida albicans* yang diberi perlakuan variasi konsentrasi ekstrak simplisia dan rebusan daun sirih yang berbeda. Variasi masing-masing ekstrak simplisia dan rebusan daun sirih yang dipakai pada penelitian ini yakni 20%, 30%, 40%, dan 50%. Pengamatan dilakukan dengan melihat zona bening atau daerah hambatan yang terbentuk akibat pemberian perlakuan. Hasil penelitian yang diperoleh adalah terjadi peningkatan nilai rerata diameter daerah hambat pada pemberian ekstrak simplisia maupun rebusan pada masing-masing konsentrasi 20%, 30%, 40%, dan 50%. Hasil dari penelitian ini menunjukkan terdapat perbedaan diameter daerah hambatan pertumbuhan *Candida albicans* yang diberi perlakuan pemberian variasi ekstrak simplisia maupun rebusan daun sirih. Hasil tersebut diperoleh dari hasil uji hipotesis menggunakan uji statistik ANOVA dua arah, yakni pada taraf signifikansi 5% didapatkan nilai signifikansi $< 0,05$. Konsentrasi ekstrak simplisia dan rebusan daun sirih yang paling optimal dalam menghambat pertumbuhan *Candida albicans* masing-masing pada konsentrasi 50%.

Kata Kunci: Optimal, ekstrak simplisia, rebusan daun sirih, diameter daerah hambatan, *Candida albicans*.

**THE USE OF SIMPLICIA EXTRACT AND BETLE LEAF DECOCTION
(*Piper betle* L.) ON THE GROWTH OF *Candida albicans***

By

Sri Suci Utami, NIM 1513041027

**Biology Department of Education
Mathematic and Science Faculty, Ganesha University of Education**

ABSTRACT

*This research aims to determine: (1) differences in the diameter of the inhibition zone of concentrations of simplicia extract and betle leaf decoction on the growth of *Candida albicans* with various concentrations; and (2) concentrations of simplicia extract and betle leaf decoction which were most optimum in inhibiting the growth of *Candida albicans*. This type of research was a true experimental study with a completely randomized design (CRD) and a randomized post-test only control group design. The population in this research was all *Candida albicans* from culture stock which was cultured again on Sabouraud Dextrose Agar (SDA) medium. While the sample used was *Candida albicans* which was treated with different concentrations of simplicia extract and betle leaf decoction. The variations of each simplicia extract and betle leaf decoction used in this research were 20%, 30%, 40%, and 50%. Observations were made by looking at the clear zone or inhibition area formed as a result of the treatment. The research results obtained were an increase in the average diameter of the inhibition area in the administration of simplicia extracts and decoctions at concentrations of 20%, 30%, 40%, and 50%, respectively. The results of this study indicated that there were differences in the diameter of the growth inhibition areas of *Candida albicans* which were treated with various simplicia extracts and betle leaf decoction, this was obtained from the results of hypothesis testing using a two-way ANOVA statistical test, namely at a significance level of 5% a significance value of <0.05 was obtained. The most optimum concentrations of simplicia extract and betle leaf decoction in inhibiting the growth of *Candida albicans* were each at a concentration of 50%.*

Keyword: *Optimum, simplicia extract, betle leaf decoction, diameter of inhibition area, *Candida albicans*.*