

# Studi struktur komunitas famili asteraceae dan hubungannya dengan karakter daun specific leaf area (SLA) di Kebun Raya Cibodas, Cianjur, Jawa Barat = Structure community study of asteraceae family and its relation with leaf trait specific leaf area (SLA) in Cibodas Botanical Garden, Cianjur, West Java

Najwa Wafiyah Az Zahra, author

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## Abstrak

### <b>ABSTRAK</b><br>

Pengetahuan tentang struktur komunitas serta pembedaan jenis eksotik invasif merupakan usaha pencegahan terhadap persebaran spesies invasif yang penting dilakukan. Pembedaan jenis spesies dapat dilakukan melalui karakter daun yaitu Specific Leaf Area SLA. Penelitian ini bertujuan untuk mendeskripsikan struktur komunitas famili Asteraceae dan mengetahui hubungan Indeks Nilai Penting INP spesies Asteraceae dengan nilai SLA, serta memprediksi preferensi habitat Asteraceae berdasarkan karakteristik naungan, di Kebun Raya Cibodas. Data komunitas Asteraceae didapatkan dengan mengukur luas tutupan daun dan kehadiran tiap jenis, sementara data SLA didapatkan dengan mengukur luas dan berat kering daun. Penelitian dilakukan pada 138 plot berukuran 1x1 meter yang disebar di delapan kompartemen berdasarkan keberadaan tutupan tajuk pohon secara random purposive. Analisis regresi linier dilakukan untuk melihat korelasi nilai SLA dengan INP spesies Asteraceae. Analisis regresi logistik dilakukan untuk melihat preferensi habitat spesies Asteraceae 1 untuk wilayah bertajuk pohon dan 0 untuk wilayah terbuka berdasarkan nilai SLA. Hasil penelitian didapatkan dua puluh spesies Asteraceae, dengan spesies yang memiliki INP terbesar yaitu Emilia sonchifolia 26,85. Secara umum kedelapan kompartemen tidak memiliki spesies Asteraceae yang mendominasi D 0,14--0,40, keanekaragaman rendah hingga sedang H rsquo; 1,31--2,12, serta persebaran jenis cenderung merata E 0,6--0,89. Terdapat korelasi positif antara nilai INP dengan nilai SLA spesies Asteraceae di kompartemen bertajuk dengan prediksi penambahan nilai logINP sebesar 0,0014599 tiap satu satuan SLA  $r^2 = 0,1472$  pada  $p = 0,07148$ . Spesies Asteraceae dengan nilai SLA besar cenderung tumbuh di habitat dengan tutupan tajuk pohon dibandingkan tempat terbuka, dengan nilai odds ratio sebesar 2,75.

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### <b>ABSTRACT</b><br>

Knowledge of community structures and capacity to differentiate invasive from non invasive species are essential for invasive species management. Specific Leaf Area SLA is a potential proxy to differentiate invasive species from non invasive species. This study aims to describe the community structure of Asteraceae family, identify the relationship between Important Value Index IVI with SLA of Asteraceae species, and predict Asteraceae habitat preference based on shade characteristics at the Cibodas Botanical Garden. The community structure data were obtained by measuring the extent of leaf cover and the presence of each Asteraceae species. SLA data were collected by measuring the leaf area and leaf dry weight. The study was conducted on 138 of 1x1 m plots in eight compartments which equally divided into two habitat conditions with and without tree canopy cover shading. Plots were sampled by using purposive sampling method. Linear regression analysis conducted to examine the correlation between SLA and IVI values of

Asteraceae species. Logistic regression test conducted to observe habitat preference 1 for shaded area and 0 for open area of Asteraceae species based on SLA values. According to survey results, there are 20 species of Asteraceae, with *Emilia sonchifolia* as the species with largest IVI value 26,85. In general, there are no dominant Asteraceae species in all observed eight compartments D 0,14 0,40, the diversity of Asteraceae species is low to moderate  $H' = 1,31$  2,12, and the distribution of Asteraceae species tends to be evenly distributed E 0,6 0,89. There is a positive correlation between SLA and IVI value of Asteraceae species in shaded area with predicted addition of 0,0014599 logINP per one SLA unit increase  $r^2 = 0,1472$  at  $p = 0,07148$ . The Asteraceae species that prefer shaded habitat tend to have larger SLA relative to species in open area odds ratio 2,75.