

# Diversity and distribution of *Selaginella* in the southern West Java based on altitudinal gradient

## Keanekaragaman dan sebaran *Selaginella* di bagian selatan Jawa Barat berdasarkan perbedaan gradien ketinggian

AHMAD DWI SETYAWAN

Jurusan Biologi, FMIPA, Universitas Sebelas Maret. Jl. Ir. Sutami No. 36a, Surakarta 57126, Jawa Tengah. Tel./Fax.: +62-271-663375, ✉email: volatiloils@gmail.com

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**Abstrak.** Setyawan AD. 2015. Keanekaragaman dan sebaran *Selaginella* di bagian selatan Jawa Barat berdasarkan perbedaan gradien ketinggian. *Pros Sem Nas Masy Biodiv Indon 1: 490-495*. Jawa bagian barat memiliki iklim yang basah dan berbukit-bukit sehingga sangat sesuai untuk pertumbuhan *Selaginella*. Penelitian ini dilakukan untuk mengetahui keanekaragaman dan sebaran *Selaginella* dari kawasan Cagar Biosfer Cibodas (Taman Nasional Gunung Gede-Pangrango) hingga kawasan pantai selatan Cianjur dan Sukabumi, Jawa Barat. Penelitian lapangan dilakukan pada periode 2012-2013, disertai pengamatan herbarium koleksi Herbarium Bogoriense, Pusat Penelitian Biologi, Lembaga Ilmu Pengetahuan Indonesia (LIPI), Cibinong, Bogor. Dalam penelitian ini ditemukan 11 spesies *Selaginella* yang tersebar dari kawasan pantai hingga hutan pegunungan. Spesies yang ditemukan di dataran rendah adalah *S. ciliaris* and *S. plana*. Spesies yang ditemukan di dataran tinggi adalah *S. opaca* and *S. remotifolia*. Beberapa spesies ditemukan di antara keduanya, yaitu *S. aristata*, *S. ornata*, *S. wildenowii*, *S. intermedia*, *S. involvens*, *S. repanda*, and *S. uncinata*. Spesies terakhir adalah pendatang yang telah ternaturalisasi di alam. Di samping itu, di kawasan pantai selatan Sukabumi dan Cianjur ditemukan beberapa varian *S. ciliaris* yang memerlukan penelitian lebih mendalam untuk memastikan identitasnya.

**Kata kunci:** Cianjur, Gunung Gede Pangrango, Jawa Barat, ketinggian, selatan, *Selaginella*, Sukabumi

**Abstract.** Setyawan AD. 2015. Diversity and distribution of *Selaginella* in the southern West Java based on altitudinal gradient. *Pros Sem Nas Masy Biodiv Indon 1: 490-495*. Western Java has a wet climate and hilly terrain, it is very suitable for the growth of *Selaginella*. This study was conducted to determine the diversity and distribution of *Selaginella* from the highlands of Cibodas Biosphere Reserve (Mount Gede-Pangrango National Park) to the south coast lowlands of Cianjur and Sukabumi, West Java. Field studies were conducted in the period between 2012 and 2013, accompanied by observations of the Herbarium Bogoriense collection, Biological Research Center, Indonesian Institute of Sciences (LIPI), Cibinong, Bogor. In this study, it was found 11 species of *Selaginella* that distributed from the coastal areas to mountain forests region. *S. ciliaris* and *S. plana* were found at lower altitudes. *S. opaca* and *S. remotifolia* were found in the highlands. Some species were found between the two areas, namely *S. aristata*, *S. ornata*, *S. wildenowii*, *S. intermedia*, *S. involvens*, *S. repanda*, and *S. uncinata*. The latter species were alien species that have naturalized in the nature. In addition, in the southern coastal region of Sukabumi and Cianjur were found several variants of *S. ciliaris* that require further study to ascertain its identity.

**Keywords:** Cianjur, Gunung Gede Pangrango, West Java, altitude, south, *Selaginella*, Sukabumi

## PENDAHULUAN

Western Java is more rainy, hilly and wetter than the eastern half of the island, and the forests are richer in species diversity. The vegetation of western Java divided into lowland moist forests (< 1000 m asl) and montane rainforest (> 1000 m), at an altitude above 2500 m found could forest characterized by dwarfed plants, dominated by epiphytes and mosses. The southern part of West Java has a hilly contours, high slope (> 30%), with high rainfall and thus high atmospheric humidity. This region is dominated by mountains, hills and plains, where the flat lands are very rare. The area between the Biosphere Reserve of Cibodas (Mts. Gede-Pangrango, 2,958 m) and the southern coast of Cianjur and Sukabumi, West Java has a varied landform,

all non-alluvial plains and hilly areas are separated by streams. The northern part has a volcanic soil, and in the south has limestone or other soil types. Rainfall in the south is about 3000 mm/year and in the north up to 6,000 mm/year, with 1-3 dry months per year. Based on Schmidt Ferguson, this region has a climate type B (Q = 14-33%), while based on Köppen, this region is in the tropical wet zone (RepproT 1990; Whitten et al. 1996; MacKinnon et al. 1997).

The area between Cibodas Biosphere Reserve and the south coast of Java is administratively included in Cianjur and Sukabumi districts, West Java. Landscape of this region are mostly agricultural land (50-70%), dominated by sawah and dry fields, agroforestry, plantations, and forest production, while natural forests are only found in the