

KERAGAMAN DAN HUBUNGAN KEKERABATAN TOMBORESO (*Dioscorea pentaphylla* L.) DI DAERAH ISTIMEWA YOGYAKARTA BERDASARKAN KARAKTER MORFOLOGIS DAN ANATOMIS DAUN

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INTISARI

Sebagian besar *Dioscorea* merupakan tumbuhan berumbi yang dapat dimanfaatkan untuk makanan berbasis karbohidrat atau obat-obatan tradisional. Salah satu spesies tanaman berumbi yang dapat digunakan dalam diversifikasi pangan adalah umbi Tomboreso (*Dioscorea pentaphylla* L.). Tujuan penelitian ini adalah untuk mengidentifikasi variasi morfologis *D. pentaphylla* L. di Yogyakarta, menentukan hubungan kekerabatan fenetik *D. pentaphylla* L. berdasarkan karakter morfologis, mengidentifikasi variasi anatomis daun *D. pentaphylla* L. dan menentukan hubungan kekerabatan fenetik *D. pentaphylla* L. berdasarkan karakter anatomis daun. Metode yang dilakukan adalah pengambilan sampel secara acak di beberapa wilayah Yogyakarta dalam 4 Kabupaten yaitu Bantul, Sleman, Kulon Progo dan Gunungkidul yang kemudian diamati karakter morfologisnya berupa umbi, batang, daun atau anak daun. Pengamatan anatomis daun dengan metode paraffin *embedding* dan preparat membujur untuk menghitung kerapatan stomata dan trikomanya. Hasil yang diperoleh adalah ditemukan 12 aksesi Tomboreso yang terdiri atas satu aksesi yang berasal dari Sleman, 5 aksesi di Bantul, 2 aksesi di Kulon Progo dan 4 aksesi di Gunungkidul. Variasi morfologis terdapat pada warna umbi, warna daging umbi, warna batang, diameter batang, warna helaian anak daun, bentuk helaian anak daun, panjang dan lebar daun, dan keberadaan umbi udara. Variasi anatomis daun terdapat pada kerapatan stomata, kerapatan trikoma, tebal daun (*costae*, lamina, mesofil), dan sisi adaksial epidermis. Hubungan kekerabatan *Dioscorea pentaphylla* L. berdasarkan dendrogram *clustering analysis* karakter morfologis dan anatomis daun menunjukkan terbentuknya 4 Klaster (A,B,C,D) dan beberapa sampel memiliki indeks similaritas (IS) 100%. Sehingga dapat disimpulkan bahwa 12 aksesi *Dioscorea pentaphylla* L. di Yogyakarta berkerabat dekat.

Kata kunci : *Dioscorea pentaphylla* , variasi morfologi, anatomi daun.

DIVERSITY AND PHENETIC RELATIONSHIP OF TOMBORESO (*Dioscorea pentaphylla* L.) IN SPECIAL REGION YOGYAKARTA BASED ON MORPHOLOGICAL AND LEAF ANATOMICAL CHARACTERS

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ABSTRACT

Most *Dioscorea* produce as tuber that can be utilized for foods. This utilization was based on carbohydrate and also as traditional medicine. One species of *Dioscorea* that can be used in food diversification is *Tomboreso* (*Dioscorea pentaphylla* L.). The purpose of this study was to identify the morphological variation of *D. pentaphylla* L. in Yogyakarta, to determine the phenetic relation of *D. pentaphylla* L. accessions based on morphological character, to identify the leaf anatomical variation of *D. pentaphylla* L., to determine the phenetic relationship of *D. pentaphylla* L. based on leaf anatomical character. The method used was random sampling in some areas of Yogyakarta in 4 districts namely Bantul, Sleman, Kulon Progo and Gunungkidul with observation of morphological characters in the form of tubers, stems, leaves. Anatomical observations on leaf samples made by embedding preparations and longitudinal preparations to calculate stomatal density and trichomes. The results showed 12 accessions Tomboreso which consists of one accession from Sleman, 5 accessions in Bantul, 2 accessions in Kulon Progo and 4 accessions in Gunungkidul. Morphological variations were found in tuber color, stem color, stem diameter, leaf color, leaf shape, length and width of leaves, and presence of air tube. Leaf anatomical variations were present in stomata density, trichome density, leaf thickness (costae, laminae, mesophyll), and epidermal side of the epidermis. The relationship of *Dioscorea pentaphylla* L. based on dendrogram clustering analysis of morphological and anatomical character of leaves shows the formation of 4 clusters (A, B, C, D) and some samples have 100% similarity Index (IS). So it can be concluded that 12 accessions *Dioscorea pentaphylla* L. in Yogyakarta are closely related.

Key words: *Dioscorea pentaphylla*, morphological variation, leaf anatomy.