

ABSTRACT

Faradhiba Yunda Arifka. 24020122130100. Phenetic Analysis of *Clerodendrum L* (Lamiaceae) from Bogor Botanical Garden Collections based on Morphological Characters, under the supervision of Lilih Khotimperwati and Joko Ridho Witono.

Clerodendrum, a member of the Lamiaceae, exhibits a high level of morphological variation, resulting in taxonomic instability. Although various classification revisions have been conducted, studies on the taxonomy of *Clerodendrum* in Indonesia remain limited. This research aimed to analyze morphological variation and similarity relationships based on morphological characters. This study observed 10 species from the living collections of Bogor Botanical Garden, while the phenetic analysis was conducted on 7 species that possessed both vegetative and generative organs. Two character approaches were applied: a combination of vegetative and generative characters (54 characters) and generative characters (20 characters). Phenetic analysis was performed using MVSP 3.1 software with the Unweighted Pair Group Methods using Arithmetic Averages (UPGMA) based on a Simple Matching Coefficient (SMC) similarity matrix. Characters contributing to grouping were further examined using Principal Component Analysis (PCA). The results showed that stem variation was observed in bark surface characteristics. Leaf variation was found in lamina and lobes. Meanwhile, floral variation was evident in corolla tube shape, and limb shape. The results of cluster analysis using a combined approach of vegetative and generative characters formed two main cluster with the highest similarity observed between *C. paniculatum* and *C. palmatolobatum*. In contrast, the approach using only generative characters revealed the tendency to separate *Rothea serrata* from *Clerodendrum*. This indicates that generatif characters contribute more strongly to the delimitation of *Clerodendrum*.

Keywords : *Clerodendrum*, UPGMA, SMC, PCA, morphology, bogor botanical garden