KERAGAMAN DAN HUBUNGAN KEKERABATAN KENTANG HITAM (*Coleus tuberosus* BENTH.) DI DAERAH ISTIMEWA YOGYAKARTA BERDASARKAN KARAKTER MORFOLOGIS DAN ANATOMIS DAUN

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INTISARI

Kentang Hitam (*Coleus tuberosus* Benth.) merupakan salah satu pangan fungsional. Perbanyakan tanaman ini mudah dilakukan dengan cara vegetatif dan dapat tumbuh di berbagai ketinggian sehingga kemungkinan Kentang Hitam terdistribusi luas di berbagai wilayah di DIY. Penelitian ini bertujuan untuk mengetahui keragaman dan hubungan kekerabatan Kentang Hitam berdasarkan karakter morfologis dan anatomis daun di DIY sebagai langkah awal dalam pemuliaan tanaman. Sampel Kentang Hitam didapat dengan metode survei dan wawancara. Sampel yang dikoleksi berupa umbi, batang, daun, dan bunga apabila terdapat bunga, kemudian dilanjutkan dengan karakterisasi morfologi dan anatomi daun. Setelah karakterisasi, dilakukan skoring, standarisasi, dan IS (indeks similaritas) antar sampel dihitung. Analisis klaster menggunakan UPGMA (*Unweight Pair Group Method With Arithmetic Averages*) sehingga didapat dendogram hubungan kekerabatannya. Banyaknya klaster terbentuk dalam dendrogram dibantu oleh garis fenon 0,8 IS dan menentukan karakter dominan dibantu oleh PCA (*Principal Component Analysis*). Hasil penelitian menunjukkan bahwa Kentang Hitam variasi morfologis terdapat pada organ batang, daun, dan umbi, sedangkan variasi anatomis terdapat pada stomata, epidermis, xilem, dan parenkim palisade. Hubungan kekerabatan Kentang Hitam di D.I. Yogyakarta berdasarkan karakter morfologis dan karakter anatomis daun adalah berkerabat jauh, sementara hubungan kekerabatan Kentang Hitam di D.I. Yogyakarta berdasarkan kombinasi kedua karakter morfologis dan anatomis daun adalah berkerabat dekat.

Kata Kunci: *Coleus tuberosus*, hubungan kekerabatan, morfologi, anatomi daun

DIVERSITY AND PHENETIC RELATIONSHIP OF BLACK POTATO (*Coleus tuberosus* Benth.) IN SPECIAL REGION OF YOGYAKARTA BASED ON MORPHOLOGICAL AND LEAF ANATOMICAL CHARACTERS

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ABSTRACT

Black Potato (*Coleus tuberosus* Benth.) is one of functional food. Propagation of this plant is easy to conduct in a vegetative way and grow in various altitudes hence Black Potatoes are possible to widely distributed in various regions in Yogyakarta. This study aimed to examine the diversity and phenetics relationship of Black Potato based on morphological and leaf anatomical characters in Special Region of Yogyakarta as the first step in plant breeding. The samples of Black Potato were founded by survey method and interview. Collected samples were tubers, stems, leaves, and flowers. Samples were then characterized based on morphological and leaf anatomical characters, followed by scoring, standardization, and calculating the index similarity between samples. Clustering analysis was done using UPGMA (Unweight Pair Group Method With Arithmetic Averages) to obtain dendogram of phenetic relationship. Deciding how many cluster formed in dendrogram supported by phenon line 0.8 IS and deciding dominant characters supported by PCA (Principal Component Analysis). The results showed that the variations of Black Potatoes morphologically found in stem organs, leaves, and tubers. Anatomically, variations were found in stomata, epidermis, xylem, and palisade parenchyma. There were far relationships among Black Potatoes based on morphological characters and anatomical characters, while it was found close relationship based on combination of morphological and leaf anatomical characters.

Keywords: *Coleus tuberosus*, phenetics relationship, morphological, leaf anatomical