

Tree diversity and stand structure of a 2-hectare Permanent Biodiversity Monitoring Area (PBMA) in Mts. Iglit-Baco National Park, Mindoro Island, Philippines

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ABSTRACT. Mts. Iglit-Baco National Park (MIBNP) on the island of Mindoro provides various ecosystem services such as provisioning, regulating, cultural, and supporting services, especially to the *Mangyans*, who are highly dependent on these ecosystem services for a living. A Permanent Biodiversity Monitoring Area (PBMA) was established and surveyed to gather information for long-term ecological research that will serve as the basis for the proper management and application of conservation and protection efforts in MIBNP. The 100% inventory inside the MIBNP-PBMA revealed that it is home to 3,643 plant individuals belonging to 54 morpho-species, 45 genera, and 26 families. *Ficus septica* was the most dominant (1,524 individuals) and the most important species (IV = 146.76). Two hundred sixty-seven individuals with DBH >10 cm were recorded within the 2-ha plot. Tree density was recorded at 1,822 ha⁻¹ or 18 trees per 10 m × 10 m quadrat. About 93% of the total individuals recorded inside the plot were classified as poles and saplings. MIBNP has a very low floral diversity with an overall Shannon-Weiner and Evenness index of 1.913 and 0.125, respectively. Five endemic species were recorded in the area, while nine species were found to be new province records. Information from the survey will serve as baseline data for long-term monitoring and a better understanding of the ecosystem dynamics of MIBNP through analysis of the behavior and changes in plant growth such as phenology, diameter, height, and more importantly, diversity.

Keywords: endemic, protected area, permanent plot, threatened

INTRODUCTION

Mindoro is recognized as one of the conservation areas in the Philippines because of its unique flora and fauna (Gatumbato 2009). However, some of these resources are now threatened. Villanueva & Buot (2015) recorded 173 species of plants (including pteridophytes and flowering plants) threatened by habitat destruction. Tamaraw (*Bubalus mindorensis*), a rare small mammal found only on the island of Mindoro, is now categorized as critically endangered

(Boyles *et al.* 2016). This information suggests the need for strengthened conservation efforts to ensure the continued survival of threatened species. One step to achieving this goal is establishing Protected Areas (PAs).

As of 2020, the Philippines has 244 PAs encompassing a total land area of 7.8 million ha (BMB 2022). In the province of Mindoro, one of the proclaimed PAs is the Mts. Iglit-

Baco National Park (MIBNP). It is one of the 32 national parks in the country categorized by the National Integrated Protected Area System (NIPAS) Act of 1992. These PAs provide various ecosystem services such as provisioning, regulating, cultural, and supporting services essential to the human population. *Mangyans*, the indigenous peoples in Mindoro, depend on these ecosystem services for a living (Abache 2018).

The Biodiversity Management Bureau (BMB), through Technical Bulletin No. 2016-05, prescribed a standardized method for the adoption of all PAs in the Philippines. Establishing a 2-ha Permanent Biodiversity Monitoring Area (PBMA) aims to better understand the ecosystem dynamics of an area through analysis of the behavior and plant growth, as well as its diversity.

This research generally aims to establish baseline information for long-term ecological monitoring that will serve as the basis for the proper management and application of conservation and protection efforts in the area. The specific objectives include: i) identify floral species present in the area; ii) describe forest structure and analyze the level of diversity using Shannon-Wiener, Simpson's, and Evenness index; iii) determine the number of noteworthy species; and iv) recommend conservation and protection efforts for the long term monitoring of the area.

METHODOLOGY

Study area

The study was conducted inside the MIBNP, bounded by two provinces, Occidental Mindoro and Oriental Mindoro, which cover 75% and 25% of the PA, respectively. MIBNP spans through the municipalities of Sablayan, Calintaan, Rizal, and San Jose in Occidental Mindoro, and the municipalities of Pinamalayan, Gloria, Bansud, Bungabong, and Mansalay in Oriental Mindoro. MIBNP has a total land area of 97,000 ha. The 2-ha PBMA was established at 12.692772 N and 121.073738 E with an elevation of 900–950 m above sea level (m asl).

Plot establishment

As identified by Pro-Seeds (2019a) from their report in 2-km BAMS, the 2-ha PBMA was recommended to be established in Quadrat 8 – the quadrat with the highest biodiversity value. The PBMA has a dimension of 100 m × 200 m following a bearing of due south and due west, respectively. The tying point of the PBMA is located along this Universal Transverse Mercator (UTM) coordinates – 12.692772 Northing and 121.073738 Easting. The plot was subdivided into 200 (10 m × 10 m) grids for easy referencing and more systematic sampling (**Figure 1**).

Every corner of the quadrat was marked by a 2-in orange polyvinyl chloride (PVC) monument marker or “mojons,” while the center quadrats were marked with a 1-in diameter blue PVC pipe. The blue PVC pipe serves as a reference point in measuring the distance and bearing of every tree inside the quadrat for mapping purposes. Every corner of the quadrats was geocoded for efficient data storage, easy identification in the field, and as future reference.

Tree inventory

Species composition and vegetation structure of the 2-ha PBMA were assessed through a 100% inventory. Trees with a diameter of > 1 cm were tagged, measured, and recorded. Parameters such as identity, diameter at breast height (DBH), and total height (TH) were measured with a standard instrument. Additionally, the distance and direction of each tree from the center were recorded to map the spatial distribution of trees within each quadrat (**Figure 2**). Voucher specimens were gathered for identification, authentication, and herbarium collection. The Angiosperm Phylogeny Group IV system of flowering plant classification (APG IV) was used for floral classification.

Data analysis

The Paleontological Statistical software package for education (PAST ver. 3.20) (Hammer & Harper 2001) was employed to determine the three commonly used diversity indices: Shannon-Weiner index, Simpson's index, and Evenness index. The Shannon-Weiner index refers to the degree of uncertainty in predicting the species in a community at random (Ludwig & Reynolds 1988). When the Shannon-Weiner index is high, the prediction of species in a community is poor. Simpson's index, on the other hand, is the probability of encountering two different individuals in a community. Hence, a high value of this index implies a high likelihood of encountering two different species. Lastly, the Evenness index indicates how similar the abundance of each species is. A high value for this index indicates that the species' abundances are relatively similar.

Additionally, the relative density, dominance, and frequency values for each tree species were computed to obtain their corresponding importance value (IV), the standard measurement in forest ecology to determine the rank relationships of species. The IV of each species was determined using the following formula from Curtis & McIntosh (1951):

$$\text{Density} = \frac{\text{number of individual species}}{\text{total area sampled}}$$

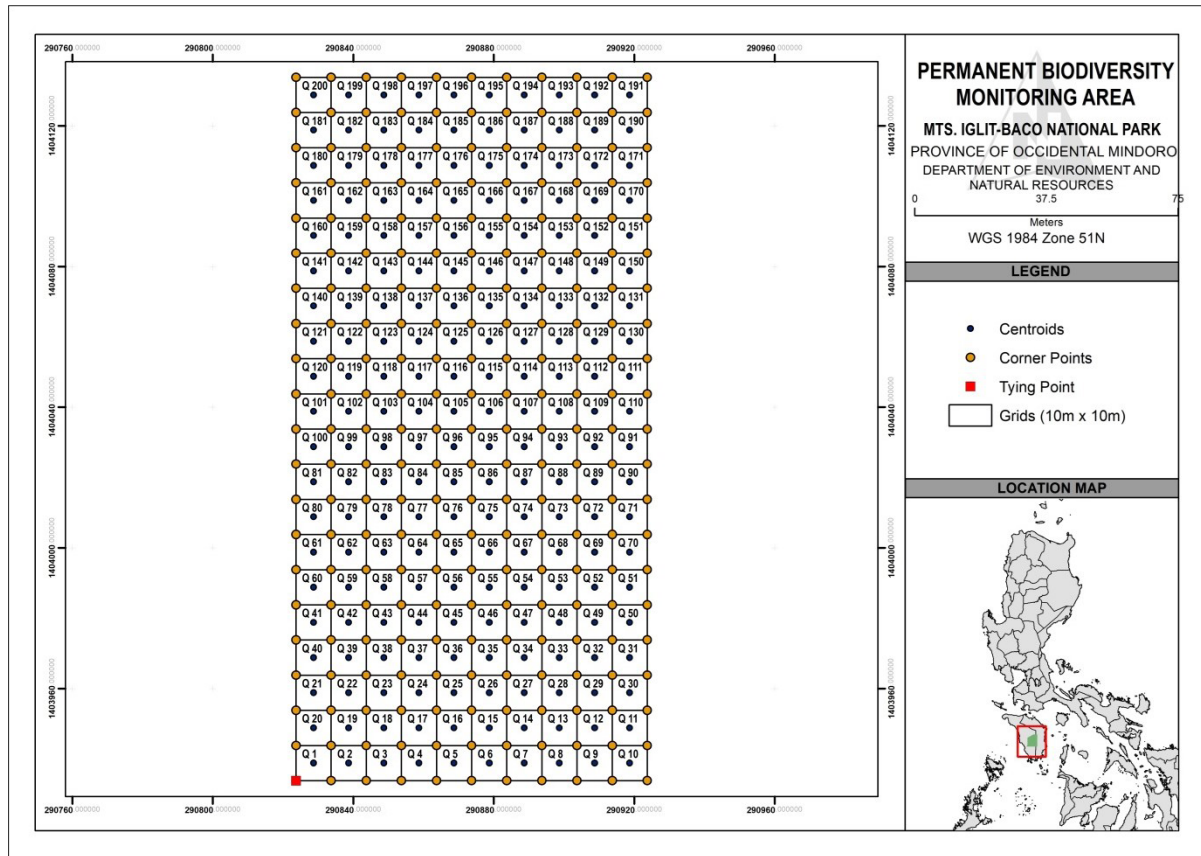


Figure 1. Geographic location of MIBNP-PBMA divided into 200 (10 m x 10 m quadrats).

$$\text{Relative Density} = \frac{\text{density of a species}}{\text{total density of all species}} \times 100$$

$$\text{Frequency} = \frac{\text{number of plots in which species occur}}{\text{total number of plots sampled}}$$

$$\text{Relative Frequency} = \frac{\text{frequency of a species}}{\text{total frequency of all species}} \times 100$$

$$\text{Dominance} = \frac{\text{basal area or volume of a species}}{\text{total area sampled}}$$

$$\text{Relative Dominance} = \frac{\text{dominance of a species}}{\text{total dominance of all species}} \times 100$$

$$\text{Importance Value} = \text{Rel Density} + \text{Rel Frequency} + \text{Rel Dominance}$$

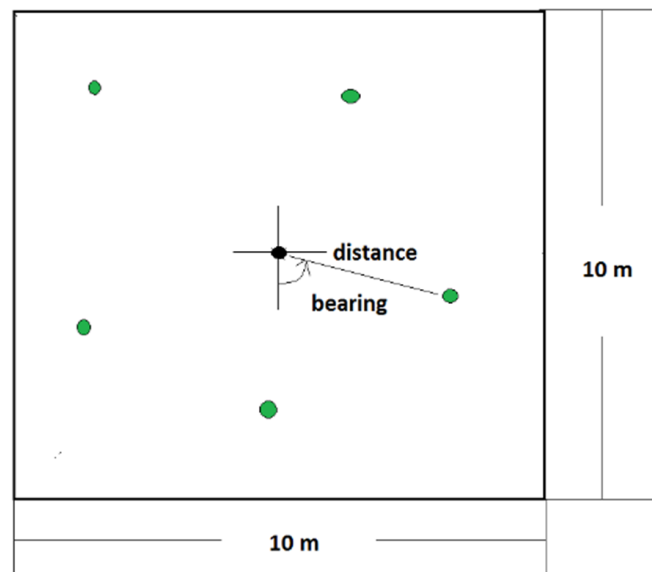


Figure 2. Illustration of distance and bearing of a tree from the center of a quadrat (lifted from Malabrigo *et al.* 2016).

RESULTS AND DISCUSSION

Dominant vegetation

MIBNP's vegetation was characterized as a young secondary forest with a limestone substrate. Poles and saplings mostly dominated the 2-ha PBMA (<10 cm DBH), which comprised 92.67% of the total individual measured. Most of these recorded poles and saplings are pioneer species such as hauili (*Ficus septica*), malatungaw (*Melastoma malabathricum* ssp. *malabathricum*), and salingkugi (*Albizia saponaria*).

Floral diversity

Species composition

The results revealed that the MIBNP-PBMA has 3,643 individuals belonging to 54 morpho-species, 45 genera, and 26 families. From this list, five morpho-species were not identified at the species level because of the absence of reproductive structures, which are of prime importance in species identification. These include *Ficus* sp., *Saurauia* sp., *Callicarpa* sp., *Aglaia* sp., and *Ardisia* sp. *Ficus* is the most dominant genus with six recorded species, including *Ficus septica* Burm., *Ficus ampelas* Burm.f., *Ficus magnoliifolia* Blume., *Ficus nota* (Blanco) Merr., *Ficus variegata* Blume, and *Ficus* sp. *Ficus* belongs to the family Moraceae and is considered one of the most diverse genera that grow in all types of forests (Villanueva & Buot 2015).

Table 1 shows the top 10 species with the greatest number of individuals recorded in the area. The Moraceae family has the highest number of species, as shown in **Table 2**. The taxonomic list of all species recorded inside the MIBNP-PBMA is presented in **Appendix 1**.

Tree flora

Two hundred sixty-seven tree individuals with DBH >10 cm belonging to 23 species, 20 genera, and 16 families were recorded within the 2-ha plot. Among these species, *Ficus septica* was the most abundant, with 173 individuals,

which is approximately 64.8% of the total recorded tree individuals. It was followed by *Albizia saponaria* and *Cratoxylum formosum* having 43 individuals (~16.1%) and 13 individuals (~4.9%), respectively (**Table 3**). In addition, the family Moraceae also dominates the 2-ha PBMA with four representative tree species (**Table 4**).

Table 2. Top five most speciose family inside MIBNP-PBMA.

No.	Family name	No. of species
1	Moraceae	6
2	Fabaceae	4
3	Lamiaceae	4
4	Apocynaceae	3
5	Euphorbiaceae	3

Table 3. Top five tree species with the greatest number of individuals.

No.	Species	Family	No. of individuals
1	<i>Ficus septica</i> Burm.	Moraceae	173
2	<i>Albizia saponaria</i> (Lour.) Blume ex Miq.	Fabaceae	43
3	<i>Cratoxylum formosum</i> (Jack) Dyer	Hypericaceae	13
4	<i>Ficus nota</i> (Blanco) Merr.	Moraceae	5
5	<i>Glochidion album</i> (Blanco) Boerl.	Phyllanthaceae	4

Table 4. Top five most speciose tree flora family inside MIBNP-PBMA.

No.	Family name	No. of species
1	Moraceae	4
2	Euphorbiaceae	3
3	Lauraceae	2
4	Rutaceae	2
5	Anacardiaceae	1

Table 1. Top 10 species with the greatest number of individuals.

No.	Species	Family	No. of individuals
1	<i>Ficus septica</i> Burm.	Moraceae	1,524
2	<i>Melastoma malabathricum</i> L. ssp. <i>malabathricum</i>	Melastomataceae	1,078
3	<i>Albizia saponaria</i> (Lour.) Blume ex Miq.	Fabaceae	163
4	<i>Melicope triphylla</i> (Lam.) Merr.	Rutaceae	160
5	<i>Senna occidentalis</i> (L.) Link	Fabaceae	150
6	<i>Maesa indica</i> (Roxb.) A.DC.	Maesaceae	79
7	<i>Memecylon lanceolatum</i> Blanco	Memecylaceae	51
8	<i>Maesa cumingii</i> Mez in Engl.	Maesaceae	48
9	<i>Glochidion album</i> (Blanco) Boerl.	Phyllanthaceae	41
10	<i>Cratoxylum formosum</i> (Jack) Dyer	Hypericaceae	36

Intermediate and understory

A total of 3,376 intermediate and understory (<10 cm) species belonging to 53 species, 45 genera, and 26 families were recorded in the area. The most abundant species recorded within the PBMA were *Ficus septica*, followed by *Melastoma malabathricum* ssp. *malabathricum*, *Melicope triphylla*, *Senna occidentalis*, and *Albizia saponaria* (Table 5). All these species are considered indicators of a young, forested area. Among the families recorded, Fabaceae, Lamiaceae, and Moraceae have the greatest number of representative species, with four species each (Table 6).

Table 5. Top five most abundant intermediate and understory species.

No.	Species	Abundance
1	<i>Ficus septica</i> Burm.	1351
2	<i>Melastoma malabathricum</i> L. ssp. <i>malabathricum</i>	1074
3	<i>Melicope triphylla</i> (Lam.) Merr.	159
4	<i>Senna occidentalis</i> (L.) Link	150
5	<i>Albizia saponaria</i> (Lour.) Blume ex Miq.	120

Table 6. Top five most speciose intermediate and understory families recorded in MIBNP-PBMA.

No.	Family name	No. of species
1	Fabaceae	4
2	Lamiaceae	4
3	Moraceae	4
4	Apocynaceae	3
5	Euphorbiaceae	3

Density and diameter class distribution

The MIBNP-PBMA has at least 3,643 tree individuals (≥ 1 cm DBH) with the density of 1,822 trees ha⁻¹ or 18 trees (10 m $\times$ 10 m) quadrat⁻¹. This value is extremely lower than the other 2-ha PBMA in the Mt. Makiling Forest Reserve (MMFR) with 44 trees quadrat⁻¹ (Malabrigo *et al.* 2016); Kasibu, Nueva Vizcaya (49 trees quadrat⁻¹) (Pro-Seeds 2017) and Mt. Calavite, Occidental Mindoro with 47 trees quadrat⁻¹ (Pro-Seeds 2019b). The low density of trees and the abundance of pioneer species in MIBNP conform with the earlier characterization as a young second-growth forest. Density is one of the parameters to assess the maturity of the forest aside from indicator species (Spies & Franklin n.d.).

The tree diameter classification of Malabrigo *et al.* (2016) was adopted in this study. In terms of diameter class, results revealed that 92.67 % or 3,376 of the total number of individuals recorded were classified under poles and saplings; 7.27% or 265 individuals fall under small trees;

0.05% or two individuals for medium-sized trees; and there was no single large tree observed in the area (Table 7). It was also observed that the number of individuals decreases as the diameter increases.

Table 7. Tree diameter classification with the corresponding number of individuals.

Diameter class	Diameter range (cm)	No. of individuals
Poles and saplings	< 10	3376
Small trees	10.0 to 30	265
Medium-size trees	30.1 to 60	2
Large trees	>60	0

The average diameter of trees inside the plot was 4.46 cm, classified as poles and saplings. Comparatively, the average diameter of trees from this plot was much lower than the average diameter of trees in the PBMA in MMFR at 14.28 cm (Malabrigo *et al.* 2016) and just slightly lower than the average diameter of trees inside the PBMA in Kasibu, Nueva Vizcaya with 4.64 cm (Pro-Seeds 2017). This information supports the dominance of poles and saplings inside MIBNP-PBMA. The tree with the largest diameter recorded was lamio (*Dracontomelon edule* (Blanco) Skeels) with 35.1 cm, seconded by hauili (*Ficus septica*) with 27.5 cm. Figure 3 shows the diameter class distribution within the 2-ha PBMA in MIBNP.

Floral diversity indices

Results revealed that MIBNP-PBMA has an overall computed Shannon-Wiener and Evenness Index of 1.913 and 0.125, respectively. This results can be interpreted as having a very low floral diversity based on the classification scheme developed by Fernando *et al.* (1998). The computed Shannon-Weiner index was much lower than the computed Shannon-Weiner index of a similar PBMA in Mt. Calavite Wildlife Sanctuary, with 3.68 (Pro-Seeds 2019b). This relatively low floral diversity might result in the area's low ecological services, which people, particularly *Mangyans*, depend highly on (Wills 2016). The computed Shannon-Weiner index (H') for all the quadrats varied from 0.0 to 2.184. Ranking of the quadrats to monitor the changes in diversity for long-term purposes was done using the three most common diversity indices (Table 8). The Shannon-Weiner index is strongly influenced by species richness and abundance. Quadrat 150 has the highest Shannon-Weiner and Simpson's index because it has the highest number of individuals (24 individuals) and species (12 species) among the 200 quadrats sampled. However, the quadrat was still classified as low diversity based on the biodiversity scale of Fernando (1998). On the other hand, nine quadrats with a computed Shannon-Weiner index of 0.0 each have only one

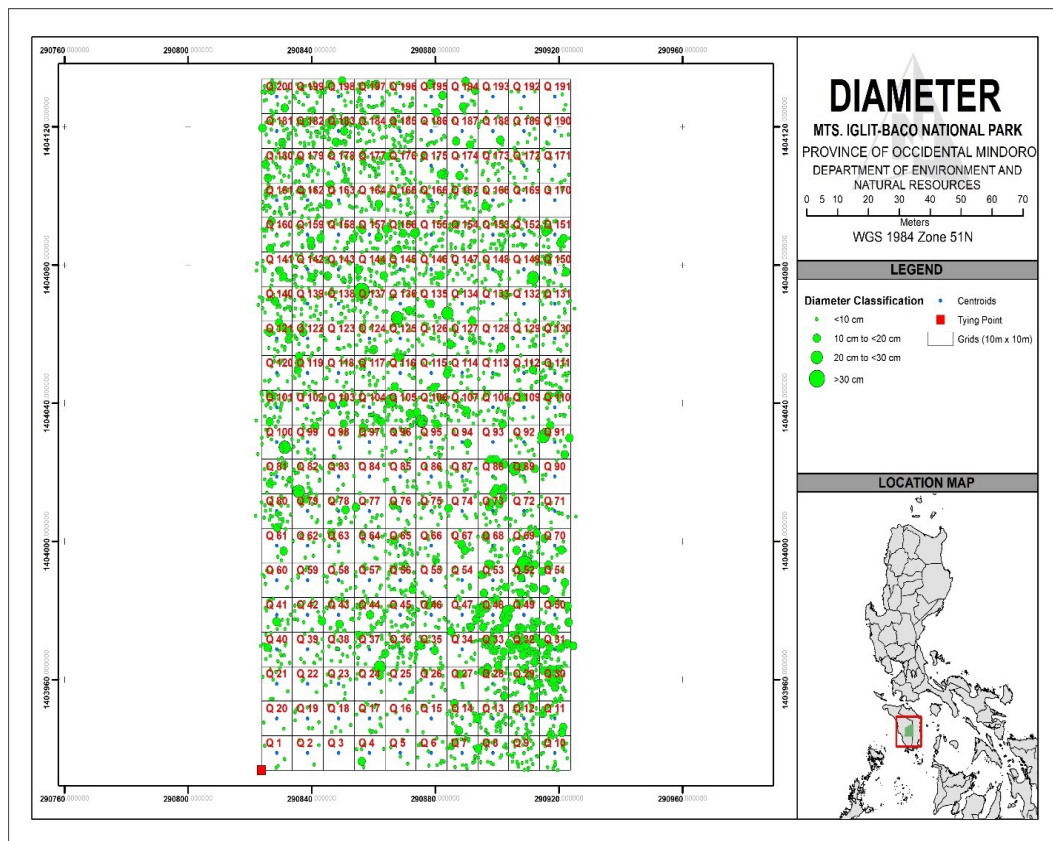


Figure 3. Diameter class distribution within the 2-ha PBMA.

species. These nine quadrats are the same quadrats having the highest computed Evenness index of 1.0, primarily due to the dominance of a single species in each quadrat.

Importance value

The species with the highest computed importance value in the area is the *Ficus septica* (146.76), which belongs to family Moraceae. This was followed by *Melastoma malabathricum* ssp. *malabathricum* (62.88), and *Senna occidentalis* (12.39). The top five species with the highest important values were the same species with the greatest number of recorded individuals inside the 2-ha PBMA (Table 9).

Noteworthy species

Endemic species

Five endemic species were observed in the monitoring plot: *Astronia candolleana*, *Dracontomelon edule*, *Maesa cumingii*, *Mussaenda magallanensis*, and *Wendlandia philippinensis*. This endemic species number is much lower compared to other protected areas such as MMFR, with approximately 30% endemism (Malabrigo *et al.* 2016) and Mt. Calavite Wildlife Sanctuary, with 31.86% endemism (Pro-Seeds 2019b). Figure 4 shows the distribution of

endemic, non-endemic, and exotic species in the 2-ha PBMA in MIBNP. The figure depicts that endemic species are mostly concentrated on the northern side of MIBNP-PBMA. Furthermore, only one exotic tree species was recorded in the area, specifically in Quadrat 24. This species was *Albizia saman* (Jacq.) F.Muell which is now known to be naturalized throughout the tropics. Photos of some endemic species recorded within MIBNP-PBMA are shown in Figure 5.

Threatened species

None of the recorded species from the sampling quadrats was under the list of Threatened Philippine Plants and Their Categories (DAO 2017-11) and the IUCN Red List of Threatened Species (2021-3). This is primarily because most of the recorded species in MIBNP-PBMA are pioneer species and known to have wide distributions.

New province record

In addition to the work of Buot *et al.* (1990), Gruèzo (2009, 2010a, 2010b), and Mandia (1998) in Mindoro, the expedition of Merrill and other botanists during the American period resulted in a list of flora wherein 941 plant species belonging to 179 families were recorded (Villanueva & Buot 2016). Moreover, nine species inside the MIBNP-

Table 8. Top 10 quadrats with the highest computed diversity indices.

Quadrat number	Number of species	Number of individuals	Diversity indices		
			Shannon-Weiner index (H')	Simpson index (D')	Evenness (E)
150	12	24	2.184	0.8507	0.7404
172	11	21	2.066	0.8254	0.7174
72	9	16	1.977	0.8281	0.8023
68	8	20	1.846	0.8050	0.7922
149	8	17	1.844	0.8028	0.7901
105	11	40	1.833	0.7713	0.5686
69	7	22	1.775	0.8058	0.8428
104	9	43	1.745	0.7637	0.6363
137	8	20	1.708	0.7650	0.6896
157	6	18	1.696	0.7963	0.9086
Overall	54	3643	1.913	0.7303	0.1254

Value Interpretation for H': VERY HIGH = ≥ 3.5 ABOVE, HIGH = 3.0–3.49, MODERATE = 2.5–2.99, LOW = 2.0–2.49, VERY LOW = ≤ 1.9 AND BELOW (Fernando 1998)

Table 9. Top 10 species with the highest importance value in MIBNP-PBMA.

No.	Species name	Relative frequency	Relative density	Relative dominance	Importance value
1	<i>Ficus septica</i> Burm.	22.89	41.83	82.04	146.76
2	<i>Melastoma malabathricum</i> L. ssp. <i>malabathricum</i>	17.96	29.59	15.33	62.88
3	<i>Senna occidentalis</i> (L.) Link	7.98	4.12	0.29	12.39
4	<i>Melicope triphylla</i> (Lam.) Merr.	7.63	4.39	0.24	12.26
5	<i>Albizia saponaria</i> (Lour.) Blume ex Miq.	2.82	4.47	1.75	9.04
6	<i>Maesa indica</i> (Roxb.) A.DC.	4.23	2.17	0.02	6.42
7	<i>Memecylon lanceolatum</i> Blanco	4.46	1.40	0.02	5.88
8	<i>Glochidion album</i> (Blanco) Boerl.	3.64	1.13	0.05	4.81
9	<i>Cratoxylum formosum</i> (Jack) Dyer	2.35	0.99	0.09	3.42
10	<i>Litsea cordata</i> (Jack) Hook.f.	2.11	0.69	0.02	2.82

PBMA were found as new records in Mindoro (**Table 10**). This is primarily due to the limited studies conducted in the province. Nonetheless, this paper will now put these species as a native of Mindoro.

CONCLUSION AND RECOMMENDATION

The 100% inventory within the 2-ha permanent biodiversity monitoring area revealed that it is home to 54 plant species belonging to 45 genera and 29 families. However, the permanent area was classified as having a low floral diversity based on the computed Shannon-Wiener and Evenness Index. The PBMA is a young forest, as indicated by the abundance of poles and saplings, likely due to previous human activities in the area. The two most important species are *Ficus septica* and *Melastoma malabathricum* ssp. *malabathricum*, which are both pioneer species. The site has relatively low endemism

compared to other adjacent protected areas (MMFR and Mt. Calavite Wildlife Sanctuary) and encountered no threatened floral species. Even so, the presence of endemic species calls for the need to sustain, if not heighten, the conservation and protection of MIBNP.

The 2-ha MIBNP-PBMA will serve as a long-term monitoring plot to enhance the understanding of the ecosystem dynamics of the area through analysis of the behavior and changes in plant growth (DBH and TH) and its diversity. A five-year monitoring interval is recommended for MIBNP-PBMA as prescribed in the BMB manual to describe the forest dynamics in the area sufficiently. Additionally, monthly recording of the flowering, fruiting, and occurrence of weather and other natural disturbances along with disruptive human activities is recommended to acquire information essential for assessing the phenology of the species in the area.

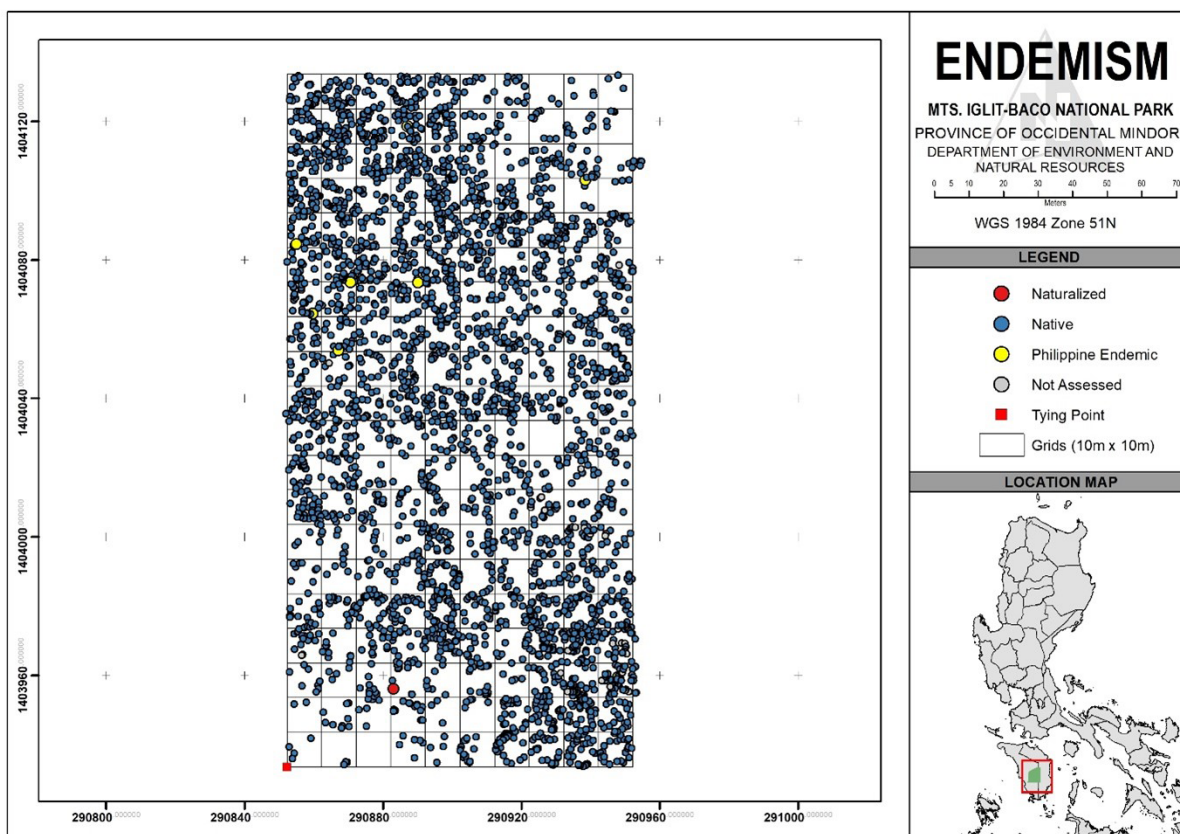


Figure 4. Distribution of endemic and non-endemic species within the 2-ha PBMA.

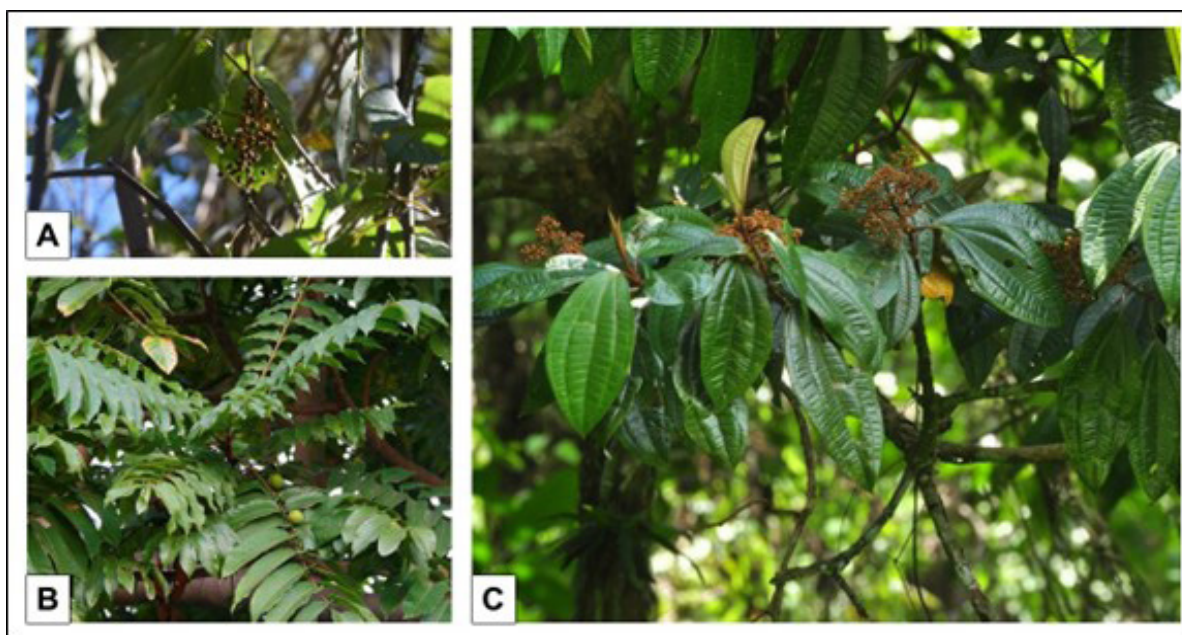


Figure 5. Some endemic species recorded in MIBNP-PBMA: a) *Maesa cumingii*; b) *Dracontomelon edule*; c) *Astronia candolleana*.

Table 10. List of newly recorded species on the island of Mindoro.

Common name	Species name	Family	Previous province records
Magkasau	<i>Aralia bipinnata</i> Blanco var. <i>bipinnata</i>	Araliaceae	Albay, Bataan, Benguet, Mountain Province, Nueva Ecija, Quezon, Negros, Panay Island
Lamio	<i>Dracontomelon edule</i> (Blanco) Skeels	Anacardiaceae	Isabela, Bataan, Bulacan, Rizal, Quezon, Laguna, Batangas, Camarines, Sorsogon, Tablas, Cebu, Samar, Cotabato
Upling-gubat	<i>Ficus ampelas</i> Burm.f.	Moraceae	Abra, Albay, Batanes, Benguet, Cagayan, Camarines, Camiguin, Ifugao, Isabela, Laguna, Leyte, Nueva Ecija, Rizal, Zambales, Agusan, Davao del Sur, Palawan, Panay Island, Samar, Romblon.
Kanapai	<i>Ficus magnoliifolia</i> Blume	Moraceae	Widespread in Luzon, Leyte, Mindanao
Philippine ash	<i>Fraxinus griffithii</i> C.B.Clarke in Hook.	Oleaceae	Bataan, Cagayan, Ilocos Norte, Laguna, Mountain Province, Pampanga, Rizal
Matang araw	<i>Melicope triphylla</i> (Lam.) Merr.	Rutaceae	Agusan del Norte, Babuyan Islands, Batanes, Benguet, Bukidnon, Dinagat, Leyte, Maguindanao, Mountain Province, Negros, Palawan, Quezon, Samar
Tiroron	<i>Neonauclea reticulata</i> (Havil.) Merr.	Rubiaceae	Abra, Apayao, Babuyan Islands, Batan, Benguet, Bulacan, Cagayan, Ilocos Norte, Ilocos Sur, Isabela, Mountain Province, Nueva Ecija, Nueva Vizcaya, Pangasinan, Rizal, Zambales
Balanti	<i>Omalanthus populneus</i> (Geiseler) Pax in Engl. & Prantl	Euphorbiaceae	Albay, Bataan, Batangas, Basilan, Bulacan, Jolo, Laguna, Leyte, Mindanao, Negros, Palawan, Panay Island, Pangasinan, Quezon, Rizal, Sorsogon, Tawi-tawi, Zambales
Biro	<i>Rhus taitensis</i> Guill.	Anacardiaceae	Bukidnon, Davao, Lanao, Leyte

The body of information and datasets generated from the study will be useful for the protected area managers, especially in developing science and evidence-based management and other conservation plans for MIBNP.

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Appendix 1. Taxonomic list of recorded species inside MIBNP-PBMA.

No	Common name	Scientific name	Family name	Endemism	Conservation status	
					DAO 2017-11	IUCN 2021-3
1	-	<i>Aglaia</i> sp.	Meliaceae			
2	Alagasi	<i>Leucosyke capitellata</i> Wedd.	Urticaceae	NE	OWS	NA
3	Alagau	<i>Premna odorata</i> Blanco	Lamiaceae	NE	OWS	NA
4	-	<i>Ardisia</i> sp.	Primulaceae			
5	Balanti	<i>Omalanthus populneus</i> (Geiseler) Pax in Engl. & Prantl	Euphorbiaceae	NE	OWS	NA
6	Banaba	<i>Lagerstroemia speciosa</i> (L.) Pers.	Lythraceae	NE	OWS	NA
7	Batino	<i>Alstonia macrophylla</i> Wall. ex G.Don	Apocynaceae	NE	OWS	LC
8	Binunga	<i>Macaranga tanarius</i> (L.) Müll.Arg. in DC.	Euphorbiaceae	NE	OWS	LC
9	Biro	<i>Rhus taitensis</i> Guill.	Anacardiaceae	NE	OWS	NA
10	Bogus	<i>Acalypha amentacea</i> Roxb.	Euphorbiaceae	NE	OWS	NT
11	-	<i>Callicarpa</i> sp.	Lamiaceae		-	
12	Dalunot	<i>Pipturus arborescens</i> (Link) C.B.Rob.	Urticaceae	NE	OWS	NA
13	Digeg	<i>Memecylon lanceolatum</i> Blanco	Melastomataceae	NE	OWS	NA
14	-	<i>Ficus</i> sp.	Moraceae			
15	Hauili	<i>Ficus septica</i> Burm.	Moraceae	NE	OWS	LC
16	Kalubkob	<i>Syzygium calubcob</i> (C.B.Rob.) Merr.	Myrtaceae	NE	OWS	NA
17	Kanapai	<i>Ficus magnoliifolia</i> Blume	Moraceae	NE	OWS	NA
18	Kangko	<i>Aphanamixis polystachya</i> (Wall.) R.Parker	Meliaceae	NE	OWS	LC
19	Katong-matsing	<i>Chisocheton pentandrus</i> (Blanco) Merr. ssp. <i>pentandrus</i>	Meliaceae	NE	OWS	NA
20	Lamio	<i>Dracontomelon edule</i> (Blanco) Skeels	Anacardiaceae	PE	OWS	NA
21	Lanete	<i>Wrightia pubescens</i> R.Br. ssp. <i>laniti</i> (Blanco) Ngan	Apocynaceae	NE	OWS	LC
22	-	<i>Leea manillensis</i> Walp.	Vitaceae	NE	OWS	NA
23	-	<i>Maesa cumingii</i> Mez in Engl.	Primulaceae	PE	OWS	NA
24	-	<i>Maesa indica</i> (Roxb.) A.DC.	Primulaceae	NE	OWS	LC
25	Magkasau	<i>Aralia bipinnata</i> Blanco var. <i>bipinnata</i>	Araliaceae	NE	OWS	NA
26	Malabagang	<i>Glochidion album</i> (Blanco) Boerl.	Phyllanthaceae	NE	OWS	NA
27	Malasapsap	<i>Ailanthus integrifolia</i> Lam. ssp. <i>integrifolia</i>	Simaroubaceae	NE	OWS	LC
28	Malatungaw	<i>Melastoma malabathricum</i> L. ssp. <i>malabathricum</i>	Melastomataceae	NE	OWS	NA
29	Marang	<i>Litsea cordata</i> (Jack) Hook.f.	Lauraceae	NE	OWS	NA
30	Matang araw	<i>Melicope triphylla</i> (Lam.) Merr.	Rutaceae	NE	OWS	NA
31	Mottled-leaf dapdap	<i>Erythrina variegata</i> L.	Fabaceae	NE	OWS	LC
32	-	<i>Mussaenda magallanensis</i> Elmer	Rubiaceae	PE	OWS	NA
33	Pay-at	<i>Clerodendrum macrostegium</i> Schauer in DC.	Lamiaceae	NE	OWS	LC
34	Pandakaki	<i>Tabernaemontana pandacqui</i> Poir. in Lam.	Apocynaceae	NE	OWS	LC
35	Philippine ash	<i>Fraxinus griffithii</i> C.B.Clarke in Hook.	Oleaceae	NE	OWS	LC
36	Pinka-pinkahan	<i>Oroxylum indicum</i> (L.) Vent.	Bignoniaceae	NE	OWS	NA
37	-	<i>Premna tomentosa</i> Willd.	Lamiaceae	NE	OWS	LC
38	Rain tree/ Acacia	<i>Albizia saman</i> (Jacq.) F.Muell	Fabaceae	EX	OWS	NT
39	Sablot	<i>Litsea glutinosa</i> (Lour.) C.B.Rob.	Lauraceae	NE	OWS	LC
40	Salagong liitan	<i>Wikstroemia indica</i> (L.) C.A.Mey.	Thymelaeaceae	NE	OWS	NA

41	Salagong-bilog	<i>Wikstroemia ovata</i> C.A.Mey.	Thymelaeaceae	NE	OWS	NA
42	Salinggogon	<i>Cratoxylum formosum</i> (Jack) Dyer	Hypericaceae	NE	OWS	LC
43	Salingkugi	<i>Albizia saponaria</i> (Lour.) Blume ex Miq.	Fabaceae	NE	OWS	LC
44	-	<i>Saurauia</i> sp.	Actinidiaceae			
45	-	<i>Senna occidentalis</i> (L.) Link	Fabaceae	NE	OWS	NA
46	-	<i>Symplocos cochinchinensis</i> (Lour.) S. Moore var. <i>philippinensis</i> (Brand) Noot.	Symplocaceae	NE	OWS	NA
47	Talanak	<i>Astronia candolleana</i> Cogn. in DC.	Melastomataceae	PE	OWS	NA
48	Tangisang-bayawak	<i>Ficus variegata</i> Blume	Moraceae	NE	OWS	LC
49	Tibig	<i>Ficus nota</i> (Blanco) Merr.	Moraceae	NE	OWS	LC
50	Tiroron	<i>Neonauclea reticulata</i> (Havil.) Merr.	Rubiaceae	NE	OWS	NA
51	Tulibas tilos	<i>Micromelum minutum</i> (G.Forst.) Wight & Arn. var. <i>tomentosum</i>	Rutaceae	NE	OWS	NA
52	Upling-gubat	<i>Ficus ampelas</i> Burm.f.	Moraceae	NE	OWS	LC
53	Vidal lanutan	<i>Hibiscus campylosiphon</i> Turcz. var. <i>glabrescens</i> (Warb. ex Perkins) Borss	Malvaceae	NE	OWS	NA
54	-	<i>Wendlandia philippinensis</i> Cowan	Rubiaceae	PE	OWS	NA

Note: PE – Philippine Endemic; NE – Non-Endemic Indigenous; EX – Exotic; OWS – Other Wildlife Species; NA – Not-Assessed; NT – Near Threatened; LC – Least Concern