

Forest Resources and Society: Example of invasive species which cause problems in Indonesia.



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Judul : Forest Resources and Society: Example of invasive species
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Penulis,

A handwritten signature in black ink, appearing to be 'Amrina Rosyada', with a stylized flourish at the end.

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I. Introduction

Indonesia is a country that has a high level of biodiversity. Unfortunately, the growth of native Indonesian plants cannot be separated from invasive foreign threats that are spreading in various parts of Indonesia. One example is the presence of *Spathodea campanulata* in Bantimurung Bulusaraung National Park, South Sulawesi. *Spathodea campanulata* or commonly known as the African Tuliptree, is one of the plants introduced to Indonesia. Specifically, in Bantimurung Bulusaraung National Park, Area Manager of the Natural Resources Conservation Agency (BKSDA) of South Sulawesi I planted kecrut/kiacret—the local name for African tuliptree in South Sulawesi—for reforestation of the area boundary in 1975. The reason for planting kiacret was to serve as a boundary for the park area. National because the flowers are considered beautiful and attractive. The striking color makes it easier for officers to see the boundaries of the area from a distance.

II. Discussion

Bantimurung Bulusaraung National Park is one of two national parks in South Sulawesi Province. Bantimurung Bulusaurung National Park was designated as a national park by the Minister of Forestry based on Decree no. SK. 398/Menhut/II/2004 on 18 October 2004 covering an area of 43,750 ha. Administratively, Bantimurung Bulusaurung National Park is in Maros Regency and Pangkep Regency, South Sulawesi Province. According to the forest function, this national park area is part of the forest area, which covers $\pm 3,879,771$ ha.

Bantimurung Bulusaraung National Park has a unique ecosystem, most of which are limestone forest ecosystems, which have the potential for biological natural resources with high diversity and the uniqueness and peculiarities of natural phenomena with beautiful natural phenomena. This area has many functions such as ecosystem protection as life support, water catchment for the area below it (catchment area), and its potential for ecotourism and provides excellent benefits for the surrounding area. The limestone hill forest ecosystem of Bantimurung Bulusaurung National Park is a shelter and a source of food for at least 740 species of wildlife, including 33 species of mammals, 154 species of birds, 17 species of amphibians, 30 species of reptiles, and 240 species of butterflies (Papilionoidea). The National Park ecosystem is also a growing place for at least 709 species of plants, consisting of 14 classes of the Monocotyledonae family and 86 classes of the Dicotyledonae family. There are 43 species of *Ficus* from this class, which are key species and

116 species of natural orchids. Of all plant species, six species are included as protected plants, namely ebony (*Diospyros celebica*), palm (*Livistona chinensis*, *Livistona* sp), natural orchid (*Ascocentrum miniatum*, *Dendrobium macrophyllum*, and *Phalaenopsis amboinensis*). Of the 709 plants that have been identified, 18 of them are invasive species.

Spathodea campanulata is a type of vegetation that produces a lot of fruit and seeds, coupled with an easy dispersion mechanism (done with the help of the wind and water). This species lives near waters and natural ecosystems. *Spathodea campanulata* has demonstrated its ability to invade previously closed agricultural areas and natural forests in many places. *Spathodea campanulata* can grow well in the open and exposed to direct sunlight, both in the lowlands and highlands, up to 1,000 meters above sea level. The flower valve is boat-shaped, brown in size 4-7 centimeters. When this valve ruptures, the seeds can fly in the wind up to 100 meters or be carried away by water currents. One flower valve can produce between 500-1,000 seeds. One mature tree of *Spathodea campanulata* produces about 25 valves. In addition to the high production of flowers, this plant can develop through roots and twigs. In some karst cliffs and fallen trees, saplings of *Spathodea campanulata* were found growing.

With its high distribution rate, *Spathodea campanulata* is categorized as an invasive plant with very high-risk criteria according to a research report on foreign invasive species conducted by the Bantimurung Bulusaurung National Park manager. The National Park management considers that *Spathodea campanulata* can negatively impact the National Park environment and can spread more widely in the area. The manager stated that they had not provided any accurate control measures since these invasive plants were discovered in the area, making these plants very dominant among other plants.

The management of the National Park considers that *Spathodea campanulata* can reduce the richness of native/endemic species of Bantimurung Bulusaraung National Park. *Spathodea campanulata* has a thick canopy layer that creates a shading effect that directly reduces the plant species richness underneath. This condition then disrupts the existence of native species' biodiversity. In addition to having a wide and thick canopy cover, these plants have many saplings under the mother tree. The ability of *Spathodea campanulata* to attack radically will dominate the

presence of key plant species such as *Ficus* spp. which are food and protective plants for Sulawesi endemic animals such as the Sulawesi black macaque (*Macaca maura*), hornbill (*Aceros cassidix*), and tarsiers (*Tarsius fuscus*). They are highly dependent on *Ficus* spp. as feed.

The high distribution potential of *Spathodea campanulata* is also influenced by the condition of open vegetation cover, suitability to climatic conditions, and soil types in the Bantimurung Bulusaraung National Park area. The limestone hill forest (karst) that characterizes the Bantimurung Bulusaraung National Park area is suitable for *Spathodea campanulata* to grow.

The management of Bantimurung Bulusaurung National Park itself recommends controlling *Spathodea campanulata* by 'annihilating investment'. This method aims to reduce weed species in the management area significantly. There are five stages of the method, namely (1) detailed observation and mapping to locate all investments; (2) destroy all investments, aimed at local eradication in feasible areas; (3) prevent entry into and movement and trade within the management area; (4) prohibiting planting activities in the area; and (5) monitoring the progress of reduction.

References

- Kementerian Lingkungan Hidup dan Kehutanan, Direktorat Jenderal Konservasi Sumber Daya Alam dan Ekosistem, Balai Taman Nasional Bantimurung Bulusaraung. 2017. *Analisis Resiko Jenis-Jenis Tumbuhan Invasif di Taman Nasional Bantimurung Bulusaraung Tahun 2017* [online] <https://balaikliringkehati.menlhk.go.id/wp-content/uploads/Analisis-Resiko-JAI-TNBABUL-2017-1.pdf>. Accessed July 11st, 2021.
- Raihandhany, Reza; Suwandhi, Ichsan; Nugraha, Dicky; Sidik, Rasyid. 2020. "Kemunculan Berbagai Macam Spesies Permudaan Pohon di Kawasan Wisata Alam Taman Pinus Pangjugjungan, Sumedang". *PROSIDING Seminar Nasional Biologi (SEMABIO) 2020 "Potensi Biodiversitas Lokal untuk Ketahanan Pangan Nasional"*. Bandung, 08 Oktober 2020.
- Rusdianto, Eko. 2017. *Ki Hujan Menyebar Luas Ancam Tanaman Lain di Karst Maros* [online] <https://www.mongabay.co.id/2017/07/15/ki-hujan-menyebar-luas-ancam-tanaman-lain-di-karst-maros/>. Accessed July 11st, 2021.
- Siburian, Robert. 2010. "Pengelolaan Taman Nasional Bantimurung-Bulusaraung dan Dampaknya Terhadap Masyarakat Lokal". *Jurnal Masyarakat & Budaya*, 12(1): 119-144

DAFTAR PUST