

## RINGKASAN

Tanaman telang (*Clitoria ternatea* L.) merupakan tanaman merambat yang termasuk ke dalam familia Fabaceae. Penelitian terkait anatomi daun tanaman telang belum banyak dilakukan. Penelitian terkait anatomi daun dapat digunakan untuk mengidentifikasi dan mengetahui karakteristik anatomi daun pada tanaman yang dapat bermanfaat untuk mengetahui adaptasi tanaman terhadap lingkungan. Penelitian lebih lanjut struktur anatomi dari daun telang juga penting untuk mengetahui struktur internal daun tanaman ini. Penelitian lain menunjukkan bahwa bunga telang mengandung senyawa antosianin dan polifenol yang berpotensi sebagai antioksidan. Ekstraksi antosianin bunga tanaman telang pernah dilakukan dengan maserasi menggunakan air dan etanol, dan ekstraksi fenolik bunga tanaman telang dengan etanol, namun belum pernah dilakukan dengan menggunakan pelarut polar lain. Penelitian ini bertujuan untuk mengetahui profil anatomi daun dan pengaruh perbedaan pelarut terhadap kandungan antosianin dan polifenol bunga telang.

Metode yang digunakan meliputi survei dan pengambilan sampel secara acak terpilih dengan total 25 sampel daun untuk pengamatan anatomi. Penelitian dilaksanakan pada bulan Maret sampai Juli 2024. Metode pembuatan preparat anatomi dilakukan dengan metode replika dan metode *embedding*. Parameter anatomi yang diamati adalah lebar dan panjang stomata, kerapatan dan indeks stomata, tebal kutikula, epidermis, mesofil, serta perhitungan rasio palisade. Analisis antosianin pada bunga tanaman telang dengan metode pH diferensial dan analisis polifenol dilakukan dengan metode Folin-Ciocalteu. Hasil menunjukkan adanya variasi anatomi daun tanaman telang di Purwokerto. Jenis pelarut yang berbeda memberikan pengaruh signifikan terhadap kandungan antosianin dan polifenol total pada bunga tanaman telang. Berdasarkan analisis BNJ ekstraksi menggunakan etanol menghasilkan kandungan antosianin tertinggi yaitu  $24,08 \pm 3,8$  mg/100g, diikuti akuades  $15,76 \pm 1,55$  mg/100g, dan aseton  $9,01 \pm 3,24$ . Analisis BNJ ekstraksi bunga tanaman telang menggunakan aseton menghasilkan kandungan antosianin total tertinggi yaitu  $319,6 \pm 21,1$  mgGAE/g, diikuti akuades yaitu  $83,2 \pm 12,9$  mgGAE/g, dan etanol menghasilkan kandungan polifenol total paling rendah yaitu  $24,72 \pm 12,7$  mgGAE/g.

Kata kunci: *antosianin, bunga telang, pelarut polar, polifenol, profil anatomi*

## SUMMARY

The butterfly pea (*Clitoria ternatea L.*) is a climbing plant that belongs to the Fabaceae family. Research on the leaf anatomy of the butterfly pea plant has not been widely conducted. Studies related to leaf anatomy can be used to identify and understand the anatomical characteristics of plant leaves, which can be useful for understanding plant adaptation to the environment. Further research on the anatomical structure of butterfly pea leaves is also important to understand the internal structure of the plant's leaves. Other studies have shown that butterfly pea flowers contain anthocyanins and polyphenols, which have potential as antioxidants. The extraction of anthocyanins from butterfly pea flowers has been carried out by maceration using water and ethanol, and the extraction of phenolics from butterfly pea flowers using ethanol, but it has not been done using other polar solvents. This study aims to determine the anatomical profile of leaves and the effect of different solvents on the anthocyanin and polyphenol content of butterfly pea flowers.

The methods used included surveys and selected random sampling with a total of 25 leaf samples for anatomical observations. The research was conducted from March to July 2024. The preparation of anatomical specimens was carried out using the replica method and the embedding method. The anatomical parameters observed were the width and length of stomata, stomatal density and index, cuticle thickness, epidermis, mesophyll, and calculation of the palisade ratio. Anthocyanin analysis on butterfly pea flowers was performed using the differential pH method, and polyphenol analysis was conducted using the Folin-Ciocalteu method. The results showed variations in the leaf anatomy of butterfly pea plants in Purwokerto. Different solvents had a significant effect on the total anthocyanin and polyphenol content in butterfly pea flowers. Based on the BNJ analysis, extraction using ethanol yielded the highest anthocyanin content of  $24,08 \pm 3,8$  mg/100g, followed by distilled water at  $15,76 \pm 1,55$  mg/100g, and acetone at  $9,01 \pm 3,24$  mg/100g. The BNJ analysis showed that extraction using acetone resulted in the highest total polyphenol content of  $319,6 \pm 21,1$  mgGAE/g, followed by distilled water at  $83,2 \pm 12,9$  mgGAE/g, and ethanol yielded the lowest total polyphenol content of  $24,72 \pm 12,7$  mgGAE/g.

Keywords : *anatomical profile, anthocyanin, butterfly pea, polar solvent, polyphenol*