

Floristic composition of a tropical rain forest in Indonesian Borneo

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ボルネオ（インドネシア）における熱帯降雨林の植物種組成

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Floristic composition was examined in a tall virgin tropical lowland evergreen rain forest dominated by Dipterocarpaceae in Sebulu, East Kalimantan, Indonesia. A sample plot of 1.0 ha was established in the forest stand. All plant individuals (dbh ≥ 10 cm) were labeled, and their dbhs and species names were recorded. In addition to the individuals, small individuals ($4.5 \leq \text{dbh} < 10$ cm) in the half of the plot were labeled and mapped, and their dbhs were recorded with the species names. Total basal area was estimated to be $37.3 \text{ m}^2 \text{ ha}^{-1}$. Forty percent of the total basal area was provided by the Dipterocarpaceae, whose number amounted to only 9.4% of the total number of individuals. Five hundred and ninety-two individuals with dbh above 10 cm were enumerated in the 1.0 ha sample plot, those which belonged to 276 species of 127 genera of 47 families (including 19 woody climbers of 3 species and 24 palms of 1 species). Eight hundred and eighteen individuals with dbh above 4.5 cm were enumerated in the 0.5 ha sample plot, those which belonged to 320 species of 141 genera of 48 families (including 45 woody climbers of 12 species of 10 genera, 13 palms of 1 species, and 1 pandan).

東カリマンタン（インドネシア）のスブルウにある低地フタバガキ林の植物種組成を調べた。調査面積 1.0ha 内に存在する、胸高直径10cm 以上の植物個体すべてに個体番号を付けた。調査面積の半分の0.5ha に関しては、胸高直径4.5cm 以上の個体すべてに番号を付け、立木位置図を作成した。胸高断面積合計は、 $37.3 \text{ m}^2 \text{ ha}^{-1}$ と推定された。フタバガキ科は、個体数では全体の9.4%を占めているにすぎなかったが、胸高断面積では全体の40%を占めていた。胸高直径10cm 以上の1.0ha 調査区内に、47科、127属、276種、592個体が存在した（3種、19個体の木性つる植物と1種、24個体のヤシを含む）。胸高直径4.5cm 以上の0.5ha 調査区内に、48科、141属、320種、818個体が存在した（10属、12種、45個体の木性つる植物、1種、13個体のヤシ、1個体のタコノキを含む）。

Keywords : Dipterocarp, Diversity, Species composition.

Introduction

Tropical lowland evergreen rain-forests on the Malay Peninsula and islands of the Sunda Shelf are distinguished from all similar plant

formation of other continents by the abundance of dipterocarp species and the occurrence of tall emergent trees (Whitmore 1984). Within this area, Borneo is regarded as the center of the world distribution of Dipterocarpaceae

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(Symington 1943). Forest studies in Borneo, mainly North Borneo, have shown a high species diversity, tall architecture, and big local variation in these dipterocarp forests, as reviewed by Richards (1952) and Whitmore (1984).

From December 1980 to March 1981, we made a study of an undisturbed tropical rain-forest in East Kalimantan, Indonesian Borneo. The size and form of the component trees has been already described in terms of plant mass dimensions (Yamakura et al. 1986 a, 1987), in addition to one stand biomass (Yamakura et al. 1986 b). This paper describes the floristic composition of the forest stand, showing a complete set of forest inventory records.

Study area

Our investigation was carried out in a concession area of P.T. Kutai Timber Indonesia at Sebulu (1.5°S, 116°58'E), located about 40 km northwest of Samarinda, East Kalimantan, Indonesia. The concession area is on a low undulating plateau and includes some small rivers and shallow basins. This topography is common over a wide range of the lowland of East Kalimantan.

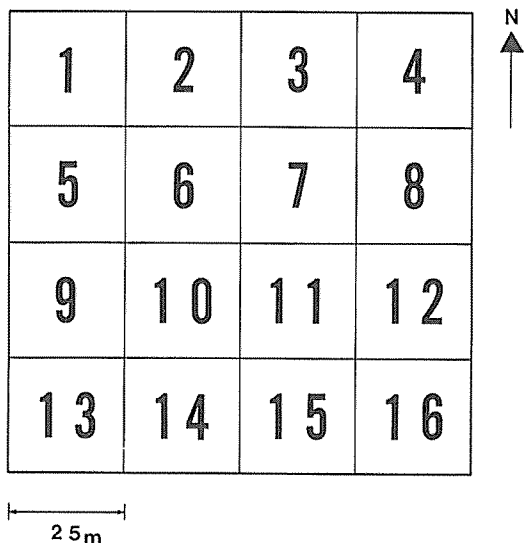


Fig. 1. Arrangement of the subplots. The numerals correspond to subplot numbers.

The area is made up of clay and sand with limestone and coal deposited in the Cenozoic era (Bemmelen 1970). The soil of the site rich in clay belongs to the ultisol (red yellow podzolic) soil group (Burnham 1984), whereas typical lowland podzols (Burnham 1984) could be observed in sites rich in coarse sandy deposits.

No meteorological records are available in Sebulu. According to the *Climatic Table for the World* published by the Japan Meteorological agency (1967), Balikpapan (1°16'S, 116°54'E), 3 m alt., has a mean annual rainfall of 2228 mm, distributed evenly throughout the year. The mean temperature is 26.1 °C and shows little change from one season to another. October is the driest month, although it still receives 132 mm of rainfall. Droughts may occur only seldom.

Main forest formation of this area is a lowland dipterocarp forest (Symington 1945) or mixed dipterocarp forest (Ashton 1964). This forest type occurs on sites rich in clay and covers most of the area. Tall emergents over 70 m are

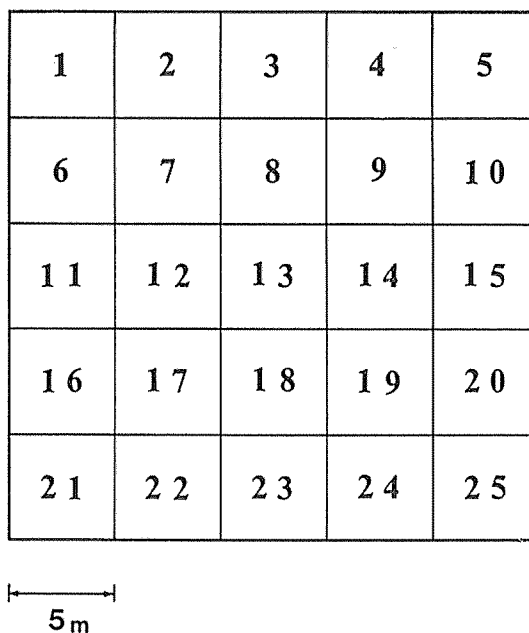


Fig. 2. Arrangement of the grids. The numerals correspond to grid numbers. Each subplot (No. 1 to No. 8) in the upper half of the plot (Fig. 1) was divided into the 25 small grids.

common, which suggests a favorable climate and fertile soil. In the dipterocarp forests, some islands of kerangas forests (Whitmore 1984) occur on a coarse sandy soil, as already described by Kartawinata (1980).

Sample plot and Methods

A 1.0 ha sample plot (100m × 100m) was established on a flat ground at 70 m alt. in terrain including different types of forest maturity, i.e., gap-, building-, and mature phases (Yamakura et al. 1986 b).

As shown in Fig. 1, the plot was subdivided into 16 subplots (25m × 25m). Each subplot in the upper half of the plot was further divided into 25 grids (5 m x 5 m) (Fig. 2). In the subplots 1-8, all trees, woody climbers, palms and pandans 4.5 cm and more in diameter at breast height (D , 1.3 m above the ground) were labeled (Appendix 1) and mapped (Appendix 2). The dbhs of the labeled plants were recorded with their species names. For the trees having buttresses over 1.3 m high, the diameter at the terminal end of the buttress was adopted as a substitute for dbh. Two hundred and twenty-one trees and two palms were felled, and their height (H) and clear bole length (H_B) were measured. Seventy-six trees and one palm of the 223 felled plants were individually weighed using the stratified clip technique and their dimensions were already reported by Yamakura et al. (1986 a).

In the remaining subplots 9-16, all trees, woody climbers, palms, and pandans with dbh ≥ 10 cm were labeled, and their species names and dbhs were recorded.

All of the specimens of the labeled plants were brought to the Herbarium Bogoriense, Bogor. Their species names were identified by the first author (S. S.) on referring to identification books, such as *Flora of Java* (Backer & Bakhuizen 1963), *Flora Malesiana* (Steenis

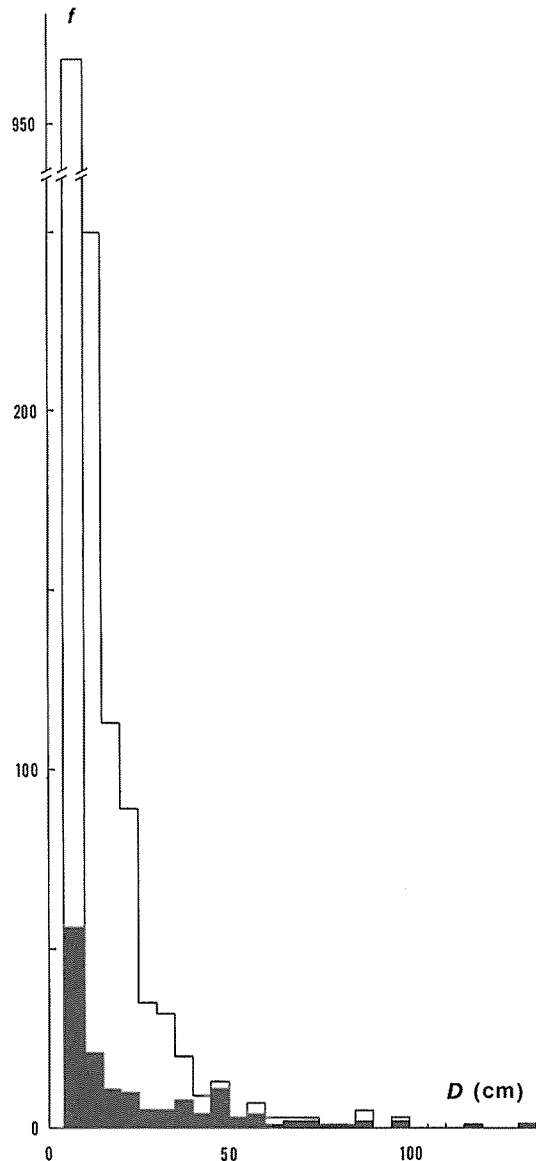


Fig. 3. Frequency distribution of plant individuals (f) in dbh (D) classes. Closed columns: dipterocarps; Open columns: families other than Dipterocarpaceae.

1950-), and *Tree Flora of Malaya* (Whitmore 1973), and herbarium specimens deposited in the Herbarium Bogoriense.

Results and Discussion

Frequency distribution of dbh

Histograms of the distribution of dbh classes is presented in Fig. 3, dividing all individuals into Dipterocarpaceae and the others. It will be seen that the Dipterocarpaceae are represented by many more large trees than the remaining families and that the number of individuals decreases more slowly with increasing dbh in dipterocarps than in the rest. The largest tree recorded was an individual of *Shorea laevis* whose stem diameter at the terminal of the buttresses 4.6 m high and total height were 130.5 cm and 70.7 m, respectively. Trees over 60 cm were confined to 21 individuals of 8 families: Dipterocarpaceae (*Dipterocarps crinitus*, *Dryobalanops* sp. (two individuals) , *D.* sp. 1 , *Hopea mangerawan*, *Shorea acminatissima* (two individuals) , *S. excemia* (two individuals) , *S. laevis*, *S. smithiana*, *S.* sp., *S.* sp. 1), Elaeocarpaceae (*Sloanea javanica*) , Euphorbiaceae (*Mallotus echinatus*) , Guttiferae

(*Cratogeomys arborescens*) , Leguminosae (*Dialium platycephalum*, *Pithecellobium* sp.) , Sapotaceae (*Palaquium* sp.) , Saxifragaceae (*Polyosma* sp.) , and Sterculiaceae (*Heritiera sympleicifolia*) .

Basal area

The basal area was calculated from the dbh of each tree. All the results are presented in Appendix 3 together with other measures.

Table 1 lists the basal area estimates (dbh ≥ 4.5 cm) , which was extrapolated from the results of large individuals (dbh ≥ 10 cm) in the 0.1 ha sample plot and small individuals ($4.5 \leq$ dbh < 10 cm) in the 0.5 ha sample plot to the whole plot of 1.0 ha, for the twenty most abundant families. Total basal area from all the families was $37.3 \text{ m}^2 \text{ ha}^{-1}$ (cf. Appendix 3) . Procter et al. (1983) estimated that the total basal area (dbh ≥ 10 cm) of a lowland dipter-

Family name	Basal area		
	10 cm \leq dbh $\text{dm}^2 \text{ha}^{-1}$	4.5cm \leq dbh < 10 cm $\text{dm}^2 (0.5 \text{ha})^{-1}$	Total $\text{dm}^2 \text{ha}^{-1}$
Dipterocarpaceae	1462	10.5	1483(40.0)
Euphorbiaceae	218	41.3	300(8.1)
Annonaceae	187	16.1	220(5.9)
Leguminosae	184	11.8	207(5.6)
Sapotaceae	151	2.9	157(4.2)
Lauraceae	67	8.1	83(2.2)
Myristicaceae	69	5.7	81(2.2)
Palmae	80	0.0	80(2.2)
Saxifragaceae	79	0.5	80(2.1)
Oleaceae	74	2.5	79(2.1)
Sterculiaceae	74	1.1	76(2.1)
Guttiferae	62	3.3	68(1.8)
Elaeocarpaceae	65	0.6	66(1.8)
Dilleniaceae	63	0.4	64(1.7)
Sapindaceae	56	2.7	61(1.6)
Moraceae	46	5.2	57(1.5)
Burseraceae	33	6.6	46(1.2)
Myrtaceae	31	5.8	43(1.2)
Rosaceae	33	2.1	38(1.0)
Polygalaceae	34	0.7	35(0.9)

The figures in parentheses stand for % basal area.

The total basal area was estimated to be $37.0 \text{ m}^2 \text{ha}^{-1}$.

Table 1. The twenty most abundant families in basal area.

ocarp forest was $57 \text{ m}^2 \text{ ha}^{-1}$. This figure exceeds that of the forest studied in this paper. According to the data reported by Ogawa et al. (1965), Ogino et al. (1967), and Hozumi et al. (1969) for tropical lowland evergreen forests, the

total basal area ($\text{dbh} \geq 4.5 \text{ cm}$) ranges from 26.3 to $39.9 \text{ m}^2 \text{ ha}^{-1}$. Our figure was within the range.

Though the smaller individuals under 10 cm dbh accounted for 65 % of the total number of in-

Genus name	Basal area			No. of individuals			Basal area per indiv. (dm^2)
	$10\text{cm} \leq \text{dbh}$ $\text{dm}^2 \text{ha}^{-1}$	$4.5 \leq \text{dbh} < 10\text{cm}$ $\text{dm}^2(0.5\text{ha})^{-1}$	Total $\text{dm}^2 \text{ha}^{-1}$	$10\text{cm} \leq \text{dbh}$ ha^{-1}	$4.5 \leq \text{dbh} < 10\text{cm}$ $(0.5\text{ha})^{-1}$	Total ha^{-1}	
Shorea	799	9.6	816(22.0)	49	29	107(6.4)	7.6
Dryobalanops	317	0.3	317(8.6)	15	0	15(0.9)	21.1
Dipterocarpaceae	166	0.0	166(4.5)	13	1	15(0.9)	11.1
Hopea	151	0.7	153(4.1)	10	1	12(0.7)	12.7
Vatica	30	0.0	30(0.8)	8	0	8(0.5)	3.8
Total	1462	10.5	1483(40.0)	95	31	157(9.4)	9.4

The figures in parentheses stand for % basal area and % number of individuals to each of the stand totals.

Table 2. Basal area and number of individuals of the genera in Dipterocarpaceae, and percentage contributions in each of these genera to the total basal area ($37.3 \text{ m}^2 \text{ ha}^{-1}$) and to the total number of individuals (1668 ha^{-1}).

Species name (Family name)	Basal area			% basal area
	$10\text{cm} \leq \text{D}$ $\text{dm}^2 \text{ha}^{-1}$	$4.5 \leq \text{dbh} < 10\text{cm}$ $\text{dm}^2(0.5\text{ha})^{-1}$	Total $\text{dm}^2 \text{ha}^{-1}$	
<i>Dryobalanops</i> sp. (Dipterocarpaceae)	204(11)	0.0(0)	204(11)	5.5
<i>Shorea laevis</i> (Dipterocarpaceae)	137(3)	1.9(5)	141(13)	3.8
<i>Hopea maogerawan</i> (Dipterocarpaceae)	139(9)	0.0(0)	139(9)	3.7
<i>Dipterocarpus crinitus</i> (Dipterocarpaceae)	132(5)	0.0(0)	132(5)	3.6
<i>Dryobalanops</i> sp. 1 (Dipterocarpaceae)	113(4)	0.0(0)	113(4)	3.1
<i>Shorea excemia</i> (Dipterocarpaceae)	104(8)	2.6(10)	109(28)	3.0
<i>S. acuminatissima</i> (Dipterocarpaceae)	100(4)	0.5(1)	101(6)	2.7
<i>S. sp.</i> (Dipterocarpaceae)	96(4)	0.9(2)	98(8)	2.7
<i>S. smithiana</i> (Dipterocarpaceae)	85(8)	0.9(5)	89(18)	2.4
<i>S. sp. 1</i> (Dipterocarpaceae)	86(7)	0.0(0)	86(7)	2.3
<i>Borassodendron bornensis</i> (Palmae)	80(24)	0.0(0)	80(24)	2.2
<i>Shorea platyclados</i> (Dipterocarpaceae)	77(7)	0.5(1)	78(9)	2.1
<i>Polyosma</i> sp. (Saxifragaceae)	74(2)	0.5(1)	75(4)	2.0
<i>Palaquim</i> sp. (Sapotaceae)	64(4)	0.3(1)	65(6)	1.8
<i>Heritiera symplificifolia</i> (Sterculiaceae)	62(1)	0.3(1)	65(3)	1.7
<i>Cratoxylon arborescens</i> (Guttiferae)	59(1)	0.0(0)	59(1)	1.6
<i>Eusideroxylon zwageri</i> (Lauraceae)	47(8)	1.4(3)	49(14)	1.3
<i>Shorea ovalis</i> (Dipterocarpaceae)	46(3)	0.8(3)	47(9)	1.3
<i>Polyalthia glauca</i> (Annonaceae)	40(22)	2.4(6)	44(34)	1.2
<i>Sloanea javanica</i> (Elaeocarpaceae)	43(1)	0.0(0)	43(1)	1.2

The figures in parentheses are the numbers of individuals.

Table 3. The twenty most abundant species in basal area and their percentage contributions to the total basal area ($37.3 \text{ m}^2 \text{ ha}^{-1}$).

dividuals (1668 ha^{-1}), they were only 9.0 % of the total in terms of basal area. The families with a percentage of over 2 % of the total basal area were only eleven: Dipterocarpaceae (40.3 %), Euphorbiaceae (8.1 %), Annonaceae (5.9 %), Leguminosae (5.5 %), Sapotaceae (4.2 %), Lauraceae (2.2 %), Myristicaceae (2.2 %), Palmae (2.1 %), Saxifragaceae (2.1 %), Olacaceae (2.1 %), and Sterculiaceae (2.1 %). Within the Dipterocarpaceae, the contributions of the genera are given in Table 2: *Shorea* (21.9 %), *Dryobalanopsis* (8.5 %), *Dipterocarps* (4.9 %), *Hopea* (4.0 %), *Vatica* (0.8 %).

Table 3 shows that more than 40% of the total basal area was provided by fourteen species, eleven of which belonged to the Dipterocarpaceae and the others were Palmae, Saxifragaceae, and Sapotaceae.

Table 4 represents a comparison of our results with those obtained in other lowland dipterocarp forests. Percentage contribution of the Dipterocarpaceae to the total basal area in this study was 43.7 % for all the individuals having a diameter of more than 10 cm at breast height (Appendix 3). This value was comparable to that reported by Proctor et al. (1983) for the lowland dipterocarp forest mentioned above.

This forest had a distinct feature family, i.e., Palmae, from a lowland dipterocarp forest, Central Malaya, investigated by Poore (1968)

The Palmae, which was consisted of only one species of *Borassodendron borneensis*, was the eight main family in basal area sequence for families (Table 1). The palms had dbhs ranging from 12.7 to 26.0 cm (e.g. one cut palm grew to 7.6 m tall, with a dbh of 18.2 cm, and another 8.0 m tall, dbh reaching to 20.7 cm) and were the dominant species following after the dipterocarp species in terms of basal area (Table 3).

Floristic composition

A complete list of species is given in Appendices 4 and 5. Five hundred and ninety-two individuals with dbh above 10 cm were enumerated in the 1.0 ha sample plot, those which belonged to 276 species of 127 genera of 47 families (including 19 woody climbers of 3 species and 24 palms of 1 species). An index of diversity (α) (Fisher et al. 1943) was 201. On the other hand, 818 individuals of 320 species of 141 genera of 48 families (including 45 woody climbers of 12 species of 10 genera, 13 palms of 1 species, and 1 pandan) were found in the 0.5 ha sample plot where a census of the individuals over 4.5 cm and more was made. The index of diversity was 193. As compared with other lowland dipterocarp forests in Table 4, this forest was extremely rich in species. However, the percentage contribution of the dipterocarps to the total number of individuals, as well as to the

Locality	Alt. m	Dbh	BA m ² ha ⁻¹	Sample area ha	<i>N</i>	<i>S</i>	<i>G</i>	<i>F</i>	<i>N</i> / <i>S</i>	Dipterocarps		<i>α</i>	Authors
					(sample area) ⁻¹					BA%	N%		
Malaya	45- 75	>ca.30cm	24.2	20	2773	375	139	72	7.4	42.8	28	117	Poore (1968)
	75-150	≥10	-	10	5907	473	-	-	12.5	-	-	121	Ogawa (1974)
	75-150	≥10	-	2	1167	276	-	-	4.2	-	-	114	Kira (1976)
Borneo	200-250	≥10	57	0.95	739	>203	-	-	<3.6	43.2	15	>92	Proctor et al.(1983)
	70	≥10	33.7	1	592	276	127	47	2.1	43.4	16	201	This study
	70	≥4.5	36.2	0.5	818	320	141	48	2.6	37.9	8.4	193	Ibid.

BA: basal area; N: number of individuals; S: number of species;
G: number of genera; F: number of families; α : index of diversity.

Table 4. Species abundance and some related characteristics in various lowland dipterocarp forests in Malaya and Borneo.

total basal area, was almost the same as in the lowland dipterocarp forest investigated by Procter et al. (1983).

The numbers of individuals in one entire plot of 1.0 ha were calculated for the twenty-one commonest families, on the basis of the enumeration records of large individuals ($\text{dbh} \geq 10 \text{ cm}$) in the 1.0 ha sample plot and small individuals ($4.5 \leq \text{dbh} < 10 \text{ cm}$) in the 0.5 ha sample plot. The results are given in Table 5 (cf. Appendix 3) and show slightly different family ranking in sequence of the number of individuals from that in basal area sequence (Table 1). Dipterocarpaceae moved from the first in basal area down to the third family, although it had the highest number of individuals above 10 cm dbh. On the other hand, both Euphorbiaceae and Annonaceae, which were represented by a

relatively large number of small individuals, moved up in the list. Saxifragaceae including a few large trees disappeared in the list, while Myrtaceae, Burseraceae, and Moraceae appeared in the ten commonest families.

Palmae, having a density of 24 ha^{-1} , was the seventeenth family in rank of abundance (Table 5). Procter et al. (1983) also found a number of palms characteristic of health forests in a dipterocarp forest, Sarawak. Ashton (1973) has regarded nutrients in soil as an influential determinant of floristic variation in dipterocarp forests.

Table 6 shows the twenty commonest species in number of individuals. The most abundant species was *Millettia sericia* of Leguminosae and had a density of 30 individuals, all of which were below 10 cm in dbh, in the 0.5 ha sample

Family name	No. of individuals			Basal area per indiv. dm^2	Ranking in basal area
	$10\text{cm} \leq \text{dbh}$ ha^{-1}	$4.5 \leq \text{dbh} < 10\text{cm}$ $(0.5\text{ha})^{-1}$	Total ha^{-1}		
Euphorbiaceae	62	135	332(19.9)	0.9	2
Annonaceae	82	49	180(10.8)	1.2	3
Dipterocarpaceae	95	31	157(9.4)	9.4	1
Leguminosae	39	44	127(7.6)	1.6	4
Lauraceae	16	24	64(3.8)	1.3	6
Myrtaceae	16	18	52(3.1)	0.8	18
Myristicaceae	17	17	51(3.1)	1.6	7
Burseraceae	11	20	51(3.1)	0.9	17
Moraceae	18	12	42(2.5)	1.4	16
Sapotaceae	25	8	41(2.5)	3.8	5
Melastomataceae	7	17	41(2.5)	0.6	30
Connaraceae	11	13	37(2.2)	0.9	21
Olacaceae	20	8	36(2.2)	6.1	10
Meliaceae	8	14	36(2.2)	0.7	23
Sapindaceae	13	10	33(2.0)	1.9	15
Ulmaceae	5	12	27(1.6)	0.5	33
Palmae	24	0	24(1.4)	3.3	8
Guttiferae	3	10	23(1.4)	3.0	12
Vitaceae	10	6	22(1.3)	1.0	28
Rosaceae	5	8	21(1.3)	1.8	19
Rubiaceae	1	10	21(1.3)	0.4	36

The figures in parentheses stand for percentages of the total number of individuals, which was estimated to be 1668 ha^{-1} .

Table 5. The twenty-one most abundant families in number of individuals.

plot. The palm *Borasodendron borneensis* was high-ranking in number of individuals, as well as in basal area (Table 3). Within the Dipterocarpaceae, *Shorea excemia* and *S. smithiana* were the sixth and fourteenth species, respectively.

The relationships between the number of individuals and the number of species is shown in Fig. 4 . One hundred and sixty-one species were present in only one individual in the 1.0 ha sample plot (dbh \geq 10 cm), and 177 species in the 0.5 ha sample plot (dbh \geq 4.5 cm). These values made up more than 55 % of the total number of species. Mean individuals per species were 2.6 for the 0.5 ha sample plot and 2.1 for the 1.0 ha sample plot. These estimates were less than a very low value of about 2.8 for an alluvial forest in Sarawak investigated by Proctor et al. (1983) .

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Species name (Family name)	No. of individuals		
	10cm \leq dbh ha ⁻¹	4.5 \leq dbh < 10cm (0.5ha) ⁻¹	Total ha ⁻¹
<i>Milletia sericea</i> (Leguminosae)	0	30	60(3.6)
<i>Aporosa elmeri</i> (Euphorbiaceae)	1	26	52(3.1)
<i>Polyalthia glauca</i> (Annonaceae)	22	6	34(2.0)
<i>Mallotus affinis</i> (Euphorbiaceae)	2	16	34(2.0)
<i>Girroniera nervosa</i> (Ulmaceae)	5	12	29(1.7)
<i>Shorea excemia</i> (Dipterocarpaceae)	8	10	28(1.7)
<i>Baccaurea pendula</i> (Euphorbiaceae)	5	11	27(1.6)
<i>Agelaea borneensis</i> (Connaraceae)	8	9	26(1.6)
<i>Borasodendron borneensis</i> (Palmae)	24	0	24(1.4)
<i>Ochanostachys amentacea</i> (Olacaceae)	10	7	24(1.4)
<i>Mallotus echinatus</i> (Euphorbiaceae)	2	10	22(1.3)
<i>Tetrastigma pergamaceum</i> (Vitaceae)	9	6	21(1.3)
<i>Neoscortechinia kingii</i> (Euphorbiaceae)	3	9	21(1.3)
<i>Shorea smithiana</i> (Dipterocarpaceae)	8	5	18(1.1)
<i>Artocarpus anisophyllus</i> (Moraceae)	7	5	17(1.0)
<i>Pternandra azurea</i> (Melastomataceae)	3	7	17(1.0)
<i>Barringtonia marcostachya</i> (Lecythidaceae)	1	8	17(1.0)
<i>Polyalthia sumatrana</i> (Annonaceae)	13	1	15(0.9)
<i>Eusideroxylon zwageri</i> (Lauraceae)	8	3	14(0.8)
<i>Aporosa sphaedophora</i> (Euphorbiaceae)	4	5	14(0.8)

The figures in parentheses are percentages of the total number of individuals.

Table 6 . The twenty most important species in number of individuals and percentage contribution in each of these species to the total number of individuals (1668 ha⁻¹) .

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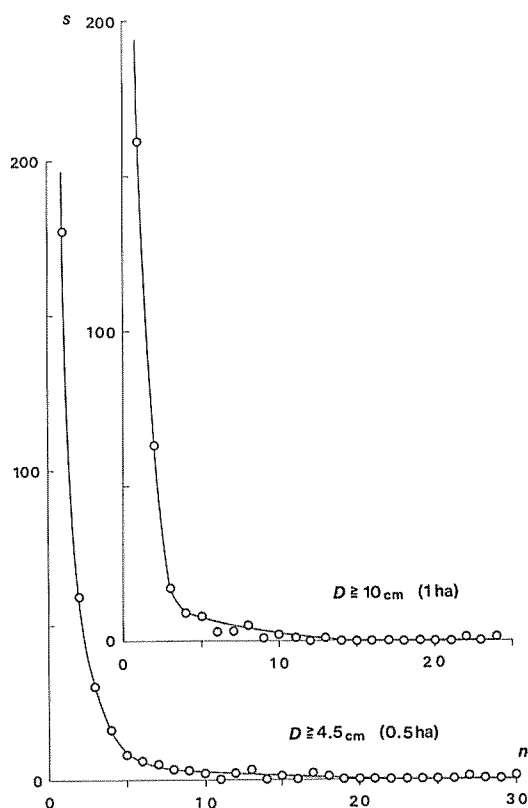


Fig. 4. Relationships between the number of species (s) and the number of individuals (n).

- siana, N oordhoff - Kolff N.V., Djakarta.
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Note added in anomalous dry spells and forest fires in the study area

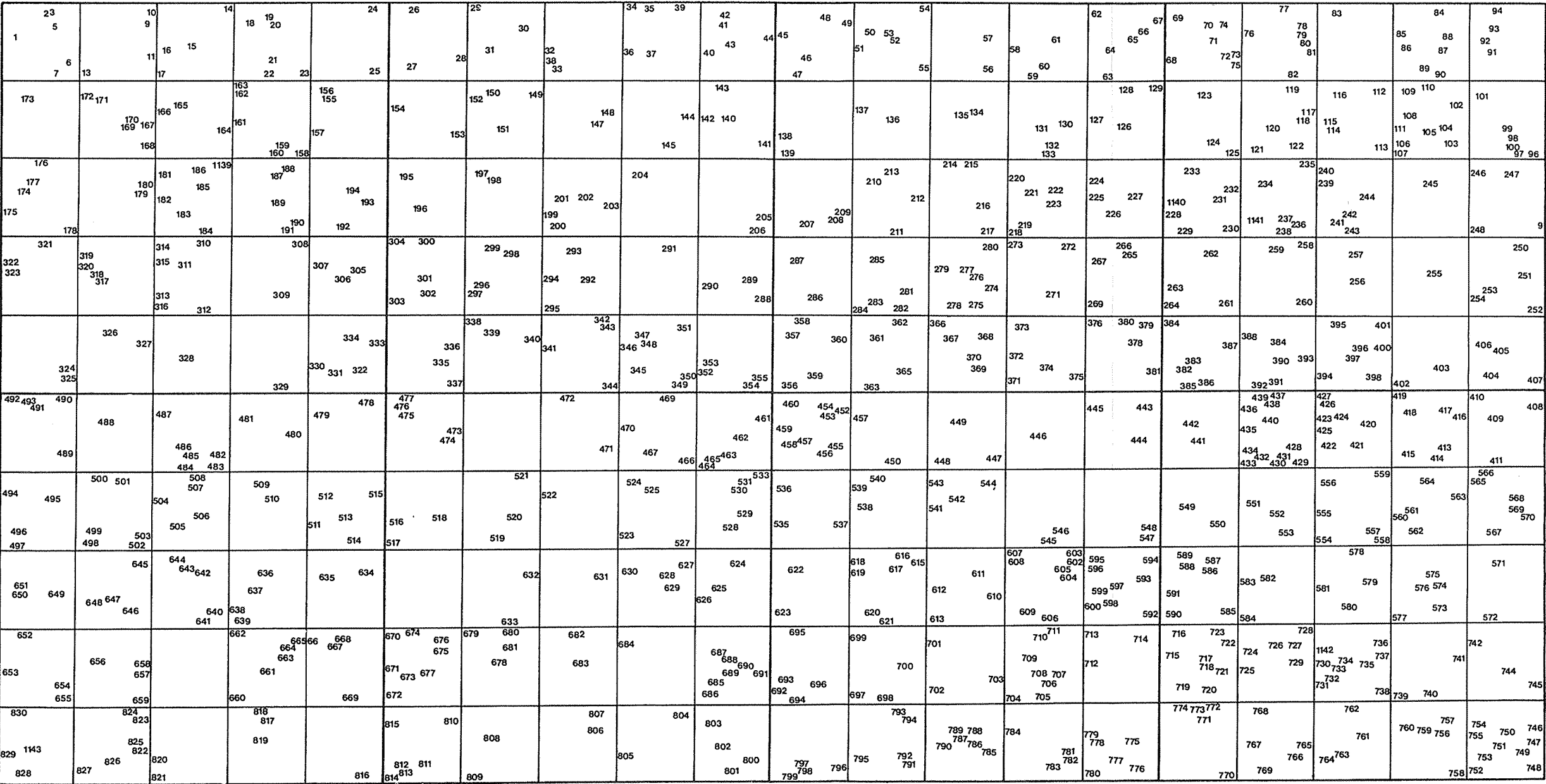
According to the staff of P.T. Kutai Timber Indonesia, there were no unusual changes in the climate until May, 1982 , in Sebulu. However, from the end of June, 1982 , a rainless spell lasted for over 120 days. In November, rainfall was recorded on several days. From December, another dry spell started and lasted for at least six months with only a little rainfall. The long dry spells damaged the forest plants and deprived tall canopy trees of their leaves. The fallen leaves accumulated on the forest floor and increased the danger of forest fires.

In March, 1983 , the forest floor was extremely dry and a forest fire was caused by either a small bonfire made by villagers or flying sparks from slash-and-burn cultivation. After the first

fire consumed the fallen leaves, ground vegetation, other plants such as small trees and climbers, fallen wood, etc., remained burning, which resulted in large tree falls, and more damaging forest fires were followed. As a result, our study plot was lost by the forest fires. This climatic anomaly was probably due to El Nino of 1982- '83 .

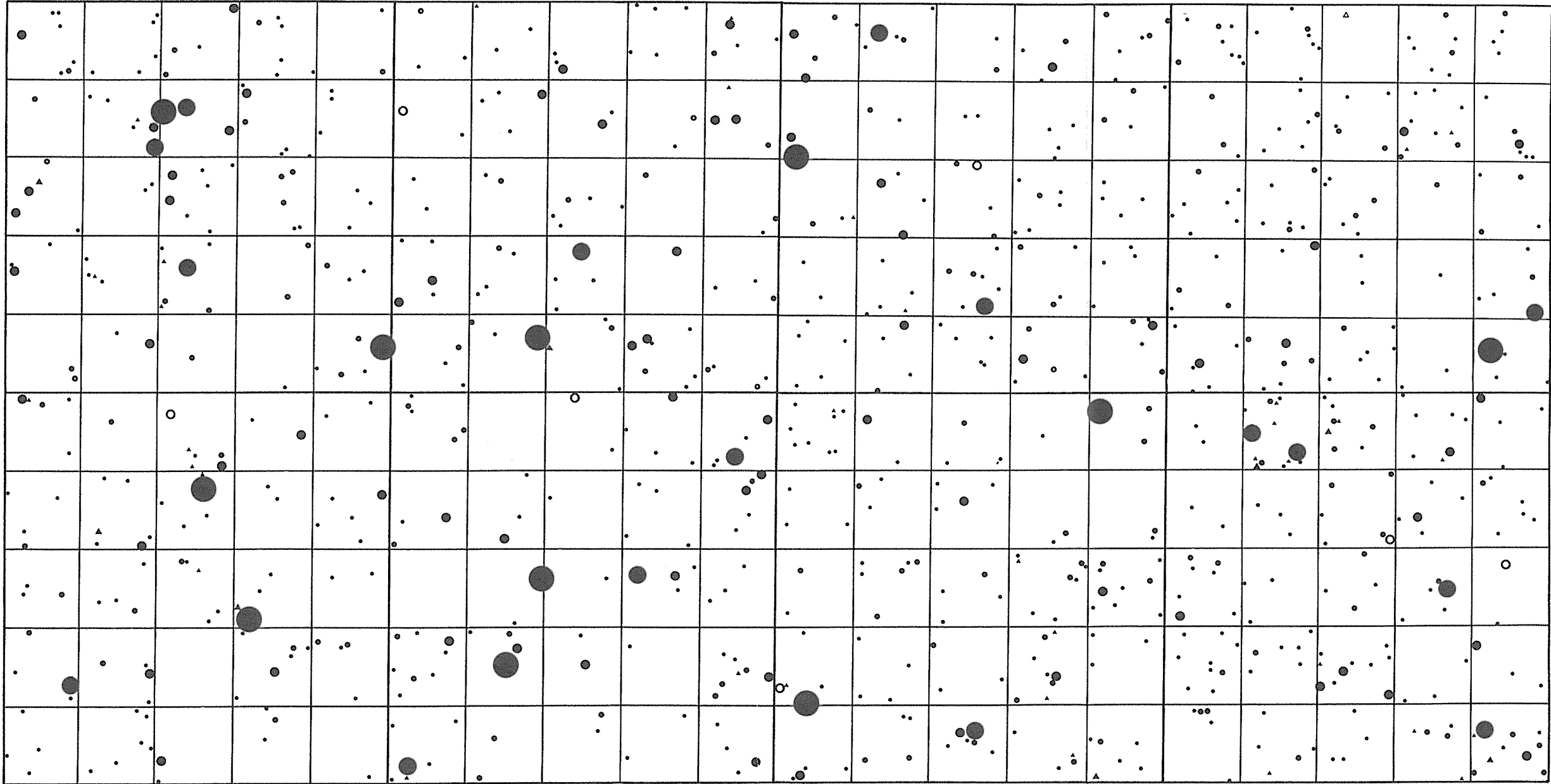
The effect of the afore-mentioned fires on the tropical rain forest was serious, and seems to extend over a long period of time. The results of this study are expected to offer a basis for understanding the effect of the climatic anomaly with fires on the species composition of the tropical rain forest.

Appendix 1. Map of the upper half of the plot (Fig. 1), showing numbers attached to the plants having a dbh of 4.5 cm and more. The number coincides with Indiv. No. represented in Appendix 4.



25m

Appendix 2. Map of the position of plant stem bases. Dbhs are divided into five classes (in cm) and are depicted using different symbols shown at the bottom of the figure. The numbers in Appendix 1 refer to individual numbers of the plants.



Dbh class	Tree	Liana	Palm	Pandan
4.5 - 10 cm	•	△	○	△
10 - 20	•	△	○	△
20 - 40	•	△	○	△
40 - 60	•	△	○	△
60 -	•	△	○	△

Appendix 3. Summaries of the basal area (BA) and the number of individuals of families, and percentage contributions (figures in parentheses) in each of these families to the total values. P1: sample area = 1.0 ha, dbh \leq 10 cm; P2: sample area = 0.5 ha, dbh \leq 4.5 cm.

Family name	Basal area		Nos. of				No. of individuals		BA per	
	P1	P2	genera		species		P1	P2	indiv. dm ⁻²	
	dm ² ha ⁻¹	dm ² (0.5ha) ⁻¹	P1	P2	P1	P2	ha ⁻¹	(0.5ha) ⁻¹	P1	P2
Dipterocarpaceae	1.462E+03(4.34E+01)	6.871E+02(3.79E+01)	5	5	23	20	95(1.60E+01)	69(8.44E+00)	15.4	10.0
Euphorbiaceae	2.180E+02(6.47E+00)	1.621E+02(8.95E+00)	12	16	34	49	62(1.05E+01)	167(2.04E+01)	3.5	1.0
Annonaceae	1.874E+02(5.56E+00)	9.075E+01(5.01E+00)	9	12	25	32	82(1.39E+01)	87(1.06E+01)	2.3	1.0
Leguminosae	1.836E+02(5.45E+00)	1.254E+02(6.92E+00)	8	8	22	18	39(6.59E+00)	62(7.58E+00)	4.7	2.0
Sapotaceae	1.511E+02(4.49E+00)	7.775E+01(4.29E+00)	3	3	17	11	25(4.22E+00)	17(2.08E+00)	6.0	4.6
Palmae	7.984E+01(2.37E+00)	4.035E+01(2.23E+00)	1	1	1	1	24(4.05E+00)	13(1.59E+00)	3.3	3.1
Saxifragaceae	7.863E+01(2.33E+00)	2.365E+00(1.31E-01)	2	2	3	2	4(6.76E-01)	2(2.44E-01)	19.7	1.2
Oleaceae	7.448E+01(2.21E+00)	2.739E+01(1.51E+00)	5	3	7	4	20(3.38E+00)	18(2.20E+00)	3.7	1.5
Sterculiaceae	7.431E+01(2.21E+00)	6.793E+01(3.75E+00)	3	3	4	6	5(8.45E-01)	8(9.78E-01)	14.9	8.5
Myristicaceae	6.945E+01(2.06E+00)	2.266E+01(1.25E+00)	3	3	12	14	17(2.87E+00)	24(2.93E+00)	4.1	0.9
Lauraceae	6.709E+01(1.99E+00)	4.035E+01(2.23E+00)	7	10	9	16	16(2.70E+00)	32(3.91E+00)	4.2	1.3
Elaeocarpaceae	6.526E+01(1.94E+00)	6.583E+01(3.63E+00)	2	2	4	4	4(6.76E-01)	6(7.33E-01)	16.3	11.0
Dilleniaceae	6.331E+01(1.88E+00)	4.107E+01(2.27E+00)	1	1	3	3	14(2.36E+00)	9(1.10E+00)	4.5	4.6
Gurriiferae	6.185E+01(1.84E+00)	4.157E+00(2.29E-01)	2	3	3	4	3(5.07E-01)	11(1.34E+00)	20.6	0.4
Sapindaceae	5.558E+01(1.65E+00)	3.654E+01(2.02E+00)	4	4	7	6	13(2.20E+00)	17(2.08E+00)	4.3	2.1
Moraceae	4.671E+01(1.39E+00)	4.735E+01(2.61E+00)	2	2	6	10	18(3.04E+00)	25(3.06E+00)	2.6	1.9
Poligalaceae	3.382E+01(1.00E+00)	1.153E+01(6.36E-01)	1	1	6	3	10(1.69E+00)	7(8.56E-01)	3.4	1.6
Rosaceae	3.346E+01(9.93E-01)	3.460E+01(1.91E+00)	2	3	4	10	5(8.45E-01)	12(1.47E+00)	6.7	2.9
Burseraceae	3.270E+01(9.71E-01)	2.988E+01(1.65E+00)	4	4	9	13	11(1.86E+00)	27(3.30E+00)	3.0	1.1
Myrtaceae	3.130E+01(9.29E-01)	1.831E+01(1.01E+00)	2	2	10	11	16(2.70E+00)	23(2.81E+00)	2.0	0.8
Connaraceae	2.771E+01(8.23E-01)	2.664E+01(1.47E+00)	3	5	3	6	11(1.86E+00)	20(2.44E+00)	2.5	1.3
Anacardiaceae	2.686E+01(7.97E-01)	8.212E+00(4.53E-01)	5	5	5	5	7(1.18E+00)	7(8.56E-01)	3.8	1.2
Icacinaeae	2.641E+01(7.84E-01)	0.000E+00(0.00E+00)	3	0	3	0	4(6.76E-01)	0(0.00E+00)	6.6	0.0
Celastraceae	2.617E+01(7.77E-01)	1.648E+01(9.10E-01)	5	2	5	2	6(1.01E+00)	2(2.44E-01)	4.4	8.2
Tiliaceae	2.399E+01(7.12E-01)	5.179E+00(2.86E-01)	2	2	6	5	9(1.52E+00)	7(8.56E-01)	2.7	0.7
Ebenaceae	2.091E+01(6.21E-01)	8.305E+00(4.58E-01)	2	1	5	2	8(1.35E+00)	4(4.89E-01)	2.6	2.1
Fagaceae	1.949E+01(5.79E-01)	1.735E+01(9.58E-01)	1	2	4	6	5(8.45E-01)	7(8.56E-01)	3.9	2.5
Vitaceae	1.868E+01(5.54E-01)	5.843E+00(3.22E-01)	4	1	1	1	10(1.69E+00)	9(1.10E+00)	1.9	0.6
Meliaceae	1.857E+01(5.51E-01)	7.471E+00(4.12E-01)	2	4	6	9	8(1.35E+00)	17(2.08E+00)	2.3	0.4
Theaceae	1.591E+01(4.72E-01)	1.717E+01(9.48E-01)	3	2	2	2	3(5.07E-01)	7(8.56E-01)	5.3	2.5
Magnoliaceae	1.295E+01(3.84E-01)	1.988E+00(1.10E-01)	2	3	3	3	5(8.45E-01)	3(3.67E-01)	2.6	0.7
Bombacaceae	1.206E+01(3.58E-01)	1.158E+01(6.39E-01)	2	2	3	6	3(5.07E-01)	6(7.33E-01)	4.0	1.9
Melastomataceae	9.205E+00(2.73E-01)	1.097E+01(6.05E-01)	1	2	5	8	7(1.18E+00)	21(2.57E+00)	1.3	0.5
Ulmaceae	8.860E+00(2.63E-01)	1.185E+01(6.54E-01)	1	1	1	1	5(8.45E-01)	17(2.08E+00)	1.8	0.7
Aquifoliaceae	5.184E+00(1.54E-01)	1.994E+00(1.10E-01)	1	1	2	1	3(5.07E-01)	3(3.67E-01)	1.7	0.7
Lecythidaceae	4.961E+00(1.47E-01)	7.877E+00(4.35E-01)	1	1	2	3	2(3.38E-01)	11(1.34E+00)	2.5	0.7
Pandanaceae	2.986E+00(8.86E-02)	2.986E+00(1.65E-01)	1	1	1	1	1(1.69E-01)	1(1.22E-01)	3.0	3.0
Sabiaceae	2.986E+00(8.86E-02)	0.000E+00(0.00E+00)	1	0	1	0	1(1.69E-01)	0(0.00E+00)	3.0	0.0
Symplocaceae	2.769E+00(8.22E-02)	8.332E-01(4.60E-02)	1	1	1	1	2(3.38E-01)	1(1.22E-01)	1.4	0.8
Compositae	2.297E+00(6.82E-02)	0.000E+00(0.00E+00)	1	0	1	0	1(1.69E-01)	0(0.00E+00)	2.3	0.0
Daphniphyllaceae	2.297E+00(6.82E-02)	0.000E+00(0.00E+00)	1	0	1	0	1(1.69E-01)	0(0.00E+00)	2.3	0.0
Alangiaceae	2.036E+00(6.04E-02)	2.036E+00(1.12E-01)	1	1	1	1	1(1.69E-01)	1(1.22E-01)	2.0	2.0
Liliaceae	1.879E+00(5.58E-02)	2.719E+00(1.50E-01)	1	1	1	1	2(3.38E-01)	4(4.89E-01)	0.9	0.7
Rubiaceae	1.247E+00(3.70E-02)	3.370E+00(1.86E-01)	1	6	1	7	1(1.69E-01)	10(1.22E+00)	1.2	0.3
Elaeagnaceae	8.825E-01(2.62E-02)	2.061E+00(1.14E-01)	1	1	1	2	1(1.69E-01)	5(6.11E-01)	0.9	0.4
Monimiaceae	8.495E-01(2.52E-02)	3.019E-01(1.67E-02)	1	1	1	1	1(1.69E-01)	1(1.22E-01)	0.8	0.3
Flacourtiaceae	8.171E-01(2.43E-02)	1.571E+00(8.67E-02)	1	2	1	3	1(1.69E-01)	4(4.89E-01)	0.8	0.4
Piperaceae	0.000E+00(0.00E+00)	2.092E+00(1.15E-01)	0	1	0	2	0(0.00E+00)	8(9.78E-01)	0.0	0.3
Thymeliaceae	0.000E+00(0.00E+00)	4.587E-01(2.53E-02)	0	1	0	1	0(0.00E+00)	2(2.44E-01)	0.0	0.2
Oxalidaceae	0.000E+00(0.00E+00)	4.536E-01(2.50E-02)	0	1	0	1	0(0.00E+00)	1(1.22E-01)	0.0	0.5
Menispermaceae	0.000E+00(0.00E+00)	4.427E-01(2.44E-02)	0	1	0	1	0(0.00E+00)	2(2.44E-01)	0.0	0.2
Oleaceae	0.000E+00(0.00E+00)	1.735E-01(9.58E-03)	0	1	0	1	0(0.00E+00)	1(1.22E-01)	0.0	0.2
Total	3.360E+03	1.812E+03	127	141	276	320	592	818		

E+n denotes 10 to the + nth power.

Appendix 4. List of species found in the subplots 1-8 (dbh \leq 4.5 cm). *D*: stem diameter at breast height of 1.3 m aboveground; *H*: total height; *H_B*: clear bole length. The symbol * stands for woody climbers. Nomenclature of Quadrat No. is as follows: Subplot No. (Fig. 1) - Grid No. (Fig. 2). Indiv. No. coincides with the number in Appendix 1.

Quadrat No.	Indiv. No.	Species	Family	<i>D</i> [cm]	<i>H</i> [m]	<i>H_B</i> [m]
1- 1	1	<i>Ochanostachys amentacea</i>	Olacaceae	21.5	-	-
	2	<i>Girroniera nervosa</i>	Ulmaceae	5.5	9.6	8.3
	3	<i>Mallotus affinis</i>	Euphorbiaceae	5.7	-	-
	5	<i>Eugenia</i> sp.1	Myrtaceae	5.2	8.9	6.0
	6	<i>Girroniera nervosa</i>	Ulmaceae	5.0	8.6	5.4
	7	<i>Parinari</i> sp.	Rosaceae	5.3	6.5	9.1
	8	<i>Pometia tomentosa</i>	Sapindaceae	11.3	17.2	12.3
1- 2	9	<i>Artocarpus nitidus</i>	Moraceae	8.5	-	-
	10	<i>Urophyllum</i> sp.	Rubiaceae	8.0	-	-
	11	<i>Aquilaria malaccensis</i>	Thymelaeaceae	5.2	8.2	6.9
	13	<i>Aporosa elmeri</i>	Euphorbiaceae	4.6	-	-
1- 3	14	<i>Gardenia</i> sp.	Theaceae	23.5	-	-
	15	<i>Litsea</i> sp.	Lauraceae	8.0	-	-
	16	<i>Gardenia</i> sp.	Theaceae	17.8	-	-
	17	<i>Antidesma tomentosum</i>	Euphorbiaceae	14.8	-	-
1- 4	18	<i>Polyalthia glauca</i>	Annonaceae	12.7	-	-
	19	<i>Gardenia</i> sp.	Theaceae	9.3	-	-
	20	<i>Mallotus affinis</i>	Euphorbiaceae	5.6	-	-
	21	<i>Neoscortechinia kingii</i>	Euphorbiaceae	4.7	-	-
	22	<i>Memexylon jamboloides</i>	Melastomataceae	6.1	-	-
	23	<i>Polyalthia insignis</i>	Annonaceae	4.6	10.0	5.7
1- 5	24	<i>Polyosma</i> sp.	Saxifragaceae	7.6	-	-
	25	<i>Xylopia altissima</i>	Annonaceae	12.3	15.6	10.9
1- 6	173	<i>Polyalthia</i> sp.	Annonaceae	14.6	-	-
1- 7	167	<i>Dialium</i> sp.2	Leguminosae	22.4	24.7	14.1
	168	<i>Hopea mangerawan</i>	Dipterocarpaceae	45.3	37.2	21.6
	169	<i>Baccaurea pendula</i>	Euphorbiaceae	8.0	-	-
	170*	<i>Agelaea borneensis</i>	Connaraceae	6.0	-	-
	171	<i>Neoscortechinia kingii</i>	Euphorbiaceae	7.4	11.8	6.5
	172	<i>Girroniera nervosa</i>	Ulmaceae	5.4	-	-
1- 8	164	<i>Litsea</i> sp.1	Lauraceae	22.6	26.8	20.2
	165	<i>Shorea ovalis</i>	Dipterocarpaceae	58.6	42.1	26.0
	166	<i>Shorea laevis</i>	Dipterocarpaceae	130.5	70.7	30.5
1- 9	158	<i>Aglaia</i> sp.	Meliaceae	6.8	11.2	6.3
	159	<i>Madhuca sericea</i>	Sapotaceae	7.8	12.4	11.0
	160	<i>Eugenia griffithii</i>	Myrtaceae	6.7	12.2	18.7
	161	<i>Xanthophyllum heteropleurum</i>	Polygalaceae	12.6	12.5	7.5
	162	<i>Horsfieldia grandis</i>	Myristicaceae	21.1	23.4	21.5

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	163	<i>Polyalthia glauca</i>	Annonaceae	6.4	-	-
1-10	155	<i>Shorea excemia</i>	Dipterocarpaceae	5.0	9.2	7.0
	156	<i>Shorea excemia</i>	Dipterocarpaceae	5.2	8.7	5.5
1-10	157	<i>Koodersiodendron pinnatum</i>	Anacardiaceae	6.5	8.5	5.1
1-11	174	<i>Dipterocarpus crinitus</i>	Dipterocarpaceae	35.6	-	-
	175	<i>Mallotus griffithianus</i>	Euphorbiaceae	27.0	-	-
	176	<i>Borassodendron borneensis</i>	Palmae	18.0	-	-
	177*	<i>Uncaria gambir</i>	Rubiaceae	6.6	-	-
	178	<i>Dacryodes</i> sp.	Burseraceae	6.7	-	-
1-12	179	<i>Aporosa elmeri</i>	Euphorbiaceae	6.5	12.4	6.8
	180	<i>Ochanostachys amentacea</i>	Olacaceae	5.9	9.1	6.6
1-13	181	<i>Dialium indum</i>	Leguminosae	26.0	33.5	27.1
	182	<i>Baccaurea</i> sp.	Euphorbiaceae	25.1	27.7	16.0
	183	<i>Neoscortechinia kingii</i>	Euphorbiaceae	7.7	12.7	6.6
	184	<i>Sindora</i> sp.	Leguminosae	5.8	7.7	3.4
	185	<i>Beilschmiedia</i> sp.	Lauraceae	7.7	7.2	6.3
	186	<i>Santiria operculata</i>	Burseraceae	5.5	8.8	7.6
	1139	<i>Neoscortechinia kingii</i>	Euphorbiaceae	4.6	8.0	3.8
1-14	187	<i>Dialium indum</i>	Leguminosae	13.4	20.0	13.6
	188	<i>Girroniera nervosa</i>	Ulmaceae	15.1	17.2	12.7
	189	<i>Strombosia</i> sp.	Olacaceae	10.4	11.6	6.4
	190	<i>Aporosa elmeri</i>	Euphorbiaceae	5.9	8.9	4.9
	191	<i>Palaquium dasyphyllum</i>	Sapotaceae	5.7	8.1	5.8
1-15	192	<i>Shorea excemia</i>	Dipterocarpaceae	5.2	8.1	6.4
	193	<i>Baccaurea</i> sp.	Euphorbiaceae	7.4	10.3	5.1
	194	<i>Girroniera nervosa</i>	Ulmaceae	4.7	7.8	5.6
1-16	321	<i>Polyalthia</i> sp.3	Annonaceae	5.5	-	-
	322	<i>Artocarpus</i> sp.	Moraceae	6.0	-	-
	323	<i>Castanopsis costata</i>	Fagaceae	26.8	-	-
1-17	317	<i>Baccaurea pendula</i>	Euphorbiaceae	7.4	20.0	13.6
	318*	<i>Spatholobus</i> sp.	Leguminosae	6.2	-	-
	319	<i>Aporosa sphaedophora</i> var. <i>pubescens</i>	Euphorbiaceae	5.6	-	-
	320	<i>Neoscortechinia kingii</i>	Euphorbiaceae	8.0	-	-
1-18	310	<i>Eugenia cuprea</i>	Myrtaceae	7.0	11.2	7.0
	311	<i>Hopea mangerawan</i>	Dipterocarpaceae	53.4	40.7	27.5
	312	<i>Ostodes macrophylla</i>	Euphorbiaceae	12.2	14.8	9.1
	313	<i>Myristica</i> sp.	Myristicaceae	10.7	13.0	8.0
	314	<i>Polyalthia glauca</i>	Annonaceae	9.1	10.0	6.0
	315*	<i>Agelaea borneensis</i>	Connaraceae	5.6	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	316*	<i>Tetrastigma pergamaceum</i>	Vitaceae	5.3	-	-
1-19	308	<i>Baccaurea</i> sp.	Euphorbiaceae	18.2	16.2	5.9
	309	<i>Polyalthia rumphii</i>	Annonaceae	10.0	15.0	6.4
1-20	305	<i>Pternandra azurea</i>	Melastomataceae	6.6	9.9	7.1
	306	<i>Durio oxlayanus</i>	Bombacaceae	4.9	8.5	5.0
	307	<i>Polyalthia rumphii</i>	Annonaceae	11.1	15.0	6.6
1-21	324	<i>Diospyros borneensis</i>	Ebenaceae	18.5	21.5	14.6
	325	<i>Borassodendron borneensis</i>	Palmae	12.7	-	-
1-22	326	<i>Dacryodes</i> sp.	Burseraceae	9.1	-	-
	327	<i>Litsea</i> sp.	Lauraceae	23.9	-	-
1-23	328	<i>Palaquium</i> sp.2	Sapotaceae	12.9	-	-
1-24	329	<i>Monocarpia euneura</i>	Annonaceae	4.9	5.8	3.3
1-25	330	<i>Polyalthia glauca</i>	Annonaceae	7.3	10.2	4.9
	331	<i>Mallotus echinatus</i>	Euphorbiaceae	12.2	16.4	9.0
	332	<i>Dacryodes rostrata</i> var. <i>rostrata</i>	Burseraceae	4.6	6.8	6.0
	333	<i>Hopea mangerawan</i>	Dipterocarpaceae	60.5	42.5	26.5
	334	<i>Polyalthia glauca</i>	Annonaceae	10.7	11.9	5.8
2- 1	26	<i>Borassodendron borneensis</i>	Palmae	18.0	-	-
	27	<i>Litsea</i> sp.	Lauraceae	5.9	9.5	6.7
	28	<i>Cryptocarya</i> sp.	Lauraceae	5.1	-	-
2- 2	29*	<i>Agelaea borneensis</i>	Connaraceae	5.0	-	-
	30	<i>Eusideroxylon zwageri</i>	Lauraceae	7.0	12.0	9.8
	31	<i>Aporosa elmeri</i>	Euphorbiaceae	6.2	10.1	6.9
2- 3	32	<i>Neoscortechinia kingii</i>	Euphorbiaceae	7.9	12.0	5.8
	33	<i>Santiria tomentosa</i>	Burseraceae	29.5	30.0	12.3
	38	<i>Ochanostachys amentacea</i>	Olcaceae	5.4	-	-
2- 4	34	<i>Memecylon</i> sp.	Melastomataceae	5.3	-	-
	35	<i>Sindora leocarpa</i>	Leguminosae	7.8	-	-
	36	<i>Litsea</i> sp.	Lauraceae	7.4	11.1	8.6
	37	<i>Semecarpus</i> sp.	Anacardiaceae	4.8	5.5	4.6
	39	<i>Dialium modesta</i>	Leguminosae	6.0	-	-
2- 5	40	<i>Polyalthia sumatrana</i>	Annonaceae	14.7	16.1	8.1
	41	<i>Dialium</i> sp.1	Leguminosae	20.0	23.9	15.4
	42*	<i>Coscinium venestratum</i>	Menispermaceae	5.6	-	-
	43	<i>Canarium</i> sp.	Burseraceae	5.6	-	-
	44	<i>Microcos crassifolia</i>	Tiliaceae	4.6	-	-
2- 6	153	<i>Baccaurea pendula</i>	Euphorbiaceae	9.5	13.6	6.4

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	154	<i>Borassodendron borneensis</i>	Palmae	20.7	8.0	10.8
2- 7	149	<i>Polyalthia glauca</i>	Annonaceae	20.8	19.3	11.6
	150	<i>Baccaurea</i> sp.	Euphorbiaceae	5.1	10.4	6.8
	151	<i>Ochanostachys amentacea</i>	Olacaceae	8.1	14.7	9.1
2- 7	152	<i>Girroniera nervosa</i>	Ulmaceae	7.9	8.4	5.4
2- 8	147	<i>Baccaurea deflexa</i>	Euphorbiaceae	25.4	26.1	13.3
	148	<i>Milletia sericea</i>	Leguminosae	5.9	10.3	5.9
2- 9	144	<i>Borassodendron borneensis</i>	Palmae	18.2	7.6	2.7
	145	<i>Urophyllum glabrum</i>	Rubiaceae	5.6	6.6	3.6
2-10	140	<i>Ternstroemia</i> sp.	TheaceaeEuphorbiaceae	34.0	26.9	13.7
	141	<i>Vatica cupularis</i>	Dipterocarpaceae	12.8	19.7	12.7
	142	<i>Aporosa sphaedophora</i> var. <i>pubescens</i>	Euphorbiaceae	22.0	22.8	7.8
	143*	<i>Spatholobus</i> sp.	Leguminosae	6.1	-	-
2-11	195	<i>Aporosa nervosa</i>	Euphorbiaceae	9.0	13.4	6.7
	196	<i>Madhuca kunstleri</i>	Sapotaceae	5.0	9.0	4.8
2-12	197	<i>Sterculia rubiginosa</i>	Sterculiaceae	5.3	7.4	5.4
	198	<i>Eugenia</i> sp. 6	Myrtaceae	11.6	16.3	8.4
2-13	199	<i>Aporosa elmeri</i>	Euphorbiaceae	4.7	8.8	5.1
	200	<i>Neoscortechinia kingii</i>	Euphorbiaceae	5.9	10.5	5.5
	201	<i>Xanthophyllum heteropleurum</i>	Polygalaceae	13.4	15.9	9.3
	202	<i>Barringtonia macrostachya</i>	Lecythidaceae	7.2	5.0	3.6
	203	<i>Eugenia cuprea</i>	Myrtaceae	7.0	12.7	7.0
2-14	204	<i>Baccaurea pendula</i>	Euphorbiaceae	19.2	18.0	7.8
2-15	205	<i>Polyalthia glauca</i>	Annonaceae	19.2	18.7	11.1
	206	<i>Linociera</i> sp.	Oleaceae	4.7	-	-
2-16	300	<i>Baccaurea kunstleri</i>	Euphorbiaceae	7.3	10.8	7.8
	301	<i>Lithocarpus daphnoideus</i>	Fagaceae	36.1	-	-
	302	<i>Aporosa elmeri</i>	Euphorbiaceae	6.8	-	-
	303	<i>Koompassia malaccensis</i>	Leguminosae	24.6	-	-
	304	<i>Drypetes subcubica</i>	Euphorbiaceae	8.2	10.3	6.0
2-17	296	<i>Aporosa elmeri</i>	Euphorbiaceae	5.3	9.1	4.6
	297	<i>Milletia sericea</i>	Leguminosae	5.6	9.0	4.7
	298	<i>Aglaia</i> sp.	Meliaceae	5.0	7.5	4.5
	299	<i>Artocarpus anisophyllus</i>	Moraceae	11.5	13.7	11.0
2-18	292	<i>Milletia sericea</i>	Leguminosae	5.2	8.9	3.5
	293	<i>Hopea mangerawan</i>	Dipterocarpaceae	45.5	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	294	<i>Pometia tomentosa</i>	Sapindaceae	5.3	10.0	7.4
	295	<i>Strombosia</i> sp.	Olacaceae	5.3	10.3	5.4
2-19	291	<i>Elaeocarpus</i> sp.	Elaeocarpaceae	20.1	24.6	10.3
2-20	288	<i>Ptemandra rostrata</i>	Melastomataceae	10.8	-	-
	289	<i>Mallotus affinis</i>	Euphorbiaceae	4.6	-	-
2-20	290	<i>Myristica iners</i>	Myristicaceae	8.2	13.2	8.0
2-21	335	<i>Dialium indum</i>	Leguminosae	7.4	12.0	7.9
	336	<i>Baccaurea deflexa</i>	Euphorbiaceae	10.3	-	-
	337	<i>Girroniera nervosa</i>	Ulmaceae	4.8	8.5	5.3
2-22	338	<i>Santiria tomentosa</i>	Burseraceae	12.3	18.6	12.9
	339	<i>Aporosa sphaedophora</i> var. <i>pubescens</i>	Euphorbiaceae	6.6	10.2	5.5
	340	<i>Palaquium</i> sp.	Sapotaceae	87.5	-	-
2-23	341*	<i>Agelaea borneensis</i>	Connaraceae	11.1	-	-
	342	<i>Girroniera nervosa</i>	Ulmaceae	5.4	8.0	5.1
	343	<i>Talauma</i> sp.	Magnoliaceae	11.1	13.0	7.7
	344	<i>Lithocarpus</i> sp.1	Fagaceae	7.4	12.3	5.9
2-24	345	<i>Monocarpia euneura</i>	Annonaceae	10.3	13.2	10.5
	346	<i>Dillenia obovata</i>	Dilleniaceae	32.4	-	-
	347	<i>Durio</i> sp.	Bombacaceae	30.0	-	-
	348	<i>Canarium</i> sp.	Burseraceae	7.9	-	-
	349	<i>Bouea burmanica</i> var. <i>macrophylla</i>	Anacardiaceae	5.6	10.5	4.1
	350	<i>Ediandra</i> sp.	Lauraceae	7.3	14.4	8.9
	351	<i>Memexylon</i> sp.	Melastomataceae	4.6	9.7	7.3
2-25	352	<i>Pentace excelsa</i>	Tiliaceae	13.0	-	-
	353	<i>Antidesma</i> sp.	Euphorbiaceae	5.3	-	-
	354	<i>Borassodendron borneensis</i>	Palmae	17.3	-	-
	355	<i>Aporosa elmeri</i>	Euphorbiaceae	4.9	-	-
3- 1	45	<i>Polyalthia sumatrana</i>	Annonaceae	22.4	18.0	10.7
	46	<i>Dacryodes rostrata</i>	Burseraceae	10.2	17.1	12.0
	47	<i>Xanthophyllum amoenum</i>	Polygalaceae	28.5	27.0	13.0
	48	<i>Santiria tomentosa</i>	Burseraceae	11.0	14.3	9.0
	49	<i>Drypetes</i> sp.	Euphorbiaceae	5.3	-	-
3- 2	50	<i>Eusideroxylon zwageri</i>	Lauraceae	41.4	-	-
	51	<i>Baccaurea brevipes</i>	Euphorbiaceae	5.3	-	-
	52	<i>Diospyros borneensis</i>	Ebenaceae	11.8	12.5	8.7
	53	<i>Milletia sericea</i>	Leguminosae	4.8	-	-
	54	<i>Polyalthia</i> sp.1	Annonaceae	7.6	5.6	3.3
	55	<i>Gardenia</i> sp.	Theaceae	4.7	-	-
3- 3	56	<i>Knema</i> sp.1	Myristicaceae	15.2	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	57	<i>Microcos crassifolia</i>	Tiliaceae	6.7	-	-
3- 4	58	<i>Lepisanthes tetraphylla</i>	Sapindaceae	6.3	-	-
	59	<i>Mallotus affinis</i>	Euphorbiaceae	4.5	6.7	3.4
	60	<i>Alseodaphne</i> sp.	Lauraceae	24.4	-	-
	61	<i>Payena</i> sp.	Sapotaceae	10.3	-	-
3- 5	62	<i>Cyathocalyx sumatranus</i>	Annonaceae	17.1	-	-
	63	<i>Omphalia</i> sp.	Euphorbiaceae	7.0	-	-
	64	<i>Drypetes longifolia</i>	Euphorbiaceae	5.3	-	-
	65	<i>Alphonsea curtisii</i>	Annonaceae	5.3	-	-
	66	<i>Palaquium hispidum</i>	Sapotaceae	13.4	-	-
	67	<i>Xanthophyllum amoenum</i>	Polygalaceae	11.1	-	-
3- 6	138	<i>Strombosia</i> sp.	Olacaceae	25.5	-	-
	139	<i>Sloanea javanica</i>	Elaeocarpaceae	74.2	-	-
3- 7	136	<i>Ochanostachys amentacea</i>	Olacaceae	6.8	-	-
	137	<i>Microcos opaca</i>	Tiliaceae	13.2	14.6	5.7
3- 8	134	<i>Lithocarpus</i> sp.1	Fagaceae	6.6	10.3	4.5
	135	<i>Ptemandra azurea</i>	Melastomataceae	8.6	12.5	8.8
3- 9	130	<i>Madhuca rufa</i>	Sapotaceae	5.1	-	-
	131	<i>Myristica</i> sp.	Myristicaceae	4.8	-	-
	132	<i>Shorea smithiana</i>	Dipterocarpaceae	5.3	-	-
	133	<i>Baccaurea pendula</i>	Euphorbiaceae	5.9	-	-
3-10	126	<i>Baccaurea minor</i>	Euphorbiaceae	6.3	-	-
	127	<i>Polyalthia</i> sp.2	Annonaceae	17.2	-	-
	128	<i>Eugenia</i> sp.	Myrtaceae	16.9	-	-
	129	<i>Baccaurea minor</i>	Euphorbiaceae	5.2	-	-
3-11	207	<i>Polyalthia sumatrana</i>	Annonaceae	17.0	16.9	10.1
	208	<i>Horsfieldia</i> sp.	Myristicaceae	6.9	-	-
	209*	<i>Elaeagnus</i> sp.	Elaeagnaceae	5.2	-	-
3-12	210	<i>Pometia</i> sp.	Sapindaceae	31.2	-	-
	211	<i>Garuga</i> sp.	Burseraceae	20.4	-	-
	212	<i>Knema</i> sp.	Myristicaceae	4.7	-	-
	213	<i>Ptemandra caerulescens</i> var. <i>jackiana</i>	Melastomataceae	8.2	11.3	4.6
3-13	214	<i>Mastixia</i> sp.	Connaraceae	10.3	11.8	4.3
	215	<i>Borassodendron borneensis</i>	Palmae	21.8	-	-
	216	<i>Pimeliidendron papareroideis</i>	Euphorbiaceae	5.6	-	-
	217	<i>Polyalthia sumatrana</i>	Annonaceae	11.0	13.1	6.6
3-14	218	<i>Shorea excemia</i>	Dipterocarpaceae	4.7	9.1	3.5
	219	<i>Baccaurea pendula</i>	Euphorbiaceae	7.8	12.3	6.1

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	220	<i>Mallotus affinis</i>	Euphorbiaceae	5.2	8.6	5.4
	221	<i>Ilex</i> sp.	Aquifoliaceae	10.9	12.1	6.7
	222	<i>Nauclea obtusa</i>	Rubiaceae	5.8	6.0	2.8
	223	<i>Horsfieldia</i> sp.1	Myristicaceae	7.3	9.8	6.1
3-15	224	<i>Mastixia cuspidata</i>	Connaraceae	5.3	-	-
	225	<i>Memexylon myrsinoides</i>	Melastomataceae	6.5	-	-
	226	<i>Artocarpus glaucus</i>	Moraceae	6.7	-	-
3-15	227	<i>Eugenia</i> sp.	Myrtaceae	6.4	-	-
3-16	286	<i>Popowia pisocarpa</i>	Annonaceae	5.0	-	-
	287	<i>Eugenia</i> sp.	Myrtaceae	5.4	-	-
3-17	281	<i>Aporosa elmeri</i>	Euphorbiaceae	7.4	-	-
	282*	<i>Spatholobus</i> sp.	Leguminosae	5.3	-	-
	283	<i>Eusideroxylon zwageri</i>	Lauraceae	8.8	-	-
	284	<i>Mallotus affinis</i>	Euphorbiaceae	7.6	-	-
	285	<i>Aglaia</i> sp.	Meliaceae	6.5	-	-
3-18	274	<i>Aporosa</i> sp.	Euphorbiaceae	5.4	-	-
	275	<i>Parinari rubiginosa</i>	Rosaceae	56.4	-	-
	276	<i>Mallotus affinis</i>	Euphorbiaceae	5.3	9.6	7.0
	277	<i>Eugenia</i> sp.1	Myrtaceae	12.1	-	-
	278	<i>Knema</i> sp.3	Myristicaceae	8.7	-	-
	279	<i>Polyalthia sumatrana</i>	Annonaceae	10.7	-	-
	280	<i>Aporosa elmeri</i>	Euphorbiaceae	7.3	11.2	8.6
3-19	270	<i>Dialium maingayi</i>	Leguminosae	11.3	-	-
	271	<i>Aporosa elmeri</i>	Euphorbiaceae	4.9	10.6	5.8
	272	<i>Lepisanthes tetraphylla</i>	Sapindaceae	4.7	9.2	5.9
	273	<i>Pometia tomentosa</i>	Sapindaceae	10.7	-	-
3-20	265	<i>Barringtonia macrostachya</i>	Lecythidaceae	6.4	-	-
	266	<i>Barringtonia macrostachya</i>	Lecythidaceae	7.1	-	-
	267	<i>Milletia sericea</i>	Leguminosae	5.3	-	-
	269	<i>Parinari parva</i>	Rosaceae	7.9	-	-
3-21	356	<i>Aporosa elmeri</i>	Euphorbiaceae	6.0	-	-
	357	<i>Baccaurea brevipes</i>	Euphorbiaceae	5.8	-	-
	358	<i>Sindora coriacea</i>	Leguminosae	5.6	-	-
	359	<i>Palaquium</i> sp.	Sapotaceae	6.5	-	-
	360	<i>Polyalthia</i> sp.	Annonaceae	4.8	-	-
3-22	361	<i>Aporosa elmeri</i>	Euphorbiaceae	5.7	-	-
	362	<i>Polyalthia glauca</i>	Annonaceae	23.7	-	-
	363	<i>Girroniera nervosa</i>	Ulmaceae	12.9	-	-
	365	<i>Dialium maingayi</i>	Leguminosae	4.9	-	-
3-23	366	<i>Polyalthia insignis</i>	Annonaceae	6.6	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	367	<i>Aporosa</i> sp.	Euphorbiaceae	5.7	-	-
	368	<i>Polyalthia glauca</i>	Annonaceae	5.2	-	-
	369	<i>Baccaurea brachyala</i>	Euphorbiaceae	8.9	-	-
	370	<i>Eugenia perspercinervia</i>	Myrtaceae	5.6	-	-
3-24	371	<i>Phoebe</i> sp.	Lauraceae	7.8	-	-
	372	<i>Hopea mangerawan</i>	Dipterocarpaceae	23.8	-	-
	373	<i>Memexylon</i> sp.	Melastomataceae	16.0	-	-
	374	<i>Borassodendron borneensis</i>	Palmae	17.8	-	-
3-24	375	<i>Baccaurea pendula</i>	Euphorbiaceae	5.0	-	-
3-25	376	<i>Pternandra azurea</i>	Melastomataceae	5.8	-	-
	377	<i>Polyalthia glauca</i>	Annonaceae	12.1	-	-
	378	<i>Eugenia</i> sp.	Myrtaceae	5.2	-	-
	379	<i>Shorea</i> sp.1	Dipterocarpaceae	30.0	-	-
	380	<i>Artocarpus</i> sp.2	Moraceae	7.3	-	-
	381	<i>Girroniera nervosa</i>	Ulmaceae	12.4	-	-
4- 1	68	<i>Eusideroxylon zwageri</i>	Lauraceae	12.8	-	-
	69	<i>Canarium</i> sp.1	Burseraceae	5.3	-	-
	70	<i>Eusideroxylon zwageri</i>	Lauraceae	13.3	-	-
	71	<i>Milletia sericea</i>	Leguminosae	6.1	-	-
	72	<i>Aglaia</i> sp.2	Meliaceae	5.5	-	-
	73	<i>Parinari</i> sp.	Rosaceae	6.5	-	-
	74	<i>Milletia sericea</i>	Leguminosae	5.4	-	-
	75	<i>Aglaia dookoo</i>	Meliaceae	5.5	-	-
4- 2	76	<i>Melanochylla elmeri</i>	Anacardiaceae	5.9	-	-
	77	<i>Durio</i> sp.1	Bombacaceae	5.3	-	-
	78	<i>Canarium rufum</i>	Burseraceae	17.2	-	-
	79	<i>Monocarpia</i> sp.	Annonaceae	8.5	-	-
	80	<i>Monocarpia euneura</i>	Annonaceae	6.2	-	-
	81	<i>Decryodes</i> sp.	Burseraceae	7.7	-	-
	82	<i>Shorea</i> sp.	Dipterocarpaceae	9.3	-	-
4- 3	83	<i>Pandanus</i> sp.	Pandanaceae	19.5	-	-
4- 4	84	<i>Platymirta</i> sp.	Annonaceae	10.4	-	-
	85	<i>Baccaurea pendula</i>	Euphorbiaceae	4.5	-	-
	86	<i>Baccaurea</i> sp.	Euphorbiaceae	7.2	-	-
	87	<i>Drypetes crassipes</i>	Euphorbiaceae	10.8	-	-
	88	<i>Canarium</i> sp.1	Burseraceae	6.0	-	-
	89	<i>Xylopia</i> sp.1	Annonaceae	4.7	-	-
	90	<i>Milletia sericea</i>	Leguminosae	5.2	-	-
4- 5	91	<i>Neoscorlechinia sumatranus</i>	Euphorbiaceae	5.0	-	-
	92	<i>Neoscorlechinia arborea</i>	Euphorbiaceae	6.6	-	-
	93	<i>Polyalthia insignis</i>	Annonaceae	7.8	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	94	<i>Mallotus</i> sp.	Euphorbiaceae	11.3	-	-
4- 6	123	<i>Horsfieldia camosa</i>	Myristicaceae	11.2	-	-
	124	<i>Mastixia</i> sp.	Connaraceae	10.4	-	-
	125	<i>Eugenia palembanica</i>	Myrtaceae	6.5	-	-
4- 7	117	<i>Parartocarpus</i> sp.	Moraceae	10.7	-	-
	118	<i>Shorea excemia</i>	Dipterocarpaceae	5.5	-	-
	119	<i>Litsea firma</i>	Lauraceae	4.7	-	-
	120	<i>Milletia sericea</i>	Leguminosae	7.2	-	-
	121	<i>Ellipanthus</i> sp.	Connaraceae	4.9	-	-
4- 7	122	<i>Milletia sericea</i>	Leguminosae	6.1	-	-
4- 8	112	<i>Antidesma tomentosum</i>	Euphorbiaceae	9.0	-	-
	113	<i>Cordyline fruticosa</i>	Liliaceae	10.0	-	-
	114	<i>Hydnocarpus polypetala</i>	Flacourtiaceae	10.2	-	-
	115	<i>Durio Kutejensis</i>	Bombacaceae	7.3	-	-
	116	<i>Coilodepas</i> sp.	Euphorbiaceae	7.8	-	-
4- 9	102	<i>Eugenia</i> sp.2	Myrtaceae	6.3	-	-
	103	<i>Polyalthia</i> sp.2	Annonaceae	19.6	-	-
	104*	<i>Tetrastigma pergamaceum</i>	Vitaceae	8.6	-	-
	105	<i>Aglaia ganggo</i>	Meliaceae	8.1	-	-
	106*	<i>Aglaea borneensis</i>	Connaraceae	6.8	-	-
	107	<i>Cleistanthus</i> sp.	Euphorbiaceae	13.7	-	-
	108	<i>Milletia sericea</i>	Leguminosae	5.2	-	-
	109	<i>Cyathocalyx</i> sp.	Annonaceae	9.3	-	-
	110	<i>Anaxagorea javanica</i>	Annonaceae	8.1	-	-
	111	<i>Baccaurea pendula</i>	Euphorbiaceae	33.6	-	-
4-10	96	<i>Knema</i> sp.1	Myristicaceae	5.1	-	-
	97	<i>Orophea</i> sp.	Annonaceae	4.7	-	-
	98	<i>Coccoceras borneensis</i>	Euphorbiaceae	21.8	-	-
	99	<i>Polyalthia glauca</i>	Annonaceae	11.3	-	-
	100	<i>Polyalthia glauca</i>	Annonaceae	8.2	-	-
	101	<i>Milletia sericea</i>	Leguminosae	5.2	-	-
4-11	228	<i>Artocarpus rigidus</i>	Moraceae	8.0	-	-
	229	<i>Xanthophyllum kunstleri</i>	Polygalaceae	5.3	-	-
	230	<i>Goniotalamus</i> sp.	Annonaceae	9.3	-	-
	231	<i>Plemandra azurea</i>	Melastomataceae	7.8	-	-
	232	<i>Eugenia</i> sp.	Myrtaceae	4.6	-	-
	233	<i>Palaquium hispidum</i>	Sapotaceae	11.1	-	-
	1140	<i>Pavetta</i> sp.	Rubiaceae	4.6	-	-
4-12	234	<i>Antidesma neurocarpum</i>	Euphorbiaceae	6.6	-	-
	235	<i>Dryobalanops</i> sp.	Dipterocarpaceae	12.7	-	-
	236	<i>Shorea ovalis</i>	Dipterocarpaceae	6.8	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	237	<i>Popowia</i> sp.	Annonaceae	5.8	-	-
	238	<i>Palaquium</i> sp.	Sapotaceae	14.8	-	-
	1141	<i>Aporosa</i> sp.	Euphorbiaceae	4.6	-	-
4-13	239	<i>Hopea</i> sp.	Dipterocarpaceae	9.2	-	-
	240	<i>Milletia sericea</i>	Leguminosae	5.1	-	-
	241	<i>Shorea ovalis</i>	Dipterocarpaceae	5.2	-	-
	242	<i>Monocarpia marginalis</i>	Annonaceae	16.2	-	-
	243	<i>Milletia sericea</i>	Leguminosae	4.7	-	-
	244	<i>Ochanostachys amentacea</i>	Olacaceae	11.2	-	-
4-14	245	<i>Artocarpus anisophyllus</i>	Moraceae	12.1	-	-
4-15	246	<i>Polyalthia</i> sp.	Annonaceae	7.9	-	-
	247	<i>Dryobalanops</i> sp.	Dipterocarpaceae	13.0	-	-
	248	<i>Alangium</i> sp.	Alangiaceae	16.1	-	-
	249	<i>Polyalthia</i> sp.	Annonaceae	4.7	-	-
4-16	261	<i>Atuna</i> sp.	Rosaceae	14.7	-	-
	262	<i>Parinari oblongifolia</i>	Rosaceae	6.1	-	-
	263	<i>Garcinia</i> sp.	Guttiferae	10.6	-	-
	264	<i>Baccaurea macrocarpa</i>	Euphorbiaceae	5.0	-	-
4-17	258	<i>Dialium</i> sp.	Leguminosae	33.2	-	-
	259	<i>Michelia</i> sp.	Magnoliaceae	7.7	-	-
	260	<i>Horsfieldia camosa</i>	Myristicaceae	9.6	-	-
4-18	256	<i>Urophyllum glabrum</i>	Rubiaceae	5.7	-	-
	257	<i>Shorea laevis</i>	Dipterocarpaceae	7.7	-	-
4-19	255	<i>Shorea laevis</i>	Dipterocarpaceae	8.5	-	-
4-20	250	<i>Eugenia</i> sp.1	Myrtaceae	6.2	-	-
	251	<i>Diospyros rufa</i>	Ebenaceae	12.8	-	-
	252	<i>Shorea</i> sp.	Dipterocarpaceae	49.3	-	-
	253	<i>Antidesma</i> sp.	Euphorbiaceae	5.5	-	-
	254	<i>Milletia sericea</i>	Leguminosae	5.0	-	-
4-21	382	<i>Pavetta</i> sp.	Rubiaceae	8.7	-	-
	383	<i>Parartocarpus venenosa</i>	Moraceae	27.8	-	-
	384	<i>Kibara coriacea</i>	Monimiaceae	6.2	-	-
	385	<i>Dacryodes rugosa</i>	Burseraceae	8.0	-	-
	386	<i>Artocarpus anisophyllus</i>	Moraceae	7.8	-	-
	387	<i>Garcinia</i> sp.	Guttiferae	5.9	-	-
4-22	388	<i>Barringtonia macrostachya</i>	Lecythidaceae	11.2	-	-
	389	<i>Koompassia malaccensis</i>	Leguminosae	21.3	-	-
	390	<i>Ochanostachys amentacea</i>	Olacaceae	11.1	-	-
	391	<i>Beilschmiedia</i> sp.	Lauraceae	5.1	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	392	<i>Polyalthia insignis</i>	Annonaceae	4.9	-	-
	393	<i>Artocarpus anisophyllus</i>	Moraceae	10.7	-	-
4-23	394	<i>Eusideroxylon zwageri</i>	Lauraceae	7.2	-	-
	395	<i>Dryobalanops</i> sp.	Dipterocarpaceae	11.7	-	-
	396	<i>Shorea excemia</i>	Dipterocarpaceae	7.9	-	-
	397	<i>Milletia sericea</i>	Leguminosae	5.9	-	-
	398	<i>Shorea laevis</i>	Dipterocarpaceae	5.4	-	-
	400	<i>Shorea</i> sp.	Dipterocarpaceae	5.1	-	-
	401	<i>Milletia sericea</i>	Leguminosae	6.1	-	-
4-24	402	<i>Drypetes</i> sp.3	Euphorbiaceae	8.2	-	-
	403	<i>Macaranga hypoleuca</i>	Euphorbiaceae	7.6	-	-
4-15	246	<i>Polyalthia</i> sp.	Annonaceae	7.9	-	-
	247	<i>Dryobalanops</i> sp.	Dipterocarpaceae	13.0	-	-
	248	<i>Alangium</i> sp.	Alangiaceae	16.1	-	-
	249	<i>Polyalthia</i> sp.	Annonaceae	4.7	-	-
4-16	261	<i>Atuna</i> sp.	Rosaceae	14.7	-	-
	262	<i>Parinari oblongifolia</i>	Rosaceae	6.1	-	-
	263	<i>Garcinia</i> sp.	Guttiferae	10.6	-	-
	264	<i>Baccaurea macrocarpa</i>	Euphorbiaceae	5.0	-	-
4-17	258	<i>Dialium</i> sp.	Leguminosae	33.2	-	-
	259	<i>Michelia</i> sp.	Magnoliaceae	7.7	-	-
	260	<i>Horsfieldia camosa</i>	Myristicaceae	9.6	-	-
4-18	256	<i>Urophyllum glabrum</i>	Rubiaceae	5.7	-	-
	257	<i>Shorea laevis</i>	Dipterocarpaceae	7.7	-	-
4-19	255	<i>Shorea laevis</i>	Dipterocarpaceae	8.5	-	-
4-20	250	<i>Eugenia</i> sp.1	Myrtaceae	6.2	-	-
	251	<i>Diospyros rufa</i>	Ebenaceae	12.8	-	-
	252	<i>Shorea</i> sp.	Dipterocarpaceae	49.3	-	-
	253	<i>Antidesma</i> sp.	Euphorbiaceae	5.5	-	-
	254	<i>Milletia sericea</i>	Leguminosae	5.0	-	-
4-21	382	<i>Pavetta</i> sp.	Rubiaceae	8.7	-	-
	383	<i>Parartocarpus venenosa</i>	Moraceae	27.8	-	-
	384	<i>Kibara coriacea</i>	Monimiaceae	6.2	-	-
	385	<i>Dacryodes rugosa</i>	Burseraceae	8.0	-	-
	386	<i>Artocarpus anisophyllus</i>	Moraceae	7.8	-	-
	387	<i>Garcinis</i> sp.	Guttiferae	5.9	-	-
4-22	388	<i>Barringtonia macrostachya</i>	Lecythidaceae	11.2	-	-
	389	<i>Koompassia malaccensis</i>	Leguminosae	21.3	-	-
	390	<i>Ochanostachys amentacea</i>	Olacaceae	11.1	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	391	<i>Beilschmiedia</i> sp.	Lauraceae	5.1	-	-
	392	<i>Polyalthia insignis</i>	Annonaceae	4.9	-	-
	393	<i>Artocarpus anisophyllus</i>	Moraceae	10.7	-	-
4-23	394	<i>Eusideroxylon zwageri</i>	Lauraceae	7.2	-	-
	395	<i>Dryobalanops</i> sp.	Dipterocarpaceae	11.7	-	-
	396	<i>Shorea excemia</i>	Dipterocarpaceae	7.9	-	-
	397	<i>Milletia sericea</i>	Leguminosae	5.9	-	-
	398	<i>Shorea laevis</i>	Dipterocarpaceae	5.4	-	-
	400	<i>Shorea</i> sp.	Dipterocarpaceae	5.1	-	-
	401	<i>Milletia sericea</i>	Leguminosae	6.1	-	-
4-24	402	<i>Drypetes</i> sp.3	Euphorbiaceae	8.2	-	-
	403	<i>Macaranga hypoleuca</i>	Euphorbiaceae	7.6	-	-
4-25	404	<i>Polyalthia</i> sp.	Annonaceae	6.5	-	-
	405	<i>Monocarpia</i> sp.	Annonaceae	5.9	-	-
	406	<i>Shorea excemia</i>	Dipterocarpaceae	78.7	-	-
	407	<i>Goniiothalamus</i> sp.	Annonaceae	4.5	-	-
5- 1	489	<i>Monocarpia euneura</i>	Annonaceae	8.1	10.0	6.2
	490	<i>Horsfieldia</i> sp.	Myristicaceae	4.5	-	-
	491	<i>Kokoona</i> sp.	Celastraceae	17.8	-	-
	492	<i>Barringtonia sumatrana</i>	Lecythidaceae	22.5	22.5	13.5
	493*	<i>Fagraea obovata</i>	Leguminosae	5.4	-	-
5- 2	488	<i>Shorea</i> sp.	Dipterocarpaceae	10.1	14.8	7.2
5- 3	482	<i>Baccaurea brachyala</i>	Euphorbiaceae	16.0	-	-
	483	<i>Polyalthia</i> sp.4	Annonaceae	21.7	-	-
	484*	<i>Uvaria</i> sp.	Annonaceae	5.8	-	-
	485	<i>Mallotus echinatus</i>	Euphorbiaceae	9.5	-	-
	486*	<i>Tetrastigma pergamaceum</i>	Vitaceae	5.5	-	-
	487	<i>Borassodendron borneensis</i>	Palmae	26.0	-	-
5- 4	480	<i>Bouea burmanica</i> var. <i>macrophylla</i>	Anacardiaceae	29.1	21.7	17.2
	481	<i>Mallotus affinis</i>	Euphorbiaceae	4.5	7.7	4.9
5- 5	478	<i>Aquilaria malaccensis</i>	Thymelaeaceae	5.6	10.5	8.0
	479	<i>Mallotus affinis</i>	Euphorbiaceae	7.2	11.0	6.7
5- 6	494	<i>Polyalthia rumphii</i>	Annonaceae	8.0	-	-
	495	<i>Girroniera nervosa</i>	Ulmaceae	6.1	10.5	6.1
	496	<i>Polyalthia</i> sp.1	Annonaceae	7.7	10.0	8.3
	497	<i>Knema laterifolia</i>	Myristicaceae	11.9	14.3	10.4
5- 7	498	<i>Mallotus echinatus</i>	Euphorbiaceae	7.3	11.3	5.8
	499*	<i>Tetrastigma pergamaceum</i>	Vitaceae	10.2	-	-
	500	<i>Xylopiya malayana</i>	Annonaceae	6.2	11.5	8.5

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	501	<i>Knema laterifolia</i>	Myristicaceae	9.1	14.7	11.4
	502	<i>Strombosia rotundifolia</i>	Olacaceae	26.0	28.9	16.8
	503	<i>Aporosa elmeri</i>	Euphorbiaceae	5.3	9.4	3.3
5- 8	504	<i>Shorea laevis</i>	Dipterocarpaceae	5.4	10.3	6.6
	505	<i>Aporosa elmeri</i>	Euphorbiaceae	4.5	8.6	4.0
	506	<i>Aporosa elmeri</i>	Euphorbiaceae	5.4	8.6	4.1
	507	<i>Dialium platycephalum</i>	Leguminosae	66.7	43.5	27.5
	508*	<i>Agelaea borneensis</i>	Connaraceae	5.1	-	-
5- 9	509	<i>Durio griffithii</i>	Bombacaceae	7.8	-	-
	510*	<i>Spatholobus</i> sp.	Leguminosae	5.0	-	-
5-10	511	<i>Milletia sericea</i>	Leguminosae	5.0	8.2	6.7
	512	<i>Mallotus echinatus</i>	Euphorbiaceae	6.1	9.4	4.4
	513	<i>Mallotus echinatus</i>	Euphorbiaceae	6.6	10.6	4.4
5-10	514	<i>Pometia tomentosa</i>	Sapindaceae	6.2	11.8	7.7
	515	<i>Drypetes</i> sp.	Euphorbiaceae	33.8	27.0	15.3
5-11	649	<i>Polyalthia sumatrana</i>	Annonaceae	11.3	14.9	9.3
	650	<i>Canarium</i> sp.	Burseraceae	7.1	-	-
	651	<i>Knema galeata</i>	Myristicaceae	6.2	-	-
5-12	645	<i>Mallotus echinatus</i>	Euphorbiaceae	4.5	6.5	5.1
	646	<i>Dillenia excemia</i>	Dilleniaceae	15.4	16.7	10.8
	647	<i>Drypetes</i> sp.	Euphorbiaceae	5.1	9.7	5.5
	648	<i>Dacryodes rugosa</i>	Burseraceae	5.0	9.6	5.5
5-13	640	<i>Milletia sericea</i>	Leguminosae	5.0	9.5	4.2
	641	<i>Mallotus echinatus</i>	Euphorbiaceae	5.0	9.6	4.5
	642*	<i>Tetrastigma pergamaceum</i>	Vitaceae	4.6	-	-
	643	<i>Dysoxylum</i> sp.	Miliaceae	7.0	13.4	7.4
	644	<i>Dialium indum</i>	Leguminosae	14.9	25.0	14.4
5-14	636	<i>Shorea leprosula</i>	Dipterocarpaceae	5.2	9.7	6.4
	637	<i>Aporosa sphaedophora</i> var. <i>pubescens</i>	Euphorbiaceae	5.1	10.0	4.2
	638*	<i>Agelaea borneensis</i>	Connaraceae	15.0	-	-
	639	<i>Dipterocarpus crinitus</i>	Dipterocarpaceae	119.6	46.5	18.0
5-15	634	<i>Lithocarpus</i> sp.3	Fagaceae	5.3	11.9	8.2
	635	<i>Sindora leocarpa</i>	Leguminosae	5.7	9.5	8.2
5-16	652	<i>Dialium indum</i>	Leguminosae	17.9	23.6	16.4
	653	<i>Barringtonia macrostachya</i>	Lecythidaceae	6.1	-	-
	654	<i>Hopea mangerawan</i>	Dipterocarpaceae	46.5	38.3	27.5
	655	<i>Knema galeata</i>	Myristicaceae	4.5	-	-
5-17	656	<i>Polyalthia glauca</i>	Annonaceae	12.0	12.3	5.5

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	657	<i>Aporosa sphaedophora</i> var. <i>pubescens</i>	Euphorbiaceae	25.8	24.4	16.3
	658	<i>Mallotus echinatus</i>	Euphorbiaceae	6.7	-	-
	659	<i>Mallotus affinis</i>	Euphorbiaceae	7.8	-	-
5-18	-					
5-19	660	<i>Baccaurea deflexa</i>	Euphorbiaceae	6.0	-	-
	661	<i>Dryobalanops</i> sp.	Dipterocarpaceae	30.6	31.9	20.8
	662	<i>Artocarpus anisophyllus</i>	Moraceae	4.9	9.0	8.0
	663	<i>Mallotus echinatus</i>	Euphorbiaceae	6.7	10.6	4.4
	664	<i>Ochanostachys amentacea</i>	Olcaceae	12.5	17.6	12.6
	665	<i>Ilex</i> sp.	Aquifoliaceae	7.1	12.0	8.6
5-20	666	<i>Dialium indum</i>	Leguminosae	14.5	21.7	15.6
	667	<i>Litsea firma</i>	Lauraceae	6.6	-	-
	668	<i>Vatica cupularis</i>	Dipterocarpaceae	14.5	21.0	12.5
	669	<i>Ediandra</i> sp.1	Lauraceae	6.1	9.4	6.0
5-21	828	<i>Barringtonia macrostachya</i>	Lecythidaceae	5.3	-	-
	829	<i>Pygeum</i> sp.	Rosaceae	4.7	-	-
	830	<i>Mallotus echinatus</i>	Euphorbiaceae	5.3	-	-
	1143	<i>Xylopia altissima</i>	Annonaceae	4.5	-	-
5-22	822	<i>Baccaurea kunstleri</i>	Euphorbiaceae	9.3	-	-
	823	<i>Scaphium macropodium</i>	Sterculiaceae	4.7	-	-
	824	<i>Plemandra caerulea</i>	Melastomataceae	4.5	-	-
	825	<i>Sterculia rubiginosa</i>	Sterculiaceae	4.9	-	-
	826	<i>Palaquium</i> sp.2	Sapotaceae	7.7	-	-
	827	<i>Baccaurea pendula</i>	Euphorbiaceae	7.0	-	-
5-23	820	<i>Eugenia</i> sp.5	Myrtaceae	26.3	-	-
	821	<i>Baccaurea deflexa</i>	Euphorbiaceae	7.4	-	-
5-24	817	<i>Palaquium quercifolium</i>	Sapotaceae	15.3	-	-
	818	<i>Mallotus echinatus</i>	Euphorbiaceae	4.5	-	-
	819	<i>Knema laterifolia</i> var. <i>albifolia</i>	Myristicaceae	4.6	-	-
5-25	816	<i>Memexylon ovatum</i>	Melastomataceae	8.6	-	-
6- 1	473	<i>Eugenia</i> sp.3	Myrtaceae	18.2	-	-
	474	<i>Baccaurea pendula</i>	Euphorbiaceae	18.8	-	-
	475	<i>Monocarpia euneura</i>	Annonaceae	7.1	11.3	8.8
	476	<i>Polyalthia sumatrana</i>	Annonaceae	14.0	-	-
	477	<i>Neoscortechinia kingii</i>	Euphorbiaceae	7.1	12.7	5.1
6- 2	-					
6- 3	471	<i>Girroniera nervosa</i>	Ulmaceae	5.5	7.5	5.3
	472	<i>Borassodendron borneensis</i>	Palmae	20.1	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
6- 4	466	<i>Artocarpus anisophyllus</i>	Moraceae	7.5	11.3	7.1
	467	<i>Cryptocarya</i> sp.	Lauraceae	4.6	9.6	7.3
	469	<i>Monocarpia euneura</i>	Annonaceae	22.5	-	-
	470	<i>Mallotus affinis</i>	Euphorbiaceae	5.5	9.0	6.6
6- 5	461	<i>Diospyros borneensis</i>	Ebenaceae	20.3	-	-
	462	<i>Aporosa elmeri</i>	Euphorbiaceae	5.5	-	-
	463	<i>Sloanea</i> sp.	Elaeocarpaceae	45.6	-	-
	464	<i>Aporosa elmeri</i>	Euphorbiaceae	4.7	8.6	4.3
	465	<i>Ochanostachys amentacea</i>	Olacaceae	6.6	-	-
6- 6	516	<i>Elaeocarpus</i> sp.	Elaeocarpaceae	6.6	12.1	6.9
	517	<i>Artocarpus nitidus</i>	Moraceae	14.0	7.5	4.0
	518	<i>Dacryodes rugosa</i>	Burseraceae	31.8	-	-
6- 7	519	<i>Ochanostachys amentacea</i>	Olacaceae	22.7	-	-
	520	<i>Ochanostachys amentacea</i>	Olacaceae	6.6	9.5	4.6
	521	<i>Aporosa elmeri</i>	Euphorbiaceae	5.9	9.4	5.7
6- 8	522	<i>Litsea noronhae</i>	Lauraceae	7.8	9.5	5.1
6- 9	523	<i>Baccaurea brachyala</i>	Euphorbiaceae	6.0	10.5	5.3
	524	<i>Memexylon myrsinoides</i>	Melastomataceae	5.4	8.2	4.3
	525	<i>Santiria griffithii</i>	Burseraceae	4.8	9.6	5.3
	527	<i>Dillenia excelsa</i>	Dilleniaceae	17.0	-	-
6-10	528	<i>Dehaasia</i> sp.	Lauraceae	7.3	-	-
	529	<i>Shorea excemia</i>	Dipterocarpaceae	6.0	-	-
	530	<i>Baccaurea pendula</i>	Euphorbiaceae	23.5	-	-
	531	<i>Xylopia malayana</i>	Annonaceae	16.6	-	-
	533	<i>Horsfieldia</i> sp.	Myristicaceae	30.0	-	-
6-11	-					
6-12	632	<i>Pithecelobium</i> sp.	Leguminosae	61.0	-	-
	633	<i>Aporosa elmeri</i>	Euphorbiaceae	4.6	8.1	3.0
6-13	631	<i>Baccaurea kunstleri</i>	Euphorbiaceae	8.4	12.7	10.0
6-14	627	<i>Ochanostachys amentacea</i>	Olacaceae	5.0	7.9	5.3
	628	<i>Polyalthia sumatrana</i>	Annonaceae	21.3	-	-
	629	<i>Dillenia excelsa</i>	Dilleniaceae	4.6	-	-
	630	<i>Dillenia excemia</i>	Dilleniaceae	40.4	-	-
6-15	624	<i>Baccaurea pendula</i>	Euphorbiaceae	4.8	-	-
	625	<i>Microcos cinnamomifolia</i>	Tiliaceae	8.3	13.2	8.7
	626	<i>Ediandra</i> sp.	Lauraceae	6.5	-	-
6-16	670	<i>Aporosa elmeri</i>	Euphorbiaceae	10.1	14.8	10.6
	671	<i>Temstroemia</i> sp.	Theaceae	5.3	10.9	6.3

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	672	<i>Shorea</i> sp.2	Dipterocarpaceae	6.0	7.6	5.3
	673	<i>Aporosa sphaedophora</i> var. <i>pubescens</i>	Euphorbiaceae	12.8	16.5	12.5
	674	<i>Knema</i> sp.2	Myristicaceae	5.6	14.1	8.5
	675	<i>Monocarpia</i> sp.2	Annonaceae	7.6	14.9	10.9
	676	<i>Dillenia excemia</i>	Dilleniaceae	31.1	-	-
	677	<i>Eugenia perspercinervia</i>	Myrtaceae	4.5	8.8	5.5
6-17	678	<i>Heritiera symplificifolia</i>	Sterculiaceae	89.0	-	-
	679	<i>Polyalthia</i> sp.1	Annonaceae	6.3	-	-
	680	<i>Polyalthia glauca</i>	Annonaceae	12.9	-	-
	681	<i>Madhuca</i> sp.2	Sapotaceae	26.2	-	-
6-18	682	<i>Baccaurea pendula</i>	Euphorbiaceae	5.6	9.1	7.1
	683	<i>Mischocarpus</i> sp.	Sapindaceae	32.9	-	-
6-19	684	<i>Sarcotheca</i> sp.	Oxalidaceae	7.6	-	-
6-20	685	<i>Girroniera nervosa</i>	Ulmaceae	14.4	-	-
	686	<i>Sterculia elmeri</i>	Sterculiaceae	17.2	-	-
6-20	687	<i>Milletia sericea</i>	Leguminosae	6.0	-	-
	688	<i>Shorea excemia</i>	Dipterocarpaceae	5.3	-	-
	689*	<i>Agelaea borneensis</i>	Connaraceae	8.3	-	-
	690	<i>Artocarpus nitidus</i>	Moraceae	14.7	-	-
	691	<i>Shorea excemia</i>	Dipterocarpaceae	35.8	-	-
6-21	811	<i>Polyalthia Glauca</i>	Annonaceae	5.5	-	-
	812	<i>Hopea mangerawan</i>	Dipterocarpaceae	49.0	-	-
	813*	<i>Piper bacatum</i>	Piperaceae	8.2	-	-
	814	<i>Dipterocarpus</i> sp.1	Dipterocarpaceae	6.1	-	-
	815	<i>Aporosa elmeri</i>	Euphorbiaceae	5.1	9.0	4.2
6-22	808	<i>Polyalthia sumatrana</i>	Annonaceae	15.9	-	-
	809	<i>Sindora coriacea</i>	Leguminosae	17.1	-	-
6-23	806	<i>Artocarpus dadals</i>	Moraceae	8.1	-	-
	807	<i>Polyalthia glauca</i>	Annonaceae	17.4	-	-
6-24	804	<i>Palaquium obvatum</i>	Sapotaceae	6.7	10.6	5.6
	805	<i>Parinari corymbosum</i>	Rosaceae	4.5	-	-
6-25	800	<i>Baccaurea</i> sp.1	Euphorbiaceae	27.0	-	-
	801	<i>Chisoehton divergens</i>	Meliaceae	5.4	-	-
	802	<i>Canarium latistipulatum</i>	Burseraceae	6.9	-	-
	803	<i>Tricalysia singularis</i>	Rubiaceae	6.1	-	-
7- 1	452	<i>Rhodaminia cinerea</i>	Myrtaceae	8.6	-	-
	453	<i>Dehaasia incrasata</i>	Lauraceae	4.8	-	-
	454*	<i>Agelaea borneensis</i>	Connaraceae	7.1	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm.]	H [m]	H _B [m]
	455	<i>Barringtonia macrostachya</i>	Lecythidaceae	5.3	-	-
	456	<i>Artocarpus anisophyllus</i>	Moraceae	9.1	-	-
	457	<i>Garcinia</i> sp.	Guttiferae	6.4	-	-
	458	<i>Girroniera nervosa</i>	Ulmaceae	5.1	-	-
	459	<i>Elaeocarpus</i> sp.	Elaeocarpaceae	5.4	-	-
	460	<i>Knema mandaharan</i>	Myristicaceae	4.8	-	-
7- 2	450	<i>Mesua</i> sp.	Guttiferae	7.4	-	-
	451	<i>Parartocarpus</i> sp.	Moraceae	34.3	-	-
7- 3	447	<i>Cinnamomum</i> sp.	Lauraceae	5.2	-	-
	448	<i>Neolitsea</i> sp.	Lauraceae	7.2	-	-
	449	<i>Artocarpus anisophyllus</i>	Moraceae	15.4	-	-
7- 4	446	<i>Baccaurea minor</i>	Euphorbiaceae	4.5	-	-
7- 5	443	<i>Eusideroxylon zwageri</i>	Lauraceae	10.0	-	-
	444	<i>Pternandra azurea</i>	Melastomataceae	10.9	-	-
	445	<i>Mallotus echinatus</i>	Euphorbiaceae	64.2	-	-
7- 6	535	<i>Mallotus affinis</i>	Euphorbiaceae	5.6	-	-
	536	<i>Milletia sericea</i>	Leguminosae	5.3	-	-
	537	<i>Baccaurea macrocarpa</i>	Euphorbiaceae	6.4	-	-
7- 7	538	<i>Dacryodes rostrata</i>	Burseraceae	6.8	-	-
	539	<i>Baccaurea brevipes</i>	Euphorbiaceae	10.8	-	-
	540	<i>Baccaurea minor</i>	Euphorbiaceae	5.3	-	-
7- 8	541	<i>Baccaurea</i> sp.	Euphorbiaceae	6.6	-	-
	542	<i>Dipterocarpus</i> sp.	Dipterocarpaceae	27.8	-	-
	543	<i>Mammea acuminata</i>	Guttiferae	5.1	-	-
	544	<i>Garcinia</i> sp.	Guttiferae	7.5	-	-
7- 9	545	<i>Aporosa elmeri</i>	Euphorbiaceae	9.4	-	-
	546	<i>Cordyline fruticosa</i>	Liliaceae	11.8	-	-
7-10	547	<i>Baccaurea</i> sp.	Euphorbiaceae	8.5	-	-
	548	<i>Aglaia</i> sp.	Meliaceae	10.5	-	-
7-11	622	<i>Horsfieldia carnosa</i>	Myristicaceae	14.1	-	-
	623	<i>Eugenia</i> sp.5	Myrtaceae	7.8	-	-
7-12	615	<i>Aglaia ganggo</i>	Meliaceae	14.1	-	-
	616	<i>Pternandra azurea</i>	Melastomataceae	6.5	-	-
	617	<i>Palaquium</i> sp.	Sapotaceae	12.8	-	-
	618	<i>Castanopsis</i> sp.	Fagaceae	5.2	-	-
	619	<i>Neoscortechinia kingii</i>	Euphorbiaceae	5.0	-	-
	620	<i>Polyalthia glauca</i>	Annonaceae	17.9	-	-
	621	<i>Pavetta</i> sp.	Rubiaceae	5.4	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
7-13	610	<i>Sindora</i> sp.	Leguminosae	7.4	-	-
	611	<i>Shorea laevifolia</i>	Dipterocarpaceae	10.3	-	-
	612	<i>Drypetes</i> sp.4	Euphorbiaceae	5.6	-	-
	613	<i>Aglaia</i> sp.3	Meliaceae	5.0	-	-
7-14	602	<i>Flacourtia</i> sp.	Flacourtiaceae	6.7	-	-
	603	<i>Baccaurea minor</i>	Euphorbiaceae	11.5	-	-
	604	<i>Hydnocarpus</i> sp.	Flacourtiaceae	4.9	-	-
	605	<i>Vatica cupularis</i>	Dipterocarpaceae	18.9	-	-
	606	<i>Milletia sericea</i>	Leguminosae	6.9	-	-
	607	<i>Palaquium</i> sp.2	Sapotaceae	8.6	-	-
	608*	<i>Piper bacatum</i>	Piperaceae	4.5	-	-
	609	<i>Cordyline fruticosa</i>	Liliaceae	6.9	-	-
7-15	592	<i>Dacryodes rostrata</i> var. <i>rostrata</i>	Burseraceae	4.6	-	-
	593	<i>Baccaurea</i> sp.1	Euphorbiaceae	14.7	-	-
	594	<i>Popowia piscarpa</i>	Annonaceae	6.8	-	-
	595	<i>Polyalthia</i> sp.1	Annonaceae	14.9	-	-
	596	<i>Aporosa sphaedophora</i> var. <i>pubescens</i>	Euphorbiaceae	6.0	-	-
	597	<i>Nephelium</i> sp.	Sapindaceae	5.7	-	-
7-15	598	<i>Xanthophyllum heteropleurum</i>	Polygalaceae	7.5	-	-
	599	<i>Nessia</i> sp.	Bombacaceae	20.2	-	-
	600	<i>Magnolia</i> sp.	Magnoliaceae	8.4	-	-
7-16	692	<i>Borassodendron borneensis</i>	Palmae	21.1	-	-
	693*	<i>Piper</i> sp.	Piperaceae	5.3	-	-
	694	<i>Shorea smithiana</i>	Dipterocarpaceae	88.9	-	-
	695	<i>Girroniera nervosa</i>	Ulmaceae	6.1	-	-
	696	<i>Dillenia excemia</i>	Dilleniaceae	5.9	-	-
7-17	697	<i>Aporosa elmeri</i>	Euphorbiaceae	6.6	-	-
	698	<i>Pternandra galeata</i>	Melastomataceae	8.5	-	-
	699	<i>Garcinia</i> sp.	Guttiferae	6.5	-	-
	700	<i>Rhodaminia cinerea</i>	Myrtaceae	5.2	-	-
7-18	701	<i>Intsia</i> sp.	Leguminosae	11.4	-	-
	702	<i>Shorea excemia</i>	Dipterocarpaceae	7.5	-	-
	703	<i>Shorea smithiana</i>	Dipterocarpaceae	8.5	-	-
7-19	704	<i>Phoebe</i> sp.	Lauraceae	16.6	-	-
	705*	<i>Tetrastigma pergamaceum</i>	Vitaceae	6.2	-	-
	706	<i>Sandoricum kuljape</i>	Meliaceae	10.5	-	-
	707	<i>Baccaurea minor</i>	Euphorbiaceae	20.8	-	-
	708	<i>Mastixia</i> sp.	Connaraceae	5.2	-	-
	709	<i>Ilex</i> sp.	Aquifoliaceae	9.2	-	-
	710	<i>Ilea</i> sp.	Saxifragaceae	15.6	-	-
	711*	<i>Piper bacatum</i>	Piperaceae	5.4	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
7-20	712	<i>Parinari</i> sp.	Rosaceae	5.4	-	-
	713	<i>Knema</i> sp.2	Myristicaceae	4.8	-	-
	714	<i>Gelonium</i> sp.	Euphorbiaceae	4.9	-	-
7-21	796	<i>Girroniera nervosa</i>	Ulmaceae	5.4	-	-
	797	<i>Camptosperma</i> sp.	Anacardiaceae	6.0	-	-
	798	<i>Atuna excels</i>	Rosaceae	23.5	-	-
	799	<i>Mallotus affinis</i>	Euphorbiaceae	4.8	-	-
7-22	791	<i>Milletia sericea</i>	Leguminosae	4.9	-	-
	792	<i>Goniothalamus macrophyllus</i>	Annonaceae	14.3	-	-
	793	<i>Aporosa elmeri</i>	Euphorbiaceae	5.2	-	-
	794	<i>Polyalthia</i> sp.2	Annonaceae	4.6	-	-
	795	<i>Baccaurea brevipes</i>	Euphorbiaceae	13.0	-	-
7-23	785	<i>Mallotus affinis</i>	Euphorbiaceae	4.6	-	-
	786	<i>Analoecasa frutescens</i>	Olacaceae	11.1	-	-
	787	<i>Canarium latifolium</i>	Burseraceae	5.5	-	-
	788	<i>Cnetis platantha</i>	Connaraceae	43.7	-	-
	789	<i>Pometia</i> sp.2	Sapindaceae	38.1	-	-
	790	<i>Shorea smithiana</i>	Dipterocarpaceae	7.5	-	-
7-24	781*	<i>Tetrastigma pergamaceum</i>	Vitaceae	5.5	-	-
	782	<i>Atuna racemosa</i>	Rosaceae	13.8	-	-
	783	<i>Parinari gigantea</i>	Rosaceae	4.9	-	-
	784	<i>Milletia sericea</i>	Leguminosae	5.9	-	-
7-25	775	<i>Shorea ovalis</i>	Dipterocarpaceae	5.8	-	-
	776	<i>Monocarpia</i> sp.	Annonaceae	4.7	-	-
	777	<i>Lepisanthes tetraphylla</i>	Sapindaceae	5.2	-	-
	778	<i>Pometia</i> sp.2	Sapindaceae	10.8	-	-
	779	<i>Drypetes</i> sp.2	Euphorbiaceae	6.8	-	-
	780*	<i>Tetrastigma pergamaceum</i>	Vitaceae	16.4	-	-
8- 1	441	<i>Garcinia</i> sp.	Guttiferae	5.5	-	-
	442	<i>Baccaurea brachyala</i>	Euphorbiaceae	4.6	-	-
8- 2	428	<i>Shorea platyclados</i>	Dipterocarpaceae	47.5	-	-
	429	<i>Barringtonia</i> sp.	Lecythidaceae	5.5	-	-
	430	<i>Milletia sericea</i>	Leguminosae	4.9	-	-
	431*	<i>Connarus macrophyllus</i>	Connaraceae	5.1	-	-
	432*	<i>Agelaea borneensis</i>	Connaraceae	18.5	-	-
	433*	<i>Agelaea borneensis</i>	Connaraceae	10.3	-	-
	434*	<i>Piper bacatum</i>	Piperaceae	5.5	-	-
	435	<i>Lophopetalum</i> sp.	Celastraceae	42.2	-	-
	436	<i>Milletia sericea</i>	Leguminosae	5.4	-	-
	437	<i>Aglaiia</i> sp.3	Meliaceae	7.6	-	-
	438*	<i>Agelaea borneensis</i>	Connaraceae	7.1	-	-
	439	<i>Girroniera nervosa</i>	Ulmaceae	19.3	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	440*	<i>Piper</i> sp.	Piperaceae	4.6	-	-
8- 3	420	<i>Shorea smithiana</i>	Dipterocarpaceae	17.8	-	-
	421	<i>Shorea platyclados</i>	Dipterocarpaceae	7.6	-	-
	422	<i>Mallotus affinis</i>	Euphorbiaceae	11.3	-	-
	423	<i>Polyalthia hypoleuca</i>	Annonaceae	19.4	-	-
	424*	<i>Agelaea borneensis</i>	Connaraceae	5.6	-	-
	425*	<i>Tetrastigma pergamaceum</i>	Vitaceae	12.2	-	-
	426	<i>Antidesma</i> sp.2	Euphorbiaceae	8.8	-	-
	427	<i>Garcinia</i> sp.	Guttiferae	5.8	-	-
8- 4	413	<i>Shorea acuminatissima</i>	Dipterocarpaceae	35.0	-	-
	414*	<i>Elaeagnus</i> sp.	Elaeagnaceae	5.0	-	-
	415	<i>Milletia sericea</i>	Leguminosae	8.1	-	-
	416	<i>Mesua</i> sp.	Guttiferae	8.3	-	-
	417	<i>Alphonsea</i> sp.	Annonaceae	6.2	-	-
	418	<i>Mallotus affinis</i>	Euphorbiaceae	4.5	-	-
	419	<i>Goniiothalamus malayanus</i>	Annonaceae	5.9	-	-
8- 5	408	<i>Aporosa elmeri</i>	Euphorbiaceae	4.6	-	-
	409	<i>Aporosa</i> sp.	Euphorbiaceae	7.8	-	-
	410	<i>Shorea platyclados</i>	Dipterocarpaceae	21.5	-	-
	411	<i>Gardenia</i> sp.	Theaceae	4.9	-	-
8- 6	549	<i>Milletia sericea</i>	Leguminosae	6.8	-	-
	550	<i>Shorea laevis</i>	Dipterocarpaceae	7.3	-	-
8- 7	551	<i>Nephelium</i> sp.	Sapindaceae	5.5	-	-
	552	<i>Aglaia</i> sp.	Meliaceae	5.3	-	-
	553	<i>Mallotus</i> sp.	Euphorbiaceae	4.5	-	-
8- 8	554	<i>Melanochylla elmeri</i>	Anacardiaceae	5.6	-	-
	555	<i>Shorea excemia</i>	Dipterocarpaceae	4.5	-	-
	556	<i>Dipterocarpus crinitus</i>	Dipterocarpaceae	15.3	-	-
	557	<i>Dialium</i> sp.	Leguminosae	13.5	-	-
	558	<i>Borassodendron borneensis</i>	Palmae	20.9	-	-
	559	<i>Mallotus affinis</i>	Euphorbiaceae	12.4	-	-
8- 9	560	<i>Artocarpus anisophyllus</i>	Moraceae	4.5	-	-
	561	<i>Shorea platyclados</i>	Dipterocarpaceae	23.0	-	-
	562	<i>Shorea acuminatissima</i>	Dipterocarpaceae	8.1	-	-
	563	<i>Aglaia</i> sp.1	Meliaceae	4.8	-	-
	564	<i>Milletia sericea</i>	Leguminosae	5.7	-	-
8-10	565	<i>Parartocarpus</i> sp.	Moraceae	13.9	-	-
	566	<i>Aporosa sphaedophora</i> var. <i>pubescens</i>	Euphorbiaceae	8.4	-	-
	567	<i>Mallotus affinis</i>	Euphorbiaceae	4.7	-	-
	568	<i>Baccaurea pendula</i>	Euphorbiaceae	5.5	-	-
	569	<i>Aporosa</i> sp.2	Euphorbiaceae	7.2	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	570	<i>Coccoceras</i> sp.	Euphorbiaceae	5.4	-	-
8-11	585	<i>Dacryodes rostrata</i> var. <i>rostrata</i>	Burseraceae	7.9	-	-
	586	<i>Shorea smithiana</i>	Dipterocarpaceae	5.9	-	-
	587	<i>Microcos crassifolia</i>	Tiliaceae	12.5	-	-
	588	<i>Aporosa elmeri</i>	Euphorbiaceae	6.1	-	-
	589	<i>Dillenia excemia</i>	Dilleniaceae	10.5	-	-
	590	<i>Dillenia excemia</i>	Dilleniaceae	29.8	-	-
	591	<i>Milletia sericea</i>	Leguminosae	4.5	-	-
8-12	582	<i>Dacryodes rostrata</i> var. <i>rostrata</i>	Burseraceae	5.1	-	-
	583	<i>Santiria</i> sp.2	Burseraceae	5.1	-	-
	584	<i>Lasianthus</i> sp.	Rubiaceae	7.8	-	-
8-13	578	<i>Xanthophyllum heteropleurum</i>	Polygalaceae	10.5	-	-
	579	<i>Aporosa</i> sp.1	Euphorbiaceae	4.6	-	-
	580	<i>Ochanostachys amentacea</i>	Olacaceae	15.2	-	-
	581	<i>Barringtonia macrostachya</i>	Lecythidaceae	8.2	-	-
8-14	573	<i>Pometia tomentosa</i>	Sapindaceae	4.8	-	-
	574	<i>Hopea</i> sp.1	Dipterocarpaceae	40.5	-	-
	575	<i>Artocarpus anisophyllus</i>	Moraceae	16.7	-	-
	576	<i>Lithocarpus</i> sp.2	Fagaceae	5.8	-	-
	577	<i>Cordyline fruticosa</i>	Liliaceae	7.7	-	-
8-15	571	<i>Borassodendron borneensis</i>	Palmae	22.7	-	-
	572	<i>Cyathocalyx</i> sp.	Annonaceae	6.0	-	-
8-16	715	<i>Chaetocarpus castanocarpus</i>	Euphorbiaceae	4.6	-	-
	717	<i>Aporosa frutescens</i>	Euphorbiaceae	5.0	-	-
	718	<i>Artocarpus oleratissima</i>	Moraceae	9.2	-	-
	719	<i>Cryptocarya</i> sp.2	Lauraceae	5.5	-	-
	720	<i>Barringtonia macrostachya</i>	Lecythidaceae	6.1	-	-
	721	<i>Pternandra galeata</i>	Melastomataceae	12.9	-	-
	722	<i>Glochidien</i> sp.	Euphorbiaceae	5.0	-	-
	723	<i>Cinnamomum</i> sp.	Lauraceae	5.5	-	-
8-17	724	<i>Elaeocarpus</i> sp.2	Elaeocarpaceae	17.9	-	-
	725	<i>Oxymitra grandiflora</i>	Annonaceae	5.2	-	-
	726	<i>Sindora beccariana</i>	Leguminosae	6.8	-	-
	727	<i>Heritiera symplificolia</i>	Sterculiaceae	6.1	-	-
	728	<i>Myristica</i> sp.3	Myristicaceae	7.8	-	-
	729	<i>Pternandra galeata</i>	Melastomataceae	4.8	-	-
8-18	730*	<i>Elaeagnus</i> sp.	Elaeagnaceae	6.9	-	-
	731	<i>Vatica</i> sp.	Dipterocarpaceae	38.1	-	-
	732	<i>Mischocarpus</i> sp.	Sapindaceae	5.4	-	-
	733	<i>Dialium maingayi</i>	Leguminosae	25.4	-	-
	734	<i>Hydnocarpus polypetala</i>	Flacourtiaceae	5.2	-	-

Quadrat No.	Indiv. No.	Species	Family	D [cm]	H [m]	H _B [m]
	735	<i>Shorea smithiana</i>	Dipterocarpaceae	6.7	-	-
	736	<i>Aporosa</i> sp.4	Euphorbiaceae	6.8	-	-
	737	<i>Microcos</i> sp.1	Tiliaceae	5.0	-	-
	738	<i>Pometia tomentosa</i>	Sapindaceae	20.9	-	-
	1142	<i>Goniiothalamus malayanus</i>	Annonaceae	4.5	-	-
8-19	739	<i>Baccaurea minor</i>	Euphorbiaceae	5.7	-	-
	740	<i>Monocarpia</i> sp.	Annonaceae	6.2	-	-
	741	<i>Nephelium</i> sp.	Sapindaceae	8.9	-	-
8-20	742	<i>Parartocarpus</i> sp.	Moraceae	37.7	-	-
	744	<i>Pternandra azurea</i>	Melastomataceae	6.3	-	-
	745	<i>Cryptocarya</i> sp.2	Lauraceae	5.5	-	-
8-21	770	<i>Eugenia</i> sp.1	Myrtaceae	7.5	-	-
	771	<i>Sterculia</i> sp.	Sterculiaceae	5.0	-	-
	772	<i>Symplocos</i> sp.	Symplocaceae	10.3	-	-
	773	<i>Sterculia macrophylla</i>	Sterculiaceae	17.2	-	-
	774	<i>Polyalthia</i> sp.2	Annonaceae	5.3	-	-
8-22	765	<i>Antidesma</i> sp.	Euphorbiaceae	6.0	-	-
	766	<i>Dialium</i> sp.3	Leguminosae	15.7	-	-
	767	<i>Eugenia</i> sp.2	Myrtaceae	8.0	-	-
	768	<i>Pternandra azurea</i>	Melastomataceae	5.5	-	-
	769*	<i>Coscinium venestratum</i>	Menispermaceae	5.0	-	-
8-23	761	<i>Polyalthia sumatrana</i>	Annonaceae	8.1	-	-
	762	<i>Garcinia</i> sp.1	Guttiferae	5.4	-	-
	763	<i>Gelonium</i> sp.1	Euphorbiaceae	5.2	-	-
	764	<i>Ostodes</i> sp.	Euphorbiaceae	4.5	-	-
8-24	756	<i>Cyathocalyx</i> sp.1	Annonaceae	15.2	-	-
	757	<i>Gelonium</i> sp.2	Euphorbiaceae	4.7	-	-
	758*	<i>Elaeagnus latifolius</i>	Elaeagnaceae	7.1	-	-
	759	<i>Gelonium</i> sp.	Euphorbiaceae	10.3	-	-
	760*	<i>Piper</i> sp.	Piperaceae	4.6	-	-
8-25	746	<i>Aglaiia</i> sp.2	Meliaceae	4.9	-	-
	747	<i>Valica</i> sp.	Dipterocarpaceae	15.5	-	-
	748	<i>Polyalthia insignis</i>	Annonaceae	12.1	-	-
	749	<i>Shorea ovalis</i>	Dipterocarpaceae	22.8	-	-
	750	<i>Shorea smithiana</i>	Dipterocarpaceae	13.1	-	-
	751	<i>Dysoxylum</i> sp.	Miliaceae	7.5	-	-
	752	<i>Artocarpus</i> sp.	Moraceae	19.1	-	-
	753*	<i>Elaeagnus latifolius</i>	Elaeagnaceae	10.6	-	-
	754	<i>Shorea platyclados</i>	Dipterocarpaceae	58.9	-	-
	755*	<i>Piper bacatum</i>	Piperaceae	7.0	-	-

Appendix 5. List of species found in the subplots 9-16 (dbh \leq 10 cm). D: stem diameter at breast height of 1.3 m aboveground. The symbol * stands for woody climbers.

Subplot No.	Indiv. No.	Species	Family	D [cm]
9	831	<i>Polyalthia sumatrana</i>	Annonaceae	14.9
	832	<i>Monocarpia euneura</i>	Annonaceae	10.0
	833	<i>Baccaurea pendula</i>	Euphorbiaceae	20.1
	834	<i>Artocarpus anisophyllus</i>	Moraceae	11.6
	835	<i>Borassodendron borneensis</i>	Palmae	21.8
	836	<i>Eusideroxylon zwageri</i>	Lauraceae	13.9
	837	<i>Sandoricum kuljape</i>	Meliaceae	16.1
	838	<i>Camptosperma</i> sp.	Anacardiaceae	34.6
	839	<i>Eugenia</i> sp.3	Myrtaceae	22.2
	840	<i>Dysoxylum</i> sp.	Meliaceae	11.1
	841	<i>Borassodendron borneensis</i>	Palmae	22.5
	842	<i>Strombosia</i> sp.	Olacaceae	56.8
	843	<i>Dryobalanops</i> sp.1	Dipterocarpaceae	32.6
	844	<i>Dialium</i> sp.2	Leguminosae	23.4
	845	<i>Lithocarpus</i> sp.	Fagaceae	12.3
	846	<i>Eugenia</i> sp.4	Myrtaceae	14.2
	847	<i>Dryobalanops</i> sp.1	Dipterocarpaceae	48.1
	848	<i>Eugenia</i> sp.2	Myrtaceae	12.1
	849	<i>Dryobalanops</i> sp.1	Dipterocarpaceae	35.3
	850	<i>Dialium indum</i>	Leguminosae	14.7
	851	<i>Dialium</i> sp.3	Leguminosae	20.5
	852	<i>Dryobalanops</i> sp.	Dipterocarpaceae	67.2
	853	<i>Baccaurea brevipes</i>	Euphorbiaceae	21.5
	854	<i>Neoscortechinia kingii</i>	Euphorbiaceae	20.6
	855	<i>Shorea platyclados</i>	Dipterocarpaceae	15.1
	856	<i>Shorea</i> sp.1	Dipterocarpaceae	14.9
	857	<i>Baccaurea brevipes</i>	Euphorbiaceae	16.8
	858	<i>Dehaasia</i> sp.	Lauraceae	13.8
	859	<i>Dipterocarpus crinitus</i>	Dipterocarpaceae	27.7
	860	<i>Knema</i> sp.1	Myristicaceae	33.7
	861	<i>Shorea smithiana</i>	Dipterocarpaceae	37.9
	862	<i>Polyalthia sumatrana</i>	Annonaceae	16.9
	863	<i>Horsfieldia</i> sp.2	Myristicaceae	14.5
	864	<i>Dryobalanops</i> sp.	Dipterocarpaceae	53.1
	865	<i>Dialium</i> sp.1	Leguminosae	15.5
10	866	<i>Shorea excemia</i>	Dipterocarpaceae	70.2
	867	<i>Koiledepas brevipes</i>	Euphorbiaceae	30.0
	868	<i>Dryobalanops</i> sp.	Dipterocarpaceae	47.7
	869	<i>Eugenia cuprea</i>	Myrtaceae	16.4
	870	<i>Koompassia excelsa</i>	Leguminosae	25.5
	871	<i>Chaetocarpus castanocarpus</i>	Euphorbiaceae	12.0
	872	<i>Dipterocarpus</i> sp.2	Dipterocarpaceae	19.4
	873	<i>Dysoxylum alliacum</i>	Meliaceae	16.3
	874	<i>Durio altifolius</i>	Bombacaceae	15.1
	875	<i>Baccaurea brevipes</i>	Euphorbiaceae	19.4

Subplot No.	Indiv. No.	Species	Family	D [cm]
	876	<i>Archidendron microcarpum</i>	Leguminosae	17.0
	877	<i>Ochanostachys amentacea</i>	Olacaceae	10.1
	878	<i>Eusideroxylon zwageri</i>	Lauraceae	48.9
	879	<i>Goniothalamus velutinnus</i>	Annonaceae	10.7
10	880	<i>Shorea</i> sp.1	Dipterocarpaceae	25.7
	881	<i>Dryobalanops</i> sp.	Dipterocarpaceae	56.1
	882	<i>Neoscortechinia kingii</i>	Euphorbiaceae	13.8
	883	<i>Scorodocarpus borneensis</i>	Olacaceae	22.3
	884	<i>Drypetes</i> sp.2	Euphorbiaceae	20.1
	885	<i>Polyalthia sumatrana</i>	Annonaceae	10.1
	886	<i>Dialium indum</i>	Leguminosae	23.9
	887	<i>Hopea mangerawan</i>	Dipterocarpaceae	40.0
	888	<i>Parartocarpus</i> sp.	Moraceae	10.7
	889	<i>Shorea</i> sp.3	Dipterocarpaceae	57.6
	890	<i>Pometia</i> sp.	Sapindaceae	11.0
	891	<i>Borassodendron borneensis</i>	Palmae	19.7
	892	<i>Ochanostachys amentacea</i>	Olacaceae	20.2
	893	<i>Dillenia excelsa</i>	Dilleniaceae	21.5
	894	<i>Cratoxylon arborescens</i>	Guttiferae	87.0
	895	<i>Chisoeheton</i> sp.	Meliaceae	18.0
	896	<i>Melodurum leentii</i>	Annonaceae	26.5
	897	<i>Goniothalamus macrophyllus</i>	Annonaceae	15.1
	898	<i>Renellia srrsmatoneriformis</i>	Rubiaceae	12.6
	899	<i>Calacuna beccarii</i>	Magnoliaceae	12.4
	900	<i>Shorea laevis</i>	Dipterocarpaceae	17.5
	1144	<i>Borassodendron borneensis</i>	Palmae	20.8
11	901	<i>Scaphium macropodum</i>	Sterculiaceae	16.2
	902	<i>Atuna excels</i>	Rosaceae	11.0
	903	<i>Castanopsis</i> sp.1	Fagaceae	13.1
	904	<i>Dialium modesta</i>	Leguminosae	10.0
	905*	<i>Tetrastigma pergamaceum</i>	Vitaceae	16.8
	906	<i>Payena</i> sp.	Sapotaceae	16.2
	907	<i>Madhuca</i> sp.	Sapotaceae	12.1
	908	<i>Ochanostachys amentacea</i>	Olacaceae	15.8
	909	<i>Microcos opaca</i>	Tiliaceae	10.0
	910	<i>Palaquium obvatum</i>	Sapotaceae	22.0
	911	<i>Canarium latistipulatum</i>	Burseraceae	18.5
	912	<i>Polyalthia sumatrana</i>	Annonaceae	18.0
	913	<i>Sindora</i> sp.2	Leguminosae	10.4
	914	<i>Chaetocarpus castanocarpus</i>	Euphorbiaceae	12.8
	915	<i>Borassodendron borneensis</i>	Palmae	24.6
	916	<i>Goniothalamus velutinnus</i>	Annonaceae	14.6
	917	<i>Scorodocarpus borneensis</i>	Olacaceae	32.9
	918	<i>Meliosma</i> sp.	Sabiaceae	19.5
	919	<i>Paranephelium</i> sp.	Sapindaceae	12.5
	920	<i>Ilex cymosa</i>	Aquifoliaceae	11.0
	921	<i>Diospyros</i> sp.	Ebenaceae	12.9

Subplot No.	Indiv. No.	Species	Family	D [cm]
	922	<i>Dipterocarpus</i> sp.	Dipterocarpaceae	10.8
	923	<i>Eugenia laxiflora</i>	Myrtaceae	15.4
	924	<i>Xylopia malayana</i>	Annonaceae	20.5
	925	<i>Polyalthia glauca</i>	Annonaceae	13.9
	926	<i>Daphniphyllum glaucescens</i>	Daphniphyllaceae	17.1
	927	<i>Dryobalanops</i> sp.	Dipterocarpaceae	37.5
11	928	<i>Polyalthia glauca</i>	Annonaceae	16.4
	929	<i>Euonymus</i> sp.	Celastraceae	13.0
	930	<i>Bouea burmanica</i> var. <i>macrophylla</i>	Anacardiaceae	20.2
	931	<i>Koodersiodendron pinnatum</i>	Anacardiaceae	10.0
	932	<i>Eugenia</i> sp.6	Myrtaceae	13.2
	933	<i>Nephelium mutabile</i>	Sapindaceae	14.9
	934	<i>Shorea smithiana</i>	Dipterocarpaceae	10.2
	935	<i>Xanthophyllum</i> sp.	Polygalaceae	16.1
	936*	<i>Tetrastigma pergamaceum</i>	Vitaceae	14.5
	937	<i>Polyalthia rumphii</i>	Annonaceae	12.5
	938	<i>Madhuca dubardii</i>	Sapotaceae	20.3
	939	<i>Litsea</i> sp.2	Lauraceae	11.1
	940	<i>Bouea burmanica</i> var. <i>macrophylla</i>	Anacardiaceae	20.2
	941	<i>Polyalthia rumphii</i>	Annonaceae	13.1
	942*	<i>Tetrastigma pergamaceum</i>	Vitaceae	13.9
	943*	<i>Tetrastigma pergamaceum</i>	Vitaceae	12.8
	944*	<i>Tetrastigma pergamaceum</i>	Vitaceae	18.3
	945	<i>Memexylon edule</i>	Melastomataceae	15.9
	946	<i>Eugenia</i> sp.1	Myrtaceae	13.6
	947	<i>Aporosa</i> sp.3	Euphorbiaceae	10.5
12	948*	<i>Agelaea borneensis</i>	Connaraceae	10.1
	949*	<i>Tetrastigma pergamaceum</i>	Vitaceae	19.3
	950	<i>Dipterocarpus</i> sp.2	Dipterocarpaceae	26.6
	951	<i>Payena</i> sp.2	Sapotaceae	26.6
	952	<i>Shorea smithiana</i>	Dipterocarpaceae	24.3
	953	<i>Shorea</i> sp.	Dipterocarpaceae	86.7
	954	<i>Monocarpia marginalis</i>	Annonaceae	11.3
	955	<i>Dialium kingii</i>	Leguminosae	23.6
	956	<i>Shorea acuminatissima</i>	Dipterocarpaceae	81.0
	957	<i>Vatica</i> sp.	Dipterocarpaceae	11.4
	958	<i>Drypetes crassipes</i>	Euphorbiaceae	24.7
	959	<i>Diospyros</i> sp.1	Ebenaceae	11.8
	960	<i>Dillenia excelsa</i>	Dilleniaceae	24.2
	961*	<i>Tetrastigma pergamaceum</i>	Vitaceae	17.3
	962	<i>Nephelium</i> sp.1	Sapindaceae	13.4
	963	<i>Artocarpus anisophyllus</i>	Moraceae	10.0
	964	<i>Parartocarpus venenosa</i>	Moraceae	10.7
	965	<i>Baccaurea</i> sp.3	Euphorbiaceae	37.0
	966*	<i>Agelaea borneensis</i>	Connaraceae	10.7
	967	<i>Shorea acuminatissima</i>	Dipterocarpaceae	66.0
	968	<i>Popowia pisocarpa</i>	Annonaceae	10.3

Subplot No.	Indiv. No.	Species	Family	D [cm]
	969	<i>Vatica</i> sp.	Dipterocarpaceae	23.0
	970	<i>Dalbergia</i> sp.	Leguminosae	13.5
	971	<i>Aporosa frutescens</i>	Euphorbiaceae	23.5
	972	<i>Eugenia</i> sp.2	Myrtaceae	10.4
	973	<i>Borassodendron borneensis</i>	Palmae	21.1
	974	<i>Rhodaminia cinerea</i>	Myrtaceae	15.1
	975	<i>Polyalthia</i> sp.3	Annonaceae	10.1
	976	<i>Sindora</i> sp.3	Leguminosae	23.8
12	977	<i>Knema cinerea</i> var. <i>sumatrana</i>	Myristicaceae	14.7
	978	<i>Shorea</i> sp.	Dipterocarpaceae	47.2
	979	<i>Vernonia arborea</i>	Compositae	17.1
	1145	<i>Milletia sericea</i>	Leguminosae	12.1
13	1101	<i>Xylopia</i> sp.	Annonaceae	13.9
	1102	<i>Shorea laevis</i>	Dipterocarpaceae	12.1
	1103	<i>Madhuca laevis</i>	Sapotaceae	12.3
	1104	<i>Dillenia excemia</i>	Dilleniaceae	11.1
	1105	<i>Drypetes</i> sp.2	Euphorbiaceae	10.9
	1106	<i>Shorea ovalis</i>	Dipterocarpaceae	43.2
	1107	<i>Shorea smithiana</i>	Dipterocarpaceae	13.8
	1108	<i>Monocarpia euneura</i>	Annonaceae	15.9
	1109	<i>Shorea</i> sp.3	Dipterocarpaceae	24.8
	1110	<i>Magnolia</i> sp.	Magnoliaceae	33.3
	1111	<i>Madhuca kunstleri</i>	Sapotaceae	11.4
	1112	<i>Madhuca sericea</i>	Sapotaceae	34.6
	1113	<i>Palaquium</i> sp.	Sapotaceae	12.1
	1114	<i>Sindora vertina</i>	Leguminosae	34.1
	1115	<i>Knema conferta</i>	Myristicaceae	38.8
	1116	<i>Dipterocarpus comatus</i>	Dipterocarpaceae	34.6
	1117	<i>Xanthophyllum glauca</i>	Polygalaceae	17.5
	1118	<i>Diospyros buxifolia</i>	Ebenaceae	29.0
	1119	<i>Polyalthia glauca</i>	Annonaceae	11.7
	1120	<i>Xanthophyllum affine</i>	Polygalaceae	23.9
	1121	<i>Santiria oblongifolia</i>	Burseraceae	18.9
	1122	<i>Artocarpus elasticus</i>	Moraceae	10.9
	1123	<i>Pometia tomentosa</i>	Sapindaceae	11.1
	1124	<i>Santiria rubiginosa</i>	Burseraceae	18.6
	1125	<i>Polyalthia glauca</i>	Annonaceae	16.0
	1126	<i>Polyalthia glauca</i>	Annonaceae	13.8
	1127	<i>Polyalthia glauca</i>	Annonaceae	17.8
	1128	<i>Borassodendron borneensis</i>	Palmae	20.5
	1129	<i>Drypetes</i> sp.1	Euphorbiaceae	11.7
	1130	<i>Castanopsis</i> sp.1	Fagaceae	11.7
	1131	<i>Xanthophyllum kunstleri</i>	Polygalaceae	33.0
	1132	<i>Madhuca sessiflora</i>	Sapotaceae	30.2
	1133	<i>Dipterocarpus</i> sp.2	Dipterocarpaceae	22.8
	1134	<i>Shorea</i> sp.1	Dipterocarpaceae	71.5
	1135*	<i>Agelaea borneensis</i>	Connaraceae	15.8

Subplot No.	Indiv. No.	Species	Family	D [cm]
	1136	<i>Polyalthia insignis</i>	Annonaceae	12.4
	1137	<i>Polyalthia glauca</i>	Annonaceae	11.3
	1138	<i>Polyalthia glauca</i>	Annonaceae	10.3
14	1056	<i>Koompassia excelsa</i>	Leguminosae	13.8
	1057	<i>Strombosia javanica</i>	Olacaceae	10.0
	1058	<i>Ctenolophon</i> sp.	Olacaceae	10.0
	1059	<i>Dillenia excelsa</i>	Dilleniaceae	22.3
	1060	<i>Borassodendron borneensis</i>	Palmae	22.5
	1061	<i>Gomphandra</i> sp.	Icacinaceae	34.4
14	1062	<i>Knema cinerea</i>	Myristicaceae	19.7
	1063	<i>Ochanostachys amentacea</i>	Olacaceae	20.0
	1064	<i>Shorea</i> sp.1	Dipterocarpaceae	45.9
	1065	<i>Magnolia</i> sp.	Magnoliaceae	10.1
	1066	<i>Ostodes</i> sp.	Euphorbiaceae	27.5
	1067	<i>Knema latericia</i> var. <i>altifolia</i>	Myristicaceae	36.6
	1068	<i>Shorea</i> sp.1	Dipterocarpaceae	39.9
	1069	<i>Shorea platyclados</i>	Dipterocarpaceae	15.1
	1070	<i>Dillenia excelsa</i>	Dilleniaceae	30.5
	1071	<i>Dryobalanops</i> sp.1	Dipterocarpaceae	98.8
	1072	<i>Aporosa</i> sp.2	Euphorbiaceae	15.0
	1073	<i>Eusideroxylon zwageri</i>	Lauraceae	24.4
	1074	<i>Salacia</i> sp.	Celastraceae	11.4
	1075	<i>Pternandra azurea</i>	Melastomataceae	10.0
	1076	<i>Bhesa</i> sp.	Celastraceae	10.0
	1077	<i>Lophopetalum</i> sp.	Celastraceae	28.9
	1078	<i>Shorea</i> sp.1	Dipterocarpaceae	18.7
	1079	<i>Cyathocalyx sumatranus</i>	Annonaceae	11.2
	1080	<i>Mezzettia</i> sp.	Annonaceae	15.0
	1081	<i>Polyalthia laterifolia</i>	Annonaceae	10.7
	1082	<i>Diatium indum</i>	Leguminosae	13.7
	1083	<i>Monocarpia marginalis</i>	Annonaceae	26.6
	1084	<i>Dillenia obovata</i>	Dilleniaceae	12.3
	1085	<i>Dillenia excelsa</i>	Dilleniaceae	11.7
	1086	<i>Cyathocalyx</i> sp.	Annonaceae	23.0
	1087	<i>Shorea smithiana</i>	Dipterocarpaceae	12.5
	1088	<i>Horsfieldia</i> sp.2	Myristicaceae	13.6
	1089	<i>Cleistanthus</i> sp.	Euphorbiaceae	22.4
	1090	<i>Popowia pisocarpa</i>	Annonaceae	13.3
	1091	<i>Dipterocarpus crinitus</i>	Dipterocarpaceae	13.5
	1092	<i>Polyalthia hypoleuca</i>	Annonaceae	11.8
	1093	<i>Ediandra</i> sp.	Lauraceae	19.1
	1094	<i>Dipterocarpus</i> sp.2	Dipterocarpaceae	13.9
	1095	<i>Xylopia malayana</i>	Annonaceae	29.7
	1096	<i>Pternandra azurea</i>	Melastomataceae	12.7
	1097	<i>Aporosa</i> sp.3	Euphorbiaceae	29.1
	1098	<i>Gomphandra</i> sp.	Icacinaceae	20.7
	1099	<i>Pentace triptera</i>	Tiliaceae	36.7

Subplot No.	Indiv. No.	Species	Family	D [cm]
	1100	<i>Antidesma neurocarpum</i>	Euphorbiaceae	15.5
	1147	<i>Baccaurea kunstleri</i>	Euphorbiaceae	10.8
15	1014	<i>Myristica iners</i>	Myristicaceae	15.3
	1015	<i>Knema</i> sp.2	Myristicaceae	12.4
	1016	<i>Shorea</i> sp.4	Dipterocarpaceae	49.7
	1017	<i>Shorea excemia</i>	Dipterocarpaceae	16.2
	1018	<i>Diospyros borneensis</i>	Ebenaceae	21.4
	1019	<i>Scorodocarpus borneensis</i>	Olcaceae	12.1
	1020*	<i>Agelaea borneensis</i>	Connaraceae	11.9
	1021	<i>Pometia</i> sp.	Sapindaceae	44.4
	1022	<i>Platea</i> sp.	Icacinaceae	39.7
15	1023	<i>Stemonurus</i> sp.	Icacinaceae	13.2
	1024	<i>Shorea excemia</i>	Dipterocarpaceae	12.8
	1025	<i>Xylopia malayana</i>	Annonaceae	18.2
	1026	<i>Semecarpus heterophylla</i>	Anacardiaceae	13.2
	1027	<i>Aporosa sphaedophora</i> var. <i>pubesens</i>	Euphorbiaceae	15.2
	1028	<i>Cryptocarya</i> sp.1	Lauraceae	10.3
	1029	<i>Drypetes crassipes</i>	Euphorbiaceae	22.1
	1030	<i>Madhuca fubucardata</i>	Sapotaceae	13.0
	1031	<i>Santiria griffithii</i>	Burseraceae	12.2
	1032	<i>Xylopia malayana</i>	Annonaceae	11.4
	1033	<i>Monocarpia marginalis</i>	Annonaceae	10.1
	1034	<i>Vatica subcardata</i>	Dipterocarpaceae	28.2
	1035	<i>Melanorrhoea</i> sp.	Anacardiaceae	16.9
	1036	<i>Payena sericea</i>	Sapotaceae	11.5
	1037	<i>Shorea excemia</i>	Dipterocarpaceae	11.1
	1038	<i>Koompassia excelsa</i>	Leguminosae	32.6
	1039	<i>Neoscortechinia kingii</i>	Euphorbiaceae	10.1
	1040	<i>Dipterocarpus</i> sp.2	Dipterocarpaceae	22.3
	1041	<i>Dryobalanops</i> sp.	Dipterocarpaceae	33.5
	1042	<i>Xylopia</i> sp.	Annonaceae	39.5
	1043	<i>Kibara</i> sp.	Monimiaceae	10.4
	1044	<i>Xanthophyllum</i> sp.	Polygalaceae	26.4
	1045	<i>Baccaurea</i> sp.3	Euphorbiaceae	14.7
	1046	<i>Drypetes subcubica</i>	Euphorbiaceae	10.2
	1047	<i>Aporosa frutescens</i>	Euphorbiaceae	13.4
	1048	<i>Pentace</i> sp.	Tiliaceae	21.6
	1049	<i>Eugenia</i> sp.3	Myrtaceae	14.3
	1050	<i>Shorea excemia</i>	Dipterocarpaceae	14.0
	1051	<i>Sindora</i> sp.2	Leguminosae	24.8
	1052	<i>Dialium kunstleri</i>	Leguminosae	25.2
	1053	<i>Polyosma</i> sp.	Saxifragaceae	10.0
	1054	<i>Symplocos</i> sp.	Symplocaceae	15.7
	1055	<i>Borassodendron borneensis</i>	Palmae	20.8
	1146	<i>Eugenia</i> sp.4	Myrtaceae	12.2
16	980	<i>Dryobalanops</i> sp.	Dipterocarpaceae	96.1

Subplot No.	Indiv. No.	Species	Family	D [cm]
	981	<i>Hopea mangerawan</i>	Dipterocarpaceae	16.6
	982	<i>Microcos</i> sp.2	Tiliaceae	10.1
	983	<i>Ilex</i> sp.	Aquifoliaceae	20.5
	984	<i>Polyalthia glauca</i>	Annonaceae	14.3
	985	<i>Baccaurea maingayi</i>	Euphorbiaceae	22.1
	986	<i>Pentace triptera</i>	Tiliaceae	18.0
	987	<i>Eusideroxylon zwageri</i>	Lauraceae	21.7
	988	<i>Borassodendron borneensis</i>	Palmae	19.7
	989	<i>Garcinia cuspidata</i>	Guttiferae	13.9
	990	<i>Shorea excemia</i>	Dipterocarpaceae	10.9
	991	<i>Microcos opaca</i>	Tiliaceae	14.7
	992	<i>Xylopia malayana</i>	Annonaceae	37.9
	993	<i>Shorea platyclados</i>	Dipterocarpaceae	50.9
	994	<i>Sterculia macrophylla</i>	Sterculiaceae	26.2
16	995	<i>Borassodendron borneensis</i>	Palmae	20.7
	996	<i>Palaquium quercifolium</i>	Sapotaceae	55.6
	997	<i>Itea macrophylla</i>	Saxifragaceae	17.8
	998	<i>Madhuca</i> sp.	Sapotaceae	32.7
	999	<i>Shorea gissoo</i>	Dipterocarpaceae	43.2
	1000	<i>Dialium platycephalum</i>	Leguminosae	10.8
	1001	<i>Magnolia</i> sp.	Magnoliaceae	12.7
	1002	<i>Sindora beccariana</i>	Leguminosae	18.7
	1003	<i>Monocarpia euneura</i>	Annonaceae	10.1
	1004	<i>Polyalthia rumphii</i>	Annonaceae	39.1
	1005	<i>Drypetes</i> sp.2	Euphorbiaceae	34.9
	1006	<i>Polyosma</i> sp.	Saxifragaceae	96.7
	1007	<i>Shorea acuminatissima</i>	Dipterocarpaceae	23.6
	1008	<i>Polyalthia glauca</i>	Annonaceae	17.3
	1009	<i>Polyalthia glauca</i>	Annonaceae	13.9
	1010	<i>Madhuca dubardii</i>	Sapotaceae	14.3
	1011	<i>Knema latericia</i>	Myristicaceae	36.3
	1012	<i>Dysoxylum</i> sp.	Meliaceae	31.2
	1013	<i>Palaquium dasyphyllum</i>	Sapotaceae	22.2