

ABSTRAK

Begonia x erythrophylla Héring diketahui mengandung metabolit sekunder seperti flavonoid, fenol, dan tanin dengan potensi farmakologis. Namun, pemanfaatannya masih terbatas karena belum banyak dilakukan proses standarisasi ekstrak untuk menjamin mutu dan konsistensi. Penelitian ini bertujuan untuk melakukan standarisasi ekstrak etil asetat daun *Begonia x erythrophylla* Héring melalui penetapan parameter spesifik dan nonspesifik, serta menganalisis profil fitokimia dan kandungan senyawa metabolit sekunder menggunakan metode LC-MS. Metode penelitian menggunakan ekstraksi maserasi bertingkat dengan pelarut n-heksana, etil asetat, dan etanol 70%. Parameter standarisasi meliputi uji spesifik (identitas, organoleptik, kadar sari larut) dan nonspesifik (susut pengeringan, kadar air, bobot jenis, kadar abu). Selain itu, dilakukan uji penapisan fitokimia serta analisis LC-MS untuk identifikasi senyawa bioaktif. Hasil penelitian menunjukkan rendemen ekstrak etil asetat sebesar 12,30% dengan karakteristik organoleptik berwarna hijau gelap, kental, dan berbau khas. Uji fitokimia mengidentifikasi adanya alkaloid, flavonoid, fenolik, serta terpenoid/steroid. Parameter nonspesifik memenuhi standar susut pengeringan (0,025%), kadar air (0,26%), dan kadar abu total (0,054%), namun kadar abu tidak larut asam (21,96%) dan abu larut air (20,29%) melebihi batas standar. Analisis LC-MS berhasil mengidentifikasi sepuluh senyawa metabolit sekunder dari berbagai golongan, di antaranya flavonoid (piceatannol), fenolik (4-methylumbelliferone), kuinon (Terephthalic anhydride), terpenoid (Nepetalic acid, 12-Hydroxyjasmonic acid,) Terpenoid aromatic (2,4-Dinaphthyl pentane), Terpenoid teroksigenasi (Dipentyl phthalate), Fatty acid ester (Dihydrocapsiate), triterpenoid (Tuberatolide B), dan steroid (Formosterol A), yang berpotensi memiliki aktivitas antioksidan, antiinflamasi, antimikroba, serta antikanker. Berdasarkan hasil tersebut, ekstrak etil asetat daun *Begonia x erythrophylla* memenuhi parameter standar mutu ekstrak simplisia dan berpotensi dikembangkan sebagai bahan baku fitofarmaka.

Kata kunci: *erythrophylla*, standarisasi, LC-MS

ABSTRACT

Begonia x erythrophylla Hérincq is known to contain secondary metabolites such as flavonoids, phenols, and tannins with pharmacological potential, yet its utilization remains limited due to the absence of standardized extracts to ensure quality and consistency. This study aimed to standardize the ethyl acetate extract of *Begonia x erythrophylla* Hérincq leaves through the determination of specific and non-specific parameters and to analyze its phytochemical profile and secondary metabolite content using LC-MS. Extraction was carried out by successive maceration with n-hexane, ethyl acetate, and 70% ethanol, followed by specific tests (identity, organoleptic, soluble extractive values) and non-specific tests (loss on drying, water content, specific gravity, ash values). Phytochemical screening and LC-MS analysis were also performed to identify bioactive compounds. The results showed that the ethyl acetate extract yielded 12.30% with organoleptic characteristics of a dark green, viscous extract with a distinctive odor, while phytochemical screening identified alkaloids, flavonoids, phenolics, and terpenoids/steroids. Non-specific parameters met the standards for loss on drying (0.025%), water content (0.26%), and total ash (0.054%), although acid-insoluble ash (21.96%) and water-soluble ash (20.29%) exceeded the limits. LC-MS analysis identified ten secondary metabolites, including flavonoid (piceatannol), phenolic (4-methylumbelliferone), quinone (terephthalic anhydride), terpenoids (nepetalic acid, 12-hydroxyjasmonic acid), aromatic terpenoid (2,4-dinaphthyl pentane), oxygenated terpenoid (dipentyl phthalate), fatty acid ester (dihydrocapsiate), triterpenoid (tuberatolide B), and steroid (formosterol A), which are known to exhibit antioxidant, anti-inflammatory, antimicrobial, and anticancer activities. Based on these findings, the ethyl acetate extract of *Begonia x erythrophylla* Hérincq fulfills several standardization parameters and shows potential for development as a raw material for phytopharmaceuticals.

Keywords: *erythrophylla*, standardization, LC-MS