

Culandanum, Aborlan, Palawan: Newly Discovered Habitat of *Pinus merkusii* Jungh. & de Vr.

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ABSTRACT

Pinus merkusii Jungh. & de Vr. (Mindoro pine) were found thriving on one of the mountain peaks in Culandanum, Aborlan, Palawan. Though not a thick stand, wildlings were found scattered especially on the open part of the area.

The said mountain is constantly subjected to forest fire thus soil is covered with ashes and is thickly vegetated with *Pteridium aquilinum* (Linn.) Kuhn.

The foot and the middle part of the mountain were not affected with the forest fires thus huge trees of various species were growing, especially *Agathis philippinensis* Warb. (Almaciga) of the Araucariaceae. The almaciga trees were utilized by the locals for resins but some trees were dying due to indiscriminate tapping and unscrupulous burning by some jealous locals. Few big *P. merkusii* were also found on this part of the mountain.

Keywords: Pinus merkusii, biodiversity, Mindoro pine, Palawan

INTRODUCTION

Palawan is botanically considered as one of the most diverse and rich islands in the Philippines (Figure 1). As a distinct plant geographic region in the country, Palawan harbors an estimated 3,000-3,500 flowering plant species mostly known to occur only in the island. Sharing a close floristic affinity with Borneo, its plant endemism is estimated to be about 15-20% which is attributed to its geological, climatic, edaphic and biological features (Madulid, 1987 as cited in PTFPP, 1998). The island has been described as among the geographical landmarks with the highest species diversity per unit area with still relatively undisturbed forest compared to other parts of the country.

It was surmised that the true flora of the island is insufficiently known as collections have been restricted to most accessible areas and much of the island has remained unexplored (Hilleshog Forestry AB, 1984). Also, Madulid (1987) categorized the island as moderately botanized.

With this, it is recommended that Palawan must be given priority for botanical research and conservation management.

Among the sites of high conservation importance in the island is Culandatum mountain in Aborlan, which is the habitat of threatened plant species, the *Pinus merkusii* Jungh. & de Vr., commonly known as Mindoro pine.

This survey was therefore conducted to initially document the newly discovered Mindoro pines and its habitat in Culandatum, Aborlan, Palawan.

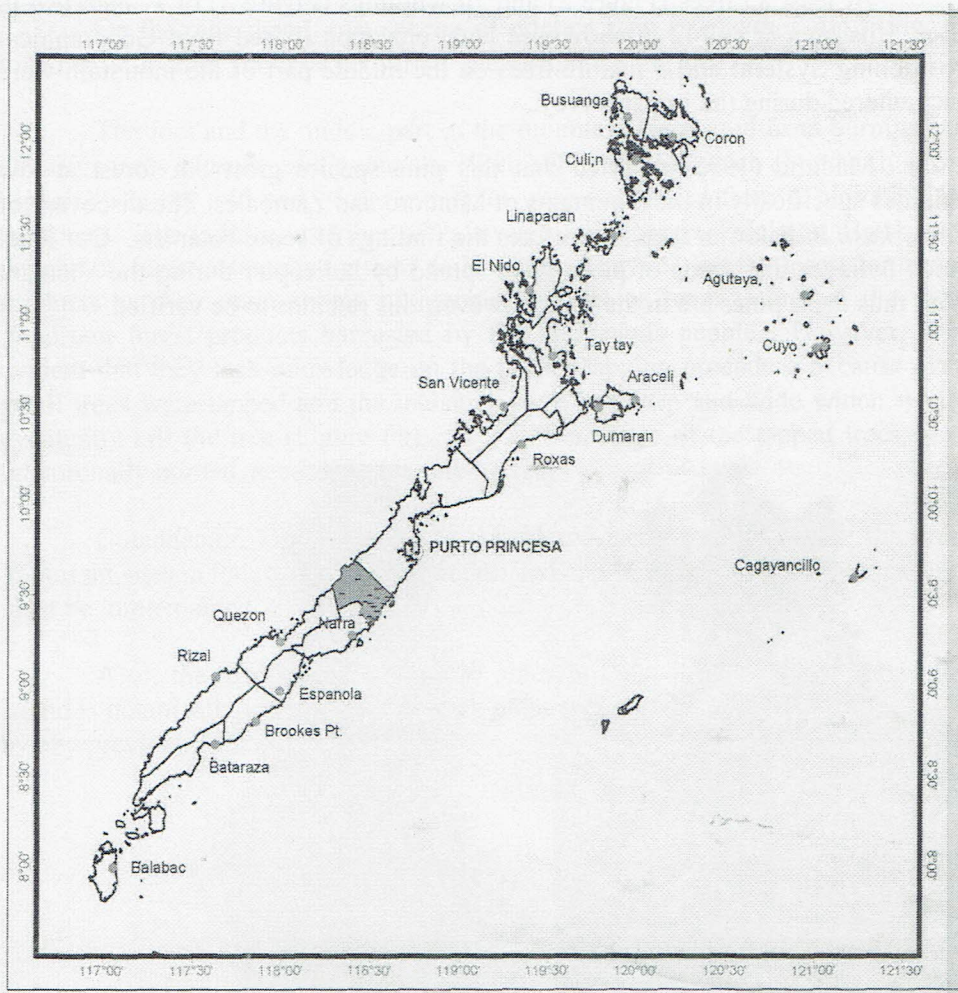


Fig. 1. Map of Palawan, highlighting the Municipality of Aborlan.

METHODOLOGY

As only five big pine trees were found on the middle part of the mountain, counting of wildlings and trees was concentrated on the mountain peak. Quadrats (1m x 1m) were randomly thrown to sample wildlings while trees were individually counted. Pictures were taken for documentation while local guides were asked with pertinent questions.

RESULTS AND DISCUSSION

At least 85 trees (Figure 2) and 70 wildlings (Figure 3) of *P. merkusii* in an c. 5 ha area at c. 742 m above sea level elevation (based from Geographical Positioning System) and 5 mature trees on the middle part of the mountain were encountered during the initial survey.

Madulid (1995) reported that this pine species grows in forest at low altitudes specifically in the mountains of Mindoro and Zambales. The discovery of *P. merkusii* in Palawan therefore refutes the findings of some botanists. Our local guide believes that seeds of pines were spread by helicopter during the Vietnam War, thus these pines are in the area, however, this remains to be verified.

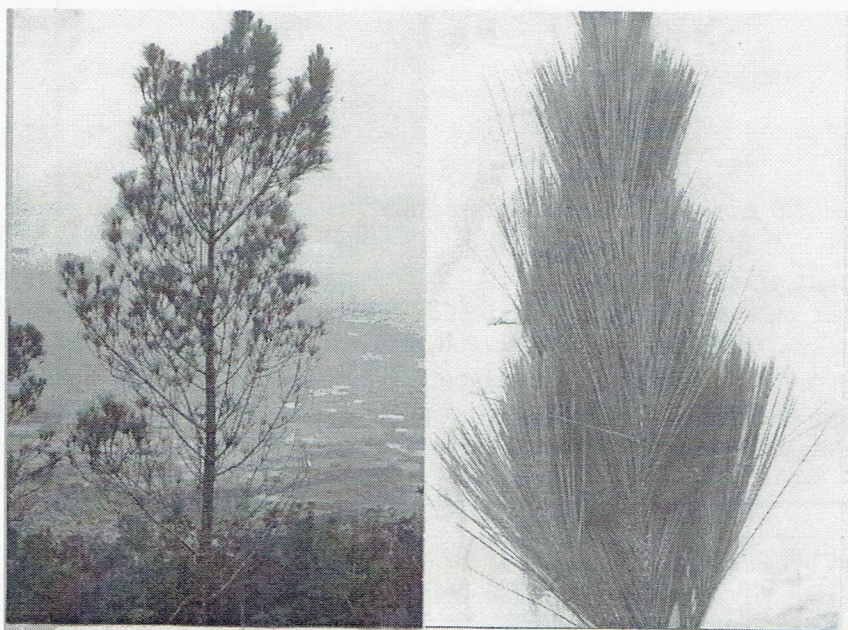


Figure 2. *Pinus merkusii* Jungh. & de Vr. found in one of the mountain peaks in Culandanum, Aborlan, Palawan.

Mindoro pine is considered vulnerable by the International Union for Conservation of Nature (IUCN) because its existence is fragmented (at not more than 10 locations) and its population is continuously declining either due to habitat destruction or low number of mature individuals.

The few population of pines in this area is in danger of extinction because of habitual burning. Due to constant burning, the soil is covered with ashes and there is an almost impenetrable growth of *Pteridium aquilinum* (Linn.) Kuhn (Fig. 4). Madulid (2002) stated that many species of plants in Palawan are in the verge of extinction mainly due to habitat destruction.

On the other hand, two species of pitcher plant (*Nepenthes* spp.) (Fig. 5) together with other yet to be identified plants inhabit the area.

The foot and the middle part of the mountain are spared from burning but almaciga trees (*Agathis philippinenses* Warb.) (Figure 6a), which abundantly grow especially in the mid part of the mountain were not spared from exploitation by the locals. The indigenous tribes of Palawan *i.e.* Tagbanua, Pala'wan, Batak, etc. depend on forest resources for their daily needs. They exploit the forest for minor products as their main source of income. Almaciga resin is one of the most important forest products harvested by the indigenous people. However, it is evident that they lack knowledge on the proper tapping procedure because even small trees were tapped and the incisions were too deep and wide which would eventually kill the tree (Figure 6b). In addition, some of the tapped trees were intentionally burned, according to some locals.

Culandandum Mountain can be considered therefore as a one of the most important sites in Palawan for conservation and appropriate management measures must be implemented.

Also, the discovery of Mindoro pines in Palawan demonstrates that the island is botanically important, harboring plant species which were never recorded by any previous botanical expeditions.



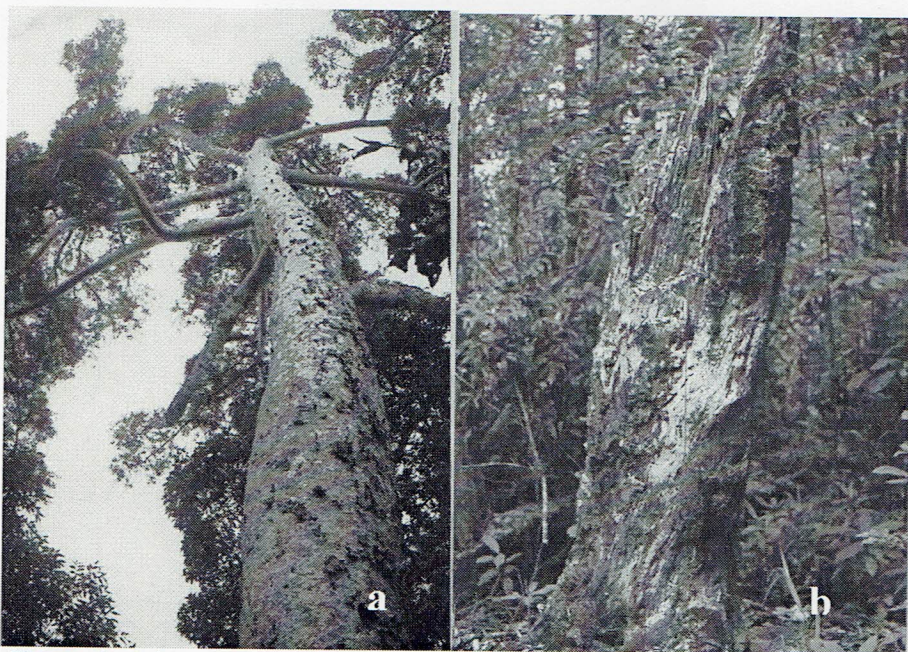
Figure 3. Wildling of *P. merkusii* thriving under thick growth of *Pteridium aquilinum* (Linn.) Kuhn.



Figure 4. An almost impenetrable growth of *P. aquilinum*.



Figure 5. The 2 species of *Nepenthes* found on the area.



Figures 6a & b. a. A huge Almaciga tree (*Agathis philippinensis* Warb.).
b. A dead Almaciga tree.

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