VARIASI DAN HUBUNGAN FENETIK AKSESI KEMBANG SUNGSANG (*Gloriosa superba* L.) DI DAERAH ISTIMEWA YOGYAKARTA BERDASARKAN KARAKTER MORFOLOGIS DAN ANATOMIS

Eria Rosanti N H
18/426455/BI/10047

Pembimbing : Prof. Dr. Purnomo, M.S.

INTISARI

Kembang sungsang (*Gloriosa superba* L.) merupakan anggota famili Colchicaceae dan tersebar di daerah tropis seperti India, Malaysia, dan Indonesia. Kembang sungsang memiliki kandungan kolkisin yang tinggi sehingga banyak dimanfaatkan sebagai obat tradisional dan biomutagen. Habitat kembang sungsang yang beragam berpotensi memunculkan variasi. Penelitian bertujuan untuk mengetahui variasi morfologis dan anatomis aksesi kembang sungsang di Yogyakarta, serta untuk mengetahui hubungan kekerabatan fenetik kembang sungsang di Yogyakarta. Sampel sebanyak 12 aksesi diambil dari empat kabupaten di Yogyakarta yaitu Bantul, Sleman, Kulon Progo, dan Gunungkidul. Karakterisasi morfologis berupa umbi, batang, daun, bunga, dan buah. Penampang melintang daun dibuat dengan metode penyelubungan parafin untuk mengamati struktur daun dan preparat paradermal untuk mengamati bagian epidermis daun. Indeks similaritas antar OTU dihitung menggunakan rumusan *Gower General Similarity Coefficient*, klastering dengan menggunakan algoritma UPGMA (*Unweighted Pair Group Method with Arithmetic Averages*) untuk membentuk dendrogram dengan software MVSP (*Multivariate Statistical Package).* Hasil penelitian menunjukkan bahwa variasi morfologis kembang sungsang di Yogyakarta adalah besar dalam hal tinggi batang, percabangan, jumlah daun, duduk daun, ukuran daun, serta bentuk dan diameter umbi. Duduk daun populasi kembang sungsang memiliki tiga tipe yaitu berhadapan, berseling, dan campuran. Variasi anatomis besar dalam hal ketebalan epidermis adaksial, ketebalan lamina, ketebalan midrib, ukuran berkas pengangkut, ukuran stomata, dan densitas stomata. Berdasarkan analisis fenetik karakter morfologis mengelompok menjadi tiga klaster, sedangkan secara anatomis menjadi enam klaster tanpa pola.

Kata kunci: *Gloriosa superba*, karakter morfologis, anatomis, hubungan fenetik

VARIATION AND PHENETIC RELATIONSHIP OF *Gloriosa superba* L. ACCESSION IN YOGYAKARTA BASED ON MORPHOLOGICAL AND ANATOMICAL CHARACTERS

Eria Rosanti N H
18/426455/BI/10047

Supervisor : Prof. Dr. Purnomo, M.S.

ABSTRACT

Gloriosa superba is a member of Colchicaceae family and distributed in tropical areas such as India, Malaysia, and Indonesia. *G. superba* has a high colchicine content, so it is widely used as a traditional medicine and biomutagen. The diverse habitats of *G. superba* has potential to create variations. The aims of this study were to determine the morphological and anatomical variations of *G. superba* accessions in Yogyakarta, as well as to determine the phenetic relationship of *G. superba* in Yogyakarta. A sample of 12 accessions was taken from four regencies in Yogyakarta: Bantul, Sleman, Kulon Progo, and Gunungkidul. Morphological characterization are tubers, stems, leaves, flowers, and fruit. Transversal section of leaves were prepared using paraffin embedding method to observe leaf structure and paradermal preparations to observe the leaf epidermis. The similarity index between OTUs is calculated using the Gower General Similarity Coefficient, clustering using UPGMA (Unweighted Pair Group Method with Arithmetic Averages*)* algorithm to form a dendrogram with MVSP (Multivariate Statistical Package) software. The results showed that the morphological variations of *G. superba* in Yogyakarta were large in terms of stem height, branching, number of leaves, leaf arrangement, leaf size, tuber shape, and tuber diameter. Leaf arrangement of *G. superba* population have three types: opposite, alternate, and mixed. Anatomical variations were large in terms of adaxial epidermal thickness, lamina thickness, midrib thickness, transport bundle size, stomatal size, and stomatal density. Based on the phenetic analysis, morphological characters are grouped into three clusters, while anatomical character into six clusters without pattern.

Key words: *Gloriosa superba*, morphological, anatomical character, phenetic relationship