

AKTIVITAS ANTELMINTIK EKSTRAK ETANOL DAUN SALAM (*Syzygium polyanthum*) DAN DAUN CENGKEH (*Syzygium aromaticum*) TERHADAP *Ascaridia galli* PADA AYAM BURAS

INTISARI

Santika Anggrahini
18/436450/SKH/00116

Peternakan ayam buras masih banyak dipelihara dengan sistem pemeliharaan umbaran yang memacu infeksi seperti helminthiasis. Penyebab helminthiasis pada unggas yang paling sering adalah *Ascaridia galli*. Pengobatan dengan obat komersil dimungkinkan terjadinya resisten antelmintik, sehingga perlu adanya alternatif yang ramah lingkungan. Daun salam dan daun cengkeh yang mengandung zat aktif fitokimia yang memiliki potensi antelmintik. Tujuan dari penelitian ini adalah mengkaji jenis dan prevalensi parasit gastrointestinal pada ayam buras, menganalisis kadar zat fitokimia pada daun salam dan daun cengkeh, menguji efektifitas ekstrak daun salam (EDS) dan ekstrak daun cengkeh (EDC) terhadap *Ascaridia galli* secara *in vitro*, dan mengevaluasi pengaruh EDC pada hematologi dan performan pada ayam buras. Metode dalam penelitian ini diantaranya mengidentifikasi parasit gastrointestinal pada ayam buras menggunakan metode natif, sentrifus, dan McMaster. Selain itu, dilakukan identifikasi komponen fitokimia yang ada pada daun salam dan daun cengkeh. Daya antelmintik EDS dan EDC diuji mortalitas secara *in vitro* dan dilanjutkan pemeriksaan *Scanning Electrone Microscope* (SEM). Selanjutnya, dilakukan uji aktivitas ekstrak terpilih terhadap *Ascaridia galli* secara *in vivo* dengan 15 ayam buras yang terinfeksi secara natural. Hewan penelitian dibagi menjadi 4 kelompok perlakuan (kontrol positif: pemberian obat piperazin, kontrol negatif: tanpa pengobatan, perlakuan T1: pemberian dosis 10,55mg/ml EDC, T2: pemberian dosis 31,64mg/ml EDC) dengan lama perlakuan 14 hari. Hasil penelitian diperoleh beberapa parasit gastrointestinal pada ayam buras diantaranya *Ascaridia galli*, *Capilaria sp*, *Trichostrongylus sp*, *Strongyloides sp*, *Railletina sp* dan *Coccidia*. Prevalensi parasit gastrointestinal yaitu *Ascaridia galli* sebesar 33,6%. Ekstrak daun salam dan daun cengkeh mengandung komponen fitokimia berturut-turut: tanin 0,89% dan 2,39%; saponin 3,69% dan 6,97%; flavonoid 5,47% dan 6,39%; dan total fenol 11,51% dan 18,0%. Ekstrak etanol daun salam (EDS) tidak mengakibatkan kematian *Ascaridia galli* selama masa inkubasi 9 jam, sedangkan EDC efektif dapat mengakibatkan kematian cacing dengan persentase mortalitas 99,3% selama 9 jam pada dosis 140mg/ml. LC50 EDC diketahui sebesar 84,38 mg/ml. Pada uji *in vivo* pada perlakuan T1 maupun T2 sejak hari ke-11 pasca perlakuan tidak ditemukan adanya telur *Ascaridia galli*. Nilai eritrosit, hemoglobin, hematokrit, leukosit, heterosit, limfosit, monosit, total protein plasma, dan fibrinogen mengalami perubahan pasca perlakuan, namun tidak memberikan perbedaan yang signifikan ($P>0,05$). Pemberian EDC tidak menunjukkan adanya dampak negatif terhadap gambaran hematologi, biokimia darah (total protein plasma, fibrinogen, glukosa, asam urat, dan kolesterol) dan performan pada ayam buras yang terinfeksi *Ascaridia galli*. Dapat disimpulkan bahwa ekstrak daun cengkeh potensial sebagai antelmintik terhadap *Ascaridia galli*.

Kata kunci: *Ascaridia galli*, daun salam, daun cengkeh, antelmintik.

**ANTHELMINTIC ACTIVITY OF BAY LEAF (*Syzygium polyanthum*) AND CLOVE
LEAF (*Syzygium aromaticum*) ETHANOL EXTRACTS ON *Ascaridia galli*
IN DOMESTIC CHICKEN**

ABSTRACT

Santika Anggrahini
18/436450/SKH/00116

Domestic chicken farms are still mostly maintained with a slinging system that stimulates infections such as helminthiasis. The most common cause of helminthiasis in poultry is *Ascaridia galli*. Treatment with commercial drugs may cause anthelmintic resistance, so an environmentally friendly alternative is needed. Bay leaves and clove leaves contain phytochemical active substances that have anthelmintic potential. The aims of this study were to examine the types and prevalence of gastrointestinal parasites in native chickens, to analyze the levels of phytochemicals in bay leaves and clove leaves, to examine the effectiveness of bay leaf extract (EDS) and clove leaf extract (EDC) against *Ascaridia galli* in vitro, and to evaluate effect of EDC on hematology and performance in native chickens. Methods in this study include identifying gastrointestinal parasites in native chickens using native, centrifuge, and McMaster methods. In addition, the identification of phytochemical components present in bay leaves and clove leaves was carried out. The anthelmintic power of EDS and EDC was tested for mortality in vitro and followed by Scanning Electrone Microscope (SEM) examination. Furthermore, the activity of selected extracts was tested against *Ascaridia galli* in vivo with 15 native chickens that were naturally infected. Animals were divided into 4 treatment groups (positive control: piperazine, negative control: no treatment, T1 treatment: 10.55mg/ml EDC, T2: 31.64mg/ml EDC) with a treatment duration of 14 days. The results obtained several gastrointestinal parasites in native chickens including *Ascaridia galli*, *Capilaria sp*, *Trichostrongylus sp*, *Strongyloides sp*, *Railletina sp* and *Coccidia*. The prevalence of gastrointestinal parasites, namely *Ascaridia galli*, was 33.6%. Bay leaf and clove leaf extracts contain phytochemical components, respectively: 0.89% and 2.39% tannins; saponins 3.69% and 6.97%; flavonoids 5.47% and 6.39%; and total phenol 11.51% and 18.0%, respectively. Ethanol extract of bay leaf (EDS) did not cause death of *Ascaridia galli* during an incubation period of 9 hours, while EDC was effective in causing death of worms with a mortality percentage of 99.3% for 9 hours at a dose of 140mg/ml. The LC50 EDC is known to be 84.38 mg/ml. In the in vivo test on T1 and T2 treatments since the 11th day after treatment, no *Ascaridia galli* eggs were found. The values of erythrocytes, hemoglobin, hematocrit, leukocytes, heterocytes, lymphocytes, monocytes, total plasma protein, and fibrinogen changed after treatment, but did not give a significant difference ($P > 0.05$). EDC administration did not show any negative impact on the hematological picture, blood biochemistry (total plasma protein, fibrinogen, glucose, uric acid, and cholesterol) and performance in native chickens infected with *Ascaridia galli*. It can be concluded that the clove leaf extract has potential as an anthelmintic against *Ascaridia galli*.

Keywords: *Ascaridia galli*, bay leaf, clove leaf, anthelmintic.