Aktivitas antioksidan dan analisis fitokimia ekstrak air bunga dendrophthoe pentandra (L.) Miq. yang dikoleksi dari lima spesies inang di Kampus Universitas Indonesia, Depok = Antioxidant activity and phytochemical analysis of water extracts of dendrophthoe pentandra (L.) Miq. flowers, lived in five different host plants, collected from Universitas Indonesia campus, Depok

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Abstrak

Dendrophthoe pentandra (L.) Miq. merupakan tumbuhan hemiparasit yang dikenal sebagai tanaman obat dan memiliki beragam potensi bioaktivitas, salah satunya antioksidan. Dendrophthoe pentandra yang tumbuh pada inang berbeda, diketahui memiliki kandungan metabolit sekunder yang berbeda pula, sehingga dapat memengaruhi potensi aktivitas antioksidannya. Pengujian bioaktivitas D. pentandra umumnya menggunakan ekstrak metanol. Namun, pada penelitian ini digunakan ekstrak air D. pentandra, yang didasarkan pada praktik masyarakat lokal dalam pemanfaatan D. pentandra secara tradisional. Tujuan penelitian ini, yaitu membandingkan aktivitas antioksidan dan total senyawa fenol atau flavonoid, serta mengetahui korelasi antara aktivitas antioksidan dan total senyawa fenol atau flavonoid ekstrak air bunga D. pentandra dari lima spesies inang (Melia azedarach, Cordia subcordatus, Syzygium aqueum, Trachelospermum jasminoides, dan Lagerstomia speciosa). Berdasarkan uji ANOVA diketahui adanya perbedaan secara signifikan nilai IC50 yang didapat dari uji 2,2-difenil-2-pikrilhidrazin (DPPH), serta kandungan fenol dan flavonoid di antara lima spesies inang. Hasil analisis korelasi juga menunjukkan adanya korelasi kuat antara nilai IC50 dengan total kandungan fenol dan flavonoid. Aktivitas antioksidan tertinggi dihasilkan oleh S. aqueum (IC50 = 128,43 g/mL) dan M. azedarach (IC50 = 132,78 g/mL) dengan kadar fenol dan flavonoid berturut-turut pada kedua spesies tersebut sebesar 157,19 mg Gallic Acid Equivalent (GAE)/g dan 355,78 mg Quercetin Equivalent (QE)/g (S. aqueum), dan 146,17 mg GAE/g dan 349,67 mg QE/g (M. azedarach). Kesimpulan dari penelitian ini adalah aktivitas antioksidan dan kadar fenol dan flavonoid D. pentandra berbeda-beda bergantung spesies inang, serta senyawa fenol dan flavonoid terbukti memberikan kontribusi kuat dalam aktivitas antioksidan.

.....Indonesian mistletoe, Dendrophthoe pentandra (L.) Miq. is a hemiparasitic plant known as a medicinal plant with various potential bioactivities, including antioxidant activity. Dendrophthoe pentandra individuals living in different host plants may presented varied secondary metabolites in either composition or concentration. Thus, antioxidant activity of D. pentandra may be varied according to the host species. Most of D. pentandra studies about bioactivity were performed using methanolic extract. However, based on traditional practices, D. pentandra often be used by boiling it in water. Thus, in this study, we used water as the extraction solvent. The aims of this study were to compare antioxidant

activity, total phenols and flavonoids content between D. pentandra individuals lived in five host species (Melia azedarach, Cordia subcordatus, Syzygium aqueum, Trachelospermum jasminoides, dan Lagerstomia speciosa), and to analyze the correlation between antioxidant activity and total phenols and flavonoids content of D. pentandra extracts. The ANOVA test result showed that there was significant difference of IC50 value obtained from the 2,2-difenil-2-pikrilhidrazin (DPPH), as well as total phenols and flavonoids content between the samples. Besides, the IC50 value presented significant correlation to total phenols and flavonoids. The highest antioxidant activity was presented by extracts obtained from S. aqueum (IC50 = 128,43 g/mL) and M. azedarach (IC50 = 132,78 g/mL), with total phenols and flavonoids of the two extracts respectively 157,19 mg Gallic Acid Equivalent (GAE)/g and 355,78 mg Quercetin Equivalent (QE)/g (S. aqueum); 146,17 mg GAE/g and 349,67 mg QE/g (M. azedarach). These results suggested that antioxidant activity as well as phenols and flavonoids concentration of D. pentandra flowers were varied according to the host species, and that phenols and flavonoids might contribute as the antioxidant agent in D. pentandra flower extract.