

POPULATION AND HABITAT STUDY OF JAVAN GREEN PEAFOWL (*Pavo muticus muticus* Linnaeus 1758) AT CIAWITALI TEAK FOREST PLANTATION OF BKPH BUAHDUA AND BKPH SONGGOM, KPH SUMEDANG

✓(Kajian Terhadap Populasi dan Habitat Merak Hijau Jawa (*Pavo muticus muticus* Linnaeus, 1758)
Di Hutan Tanaman Jati Ciawitali BKPH Buahdua dan BKPH Songgom, KPH Sumedang)

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ABSTRAK

Kajian terhadap populasi dan habitat merak hijau jawa (*Pavo muticus muticus* Linnaeus, 1758) telah dilakukan selama 4 bulan, Juni – September 2002 di hutan tanaman jati Ciawitali BKPH Buahdua dan Songgom, KPH Sumedang. Pengamatan terhadap populasi dilakukan dengan metode langsung dengan menggunakan transek di areal hutan tanaman jati, tumpang sari serta areal terbuka dan ekotonnya. Habitat merak hijau dikaji dengan pendekatan analisis vegetasi serta analisis preferensi terhadap fungsi habitat. Hasil penelitian menunjukkan bahwa kelimpahan populasi merak hijau berbeda pada berbagai tipe habitat : umur tegakan, areal terbuka (rerumputan dan sesemakan), areal tumpang sari, ekoton berbagai habitat serta *patch*. Kelimpahan populasi yang paling tinggi pada habitat mosaik antara hutan tanaman jati umur tua, tempat terbuka (rerumputan dan sesemakan), riparian serta ekotonnya. Struktur umur seolah populasi tua, dan nisbah kelamin seperti pola hidup monogamus. Habitat yang disukai merak hijau di hutan jati merupakan mosaik pakan, merak hijau menyukai tempat terbuka daerah rerumputan dan sesemakan ataupun di areal tumpang sari, daerah riparian serta ekoton dari berbagai habitat tersebut. Tempat untuk mencari pohon yang tinggi, percabangan mendatar, dekat pohon untuk tidur terdapat tempat terbuka. Tempat untuk berteduh dipilih pohon yang rindang. Untuk berlindung memilih vegetasi yang rapat. Sarang diletakkan pada tempat terbuka (daerah rerumputan dan sesemakan). Gangguan terhadap merak hijau yang sangat mengkhawatirkan adalah perburuan baik burung maupun teluranya.

Kata kunci : populasi, habitat, hutan jati, merak hijau

INTRODUCTION

Background

In Java island, the green peafowls were distributed at several habitats such as tropical low land forest, monsoon forest, savanna and teak forest. The range of green peafowl had become patchily and locally restricted in every site of their local distribution (Hernowo, 1995). Nowadays, possible habitats to support these birds are forest reserves (national park, game reserve, nature reserve and forested protected area) and teak plantation area. The teak forest in java island has cover an area of about 121.300 ha. These forest have potential to support javan green peafowl population in the future.

The status of green peafowl is protected bird species in Indonesia, and ICBP had nominated the bird as globally threatened in the newest ICBP check-list (Collar and Andrew, 1988). The serious problems to javan peafowl are poaching of the bird and their eggs causing population decrease, and habitat degradation due to people encroachment to peafowl habitat. At every site where green

peafowl distributed close to human settlement, the birds will be threatened.

Recently, with activities of illegal logging at java forest, green peafowl habitat was heavily destructed mainly at teak forest. Some part of teak forest had been cleared by encroacher, so the habitat of green peafowl had decreased and it was most seriously damaged. Not only the quantity of green peafowl habitat had decreased, but the quality had also become poor.

Research Objective

The objective of study was aimed to obtain data and information on green peafowl population in teak forest case (individual number, sex ratio and population structure) and their habitat (feeding site, roosting site, shelter and nesting site). The data and information of population and habitat as indicator to predict about the functions of teak forest in relation to supporting green peafowl population.

STUDY AREA

Intensive study was focused at Ciawitali teak forest plantation RPH Sukadenda, BKPH Buahdua and RPH Nangerang, BKPH Songgom. The study site covered an area of about 1032.9 ha, the geographical position at 107°54'00"E-107°56'30"E and 06°36'30"S-06°39'00"S. The annual precipitation ranged from 2255 to 2650 mm per year with 76 rainfall days (BPS Sumedang, 2001). The annual average temperature was around 29°C and relative humidity about 85 %.

The study areas have four soil groups e.g. latosol, grumosol, andosol and regosol. The percentage of the soil are latosol (45%), grumosol (50.29%), alluvial (2.92%) andosol (1.70%). The elevation of study area is around 51 to 1000 meters.

The vegetation had been developed in teak forest plantation were categorized by age as : class I (0-10 years), class II (11-20 years), class III (21-30 years), class IV (31-40 years), open area with poor growth, intercropping area at class I, grass and shrubs area, riparian area and bordered of class IV-intercropping area and class IV-grass and shrubs area.

The teak plantation class II was planted on year of 1987 located as patch of block 4c, 4b, 6b, 6d and 9b. The vegetation was commonly found at this class such as *Tectona grandis* and *Cassia siamea*. Meanwhile, teak plantation forest class IV was planted at year of 1964 closed to block 7, 9a and 8. Vegetation recorded at these site were *Tectona grandis*, *Cassia siamea* and *Anthocephalus cadamba*. Intercropping area was located at block 7. Agricultural vegetation were planted with teak plantation at intercropping area such as *Capsicum frutescens* and *Arachys hypogea*. Grass and shrubs grew patchily at block 4c and Sampora block with *Ischaemum timorense*, *Eupatorium odoratum* and *Ageratum conyzoides* as common vegetation at that area. River side area was located patchily at Ciporang, Cidongke, Cibeber and Cikawung rivers. Vegetation commonly found at river side were *Eugenia subglauca*, *Gluta renghas* and *Bambusa vulgaris*.

Based on vegetation type, class II, class IV, intercropping area, grass and shrubs area, side river area and bordered/ecotone area were selected as sample plot. For bird census, four transect was made on green peafowl local distribution at Cidongke, Ciporang, Cibeber and Cikawung with 2 km length. For habitat study, plot was made some single plot with size 50 m x 50 m at every vegetation type, and it was provided to 25 plot sub sample plot .

MATERIALS AND METHODS

Location and Time

Research was conducted at Ciawitali teak production forest of RPH Sukadenda, BKPH Buahdua and RPH Nangerang BKPH Songgom of KPH Sumedang, West Java. The study was done during the breeding season of green peafowl, about four month from June to September 2002.

Equipment and Materials

Tools used in this research were teak forest map of RPH Sukadenda, RPH Naggerang and RPH Songgom, compass, chronometer, binocular, tale camera, hagameter, metering-band, and tallysheet.

Methods

The fixed width transect method was done on the birds census, which was carried out for 3 month (June-August 2002). Each transect was observed for 5 days simultaneously. The census started every morning at 5.00 and lasted at 7.00 a.m. The walking speed was about one hour per km in each transect. The counting of individual numbers was based on the calling of green peafowl and direct visual contact of the bird during censusing. The population data taken from the census was analyzed with statistical average and the confident limit of the individual number in each transect.

$$P = X \pm t SE$$

where

P = population (total number individual number in each transect or sample area)

x= total average number in each transect or sample area

SE= standar error

t= t student

Quantitative value was used to describe structure and composition of vegetation at green peafowl habitat. It was analyzed using the important index value (IVI) method after Curtis and Cottam (1964) as follows :

$$IVI = RF + RD + RDo$$

where:

IVI = Important Value Index

RF= Relative Frequency

RD= Relative Density

RDo= Relative Dominance

To know each function of habitat (feeding area, roosting sites, covering sites and sheltering sites) the habitat preferences are used by approach of the formula as follow:

$$F_h = F/TF$$

Where:

F_h = Function of green peafowl habitat feeding area, roosting sites, covering sites and sheltering sites)

F = Frequencies green peafowl using function of habitat

TF = Total frequencies green peafowl using function of habitat

Data collected from trees, poles and sapling were species, number, dbh (diameter at breast height) and height. Meanwhile for seedling only described: number and species. The species and number of herbs, shrubs and grasses were recorded. Direct observation was conducted to describe function of habitat as roosting site, nesting site and feeding site used by green peafowl. Data recorded were species of vegetation, height, number, frequency of usage

and characteristics of habitat. There were five vegetation strata was recorded : A strata consist of teak forest plantation age class III and IV (tree height >30 m); B strata, teak plantation class II (tree height 20-30 m); C strata, vegetation with tree (height <20 m) and composed with grasses and shrubs area, riparian zone; D strata, grasses and shrubs area mixed with riparian area (tree height 3-10 m) and E strata consist of grasses and shrubs and intercropping area (herb shrub, grass and seedling<3m).

RESULTS AND DISCUSSION

Population

Number of Population

The average individual number of the green peafowl at sample area was differed (Table 1). The variation of average individual number was caused by different composition and structure vegetation at the sample area. Total individual number of green peafowl at sample area was 18-22 birds.

Table 1. The average individual number of green peafowl found at the sample area

Transect	Habitat type	Number of bird
Cidongke	Teak plantation class II, riparian, grass and shrubs area	1.5 ± 0.17
Ciporang	River side, intercropping area teak plantation forest class IV	4.6 ± 0.42
Cibeber	River side area, teak plantation forest class II and class IV	5.4 ± 0.17
Cikawung besar	River side area, grass and shrubs area, teak plantation forest class II and class IV	8.2 ± 0.39

Sex Ratio and Age Structure

Direct observation showed that the age structure represented by 18 adults (40.9%), 2 sub adults (4.5%) and 24 chicks (54.45%) was as balance pyramidal. The age structure indicated that an old population would be like. But, poaching to the eggs and the birds were the main sources of destruction of the green peafowl population. The

bird's sex ratio is close to equal comparison, it was 1:1.2. From these fact, it can be deduced that the sex ratio was close to monogamous system, but normally the peafowl live a polygamous system. The poaching had influenced on the green peafowl population. During the observation, there were the eggs of 16 birds (66.7 %) which had been stolen.

Table 2. Number of male and female of green peafowl at the sample area

Site observations	Adult male (birds)	Adult female (birds)	Sub adult (birds)	Chicks (birds)
Ciporang	2	2	1	-
Cidongke	1	2	-	9
Cibeber	2	2	-	-
Cikawung besar	3	4	1	15
Total	8	10	2	24

Habitat

From habitat type where the green peafowls were distributed, showed that the birds preferred patchily habitat such as teak plantation class II and IV composed with river side area- grass and shrubs area (Table 1). The green peafowl got food from open area such as grass, and shrubs area or intercropping area, but they roosted and sheltered at teak plantation and the bird drank at river located near the habitat.

Feeding and Drinking Site

During the observation, it was found that green peafowl fed in open areas (grass and shrubs area) and logged over areas at Sampora, intercropping area and

Cibeber riparian zone. Every morning 9.00-10.00 a.m., could be found 2-3 birds fed at open area. At dry season, Ciawitali forest become very harsh, water was limited and only available in certain places (Cidongke, Cibeber and Cikawung rivers). Daily activities of the bird are not far from water resources.

At least 29 species of vegetation of Ciawitali forest were recorded as food resources for peafowl. They consisted of trees, shrubs, herbs and grasses (Table 3.). The species composition were 3.45% trees, 37.93% grasses, 37.93% herbs and 24.14% shrubs. The composition of their diet were leaves and flowers 55.17%, leaves and fruits 17.24% and leaves 27.59%.

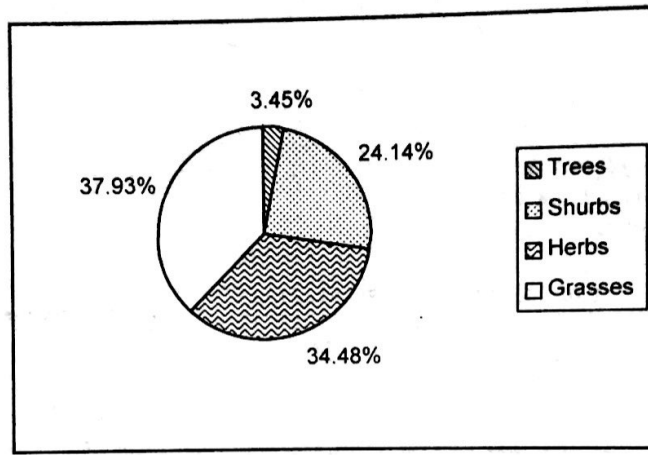


Figure 1. Composition of peafowl diet at Ciawitali teak forest plantation.

The vegetations preferred for food resources such as *Ischaemum timorense*, *Cynodon dactylon*, *Eulesine indica*, *Chloris barbata*, *Paspalum conjugatum*, *Centroteca lapaca*, *Rynchospora conymbosa*, *Kyllinga breifolia*, *Kyllinga monocephala*, *Spilanthus acmella*, *Rorripa indica*, *Ageratum conyzoides*, *Clidemia hirta*, *Lantana camara*,

Pratia numularia, *Physalis perruviana*, *Brachiaria milliformis*, *Axonopus compressus*, *Verninia cinerea*, *Schorpularia dulcis*, *Arachys hypogea*, *Capsicum frutescens*, *Flemingia lineata*, *Amomum daebatum*, *Altenanthera sessilis*, *Trichosanthes wallichiana*, *Urena lobata* and *Antidesma ghasembilla*.

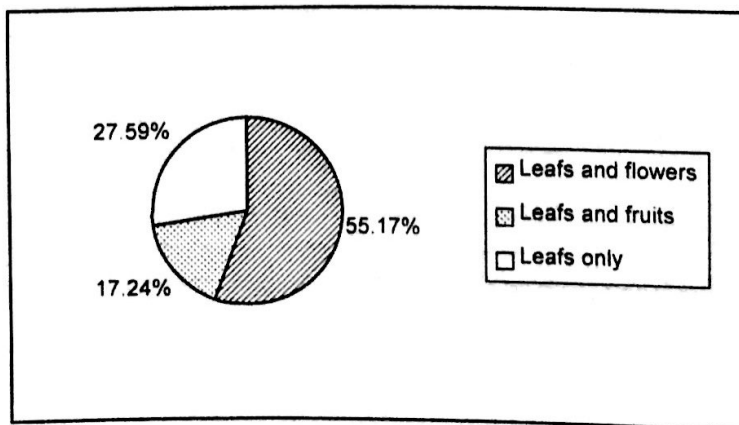


Figure 2. The portion of vegetation where peafowl fed at Ciawitali teak forest plantaion.

Vegetation analysis at the feeding site at (Cidongke, Ciporang, Cibeber and Cikawung) showed that dominant trees were *Tectona grandis* (Ciporang, Cidongke), *Cassia siamea* (Ciporang), *Anthocephalus cadamba* and *Schoutenia*

ovata (Cikawung). Meanwhile, dominant grasses as feeding resources for green peafowl are *Ischaemum timorence* and *Paspalum conjugatum* at Cidongke, Ciporang, Cibeber and Cikawung.

Table 3. The importance value index (IVI) of vegetation analysis from sample plots at green peafowl feeding sites

Species	Local name	IVI (%) at Sample area			
		Cidongke	Ciporang	Cibeber	Cikawung
Trees					
<i>Tectona grandis</i>	Jati	-	164	192.68	-
<i>Cassia siamea</i>	Johar	-	136	-	-
<i>Eugenia subglauca</i>	Kopo	-	-	54.56	-
<i>Gmelina asiatica</i>	Wareng	-	-	52.76	-
<i>Anthocephalus cadamba</i>	Jabon	-	-	-	69.96
<i>Schoutenia ovata</i>	Walikukun	-	-	-	130.04
Pole					
<i>Tectona grandis</i>	Jati	-	179.16	168.15	-
<i>Cassia siamea</i>	Johar	-	120.84	131.85	-
<i>Eugenia subglauca</i>	Kopo	99.87	-	-	53.73
<i>Gmelina asiatica</i>	Wareng	106.68	-	-	32.25
<i>Caesalpinia bonducella</i>	Secang	93.45	-	-	-
<i>Bridelia monoica</i>	-	-	-	-	49.57
Sapling					
<i>Tectona grandis</i>	Jati	29.37	116.67	135.71	-
<i>Cassia siamea</i>	Johar	-	83.33	92.86	-
<i>Caesalpinia bonducella</i>	Secang	86.90	-	-	-
<i>Eugenia subglauca</i>	Kopo	43.65	-	-	38.54
<i>Gmelina asiatica</i>	Secang	40.08	-	-	13.39
<i>Bridelia monoica</i>	-	-	-	-	38.54
Seedling, Shrubs, Herbs, Grasses					
<i>Ischaemum timorence</i>	Kijampang	17.07	23.68	32.10	19.62
<i>Eulesine indica</i>	Carulang	16.38	20.96	15.09	13.18
<i>Paspalum conjugatum</i>	Jukut pait	17.41	20.58	20.88	17.19
<i>Cynodon dactylon</i>	Minyakan	10.16	13.49	22.51	16.88

Covering Site

For hiding places usually the green peafowl used an area with dense trees and shrubs. At Sampora sample area, the bird used teak plantation forest class IV with the ground cover relatively dense. The vegetations preferred as covering site were *Gmelina asiatica* (7.69%), *Schoutenia ovata* (7.69%), *Eugenia subglauca* (38.46%), *Eupatorium*

odoratum and *Ageratum conyzoides* (23.08%), as showed on Table 4 and Figure 3. Characteristics of the vegetation as covering site were : (1) the trees with luxuriant leaves; (2) the trees height were more than 6 m, (3) the branches of the trees from relatively upright angle to the stem, (4) shrubs had dense leaves, but in the ground the shrubs still had space for entering.

Table 4. The vegetation preferred as covering site for green peafowl at Cibeber and Sampora

No	Species	Frequency	Percentage of vegetation (%) used
1	<i>Gmelina asiatica</i>	1	7.69
2	<i>Schoutenia ovata</i>	1	17.65
3	<i>Cassia siamea</i>	3	23.08
4	<i>Eupatorium odoratum</i> & <i>Ageratum conyzoides</i>	3	23.08
5	<i>Eugenia subglauca</i>	3	38.46

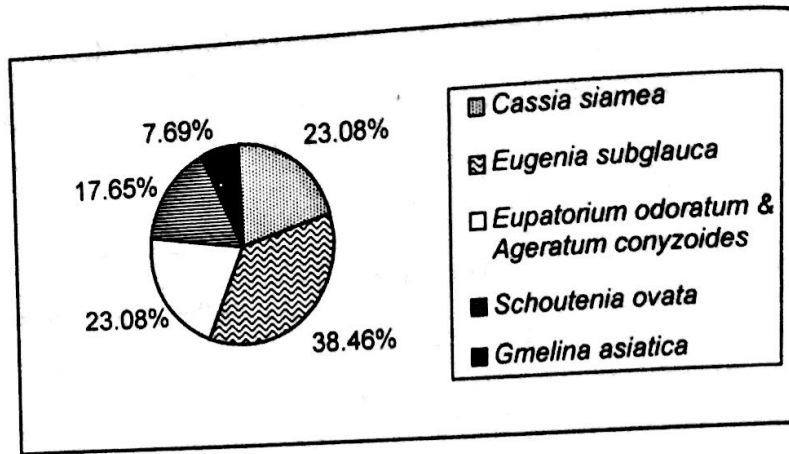


Figure 3. Percentage of vegetations used for peafowl covering.

The composition and structure of vegetation at cover site of green peafowl are listed at Table 5. Besides *Tectona grandis* was dominant on trees and pole stages at Ciporang and Cibeber; *Gmelina asiatica* was also dominant tree at

Cikawung. The dominant pole stage at Cibeber was *Eugenia subglauca*. Sapling stage vegetation was dominated by *Tectona grandis* at Ciporang, and *Eugenia subglauca* also *Gmelina asiatica* at Cidongke.

Table 5. The importance value index (IVI) of vegetation analysis from sample plots at green peafowl covering sites

Species	Local name	IVI (%) at local distribution			
		Cidongke	Ciporang	Cibeber	Cikawung
Trees					
<i>Tectona grandis</i>	Jati	-	273.51	142.27	-
<i>Cassia siamea</i>	Johar	-	18.42	-	-
<i>Eugenia subglauca</i>	Kopo	-	-	-	52.91
<i>Gmelina asiatica</i>	Wareng	-	-	32.61	79.20
<i>Schoutenia ovata</i>	Walikukun	-	-	-	53.67
<i>Acacia fearresiana</i>	Bandara	-	4.15	-	-
<i>Bridelia monoica</i>	-	-	-	33.16	-
Pole					
<i>Tectona grandis</i>	Jati	-	254.08	-	-
<i>Cassia siamea</i>	Johar	-	45.92	-	-
<i>Eugenia subglauca</i>	Kopo	110.11	-	35.98	73.79
<i>Gmelina asiatica</i>	Wareng	93.10	-	25.77	67.52
<i>Caesalpinia bonducella</i>	Secang	44.50	-	-	-
<i>Schoutenia ovata</i>	Walikukun	-	-	12.14	54.04
Sapling					
<i>Tectona grandis</i>	Jati	-	153.92	-	-
<i>Eugenia subglauca</i>	Kopo	70.24	-	55.90	47.32
<i>Gmelina asiatica</i>	Wareng	61.90	-	53.04	-
<i>Caesalpinia bonducella</i>	Secang	44.50	23.80	-	42.40
<i>Schoutenia ovata</i>	Walikukun	-	22.28	-	-
<i>Bridelia monoica</i>	-	-	-	17.05	-
<i>Acacia fearresiana</i>	Bandara	-	-	-	16.84
Seedling, Shrub, Herbs, Grasses					
<i>Ischaemum timorense</i>	Kijampang	21.22	26.33	16.25	14.43
<i>Ageratum conyzoides</i>	Babadotan	7.95	17.35	8.09	18.92
<i>Paspalum conjugatum</i>	Jukut pait	20.56	24.30	16.25	10.59
<i>Eupatorium odoratum</i>	Kirinyuh	-	17.55	11.51	21.67
<i>Eulesine indica</i>	Minyakan	20.35	20.35	14.06	10.12

Shelter

On hot days, the green peafowl sheltered under trees with luxuriant leaves. At riparian zone (Cidongke, Ciporang, Cibeber and Cikawung besar rivers), green peafowl sheltered under trees and bamboos, but at ecotone of open area (grass and shrub areas) and logged over area at Sampora the birds sheltered under pole stage and tree. The trees preferred for sheltering site were *Bambusa vulgaris* (5.88%), *Lagerstroemia speciosa* (5.88%), *Schleichera*

oleosa (11.76%), *Gluta renghas* (11.76%), *Anthocephalus cadamba* (11.76%), *Schoutenia ovata* (17.65%) and *Eugenia subglauca* (29.41%). Characteristics of sheltering trees were : (1) the trees with luxuriant leaves; (2) the trees height were more than 7 meters; the bird sheltered at branch above 2 meters or at ground, (3) branches of the trees form a relatively upright angle to the stem, (4) usually, the green peafowl sheltered in the outside of teak plantation forest.

Table 6. The vegetation preferred as sheltering site for green peafowl

No	Species	Frequency	Percentage of vegetation (%) used
1	<i>Bambusa vulgaris</i>	1	5.88
2	<i>Cassia siamea</i>	1	5.88
3	<i>Lagerstomia speciosa</i>	1	5.88
4	<i>Schleicera oleosa</i>	2	11.76
5	<i>Gluta renghas</i>	2	11.76
6	<i>Anthocephalus cadamba</i>	2	11.76
7	<i>Schoutenia ovata</i>	3	17.65
8	<i>Eugenia subglauca</i>	5	29.41

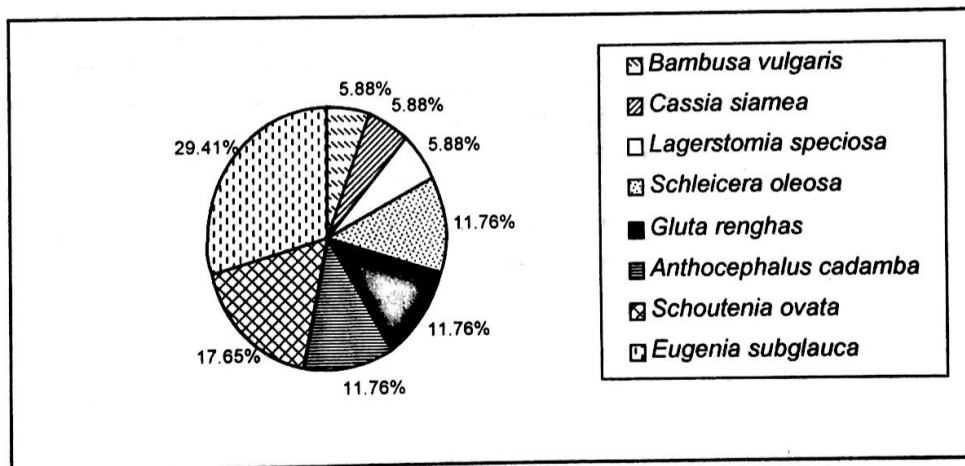


Figure 4. Percentage of vegetations used for peafowl sheltering

The dominant trees at sheltering site (Cidongke, Ciporang, Cibeber and Cikawung) were *Tectona grandis* and *Eugenia subglauca*. Also at pole stage, *Tectona grandis* was dominant at Cidongke and Ciporang. Meanwhile, *Eugenia*

subglauca was the dominant pole stage at Cidongke, Ciporang, Cibeber and Cikawung. But, *Gmelina asiatica* was dominant only at Cibeber (Table 7).

Table 7. The importance value index (IVI) of vegetation analysis from sample plots at green peafowl sheltering sites

Species	Local name	IVI (%) at local distribution			
		Cidongke	Ciporang	Cibeber	Cikawung
Trees					
<i>Tectona grandis</i>	Jati	195.13	206.80	146.33	213.14
<i>Cassia siamea</i>	Johar	-	-	-	38.35
<i>Eugenia subglauca</i>	Kopo	43.30	30.71	-	-
<i>Gmelina asiatica</i>	Wareng	32.43	31.26	-	-
<i>Schoutenia ovata</i>	Walikukun	-	-	30.90	-
<i>Acacia fearresiana</i>	Bandara	-	-	30.84	-
<i>Anthocephalus cadamba</i>	Jabon	-	-	-	29.17
Pole					
<i>Tectona grandis</i>	Jati	121.30	105.46	28.03	47.05
<i>Eugenia suglauca</i>	Kopo	84.38	76.58	103.02	71.16
<i>Gmelina asiatica</i>	Wareng	60.41	-	93.50	33.21
<i>Schoutenia ovata</i>	Walikukun	-	38.14	-	-
Sapling					
<i>Tectona grandis</i>	Jati	41.82	-	24.07	-
<i>Eugenia subglauca</i>	Kopo	78.79	49.10	56.17	40.78
<i>Gmelina asiatica</i>	Wareng	69.70	27.14	51.23	39.94
<i>Schoutenia ovata</i>	Walikukun	-	-	-	17.98
<i>Cassia siamea</i>	Johar	-	63.83	-	-
Seedling, Shrubs, Herbs, Grasses					
<i>Ischaemum timorense</i>	Kijampang	19.54	22.68	21.10	24.18
<i>Pollinia cilliata</i>	Bayondah	-	16.33	-	-
<i>Paspalum conjugatum</i>	Jukut pait	-	19.39	18.47	21.50
<i>Eupatorium odoratum</i>	Kirinyuh	14.16	-	-	-
<i>Eulesine indica</i>	Minyakan	21.43	-	13.33	21.50

Nesting Site

In breeding season, peahen bird laid their eggs in the ground. The nest was placed on the open area (grasses and shrubs) or direct on bare land with very few trees. The nest was found at the grasses and shrubs patch of logged over teak area and intercropping area. In general, the shape of peafowl nest was oval, with 35-38 cm width and 40-45 cm length. The nest got the direct sun from the sun at the open area and it was surrounded by *Eupatorium odoratum*, *Ageratum conyzoides*, *Ischaemum timorense*, *Eulesine indica* and *Urena lobata*.

Roosting Site

No all trees were used as roosting site by green peafowl. The birds selected certain trees for roosting. The

trees used as roosting site were recorded (Table 8. and Figure 5.) such as *Nauclea purpurescens* (9.09%), *Tectona grandis* (45.45%) and *Cassia siamea* (27.27%) at teak forest plantation planted in 1965 (block 7), *Spondias pinnata* (9.09%) at logged over area (block 4c) and *Schleichera oleosa* (9.09%) at teak forest plantation planted at 1987. Characteristics of roosting trees were : (1) the trees were relatively tall (more than 14 meters), (2) the leaves were not dense, but rather open, (3) the trees grew on open area, (4) or the riparian zone trees which were close to open area, (5) branches of the trees form a relatively upright angle to the stem, (6) usually, near the roosting trees occurred other smaller trees, and (7) the crown shape was like an umbrella.

Table 8. The vegetation preferred as roosting site for green peafowl

No	Species	Frequency	Percentage (%) of vegetation used
1	<i>Nauclea purpurescens</i>	1	9.09
2	<i>Spondias pinnata</i>	1	9.09
3	<i>Schleicera oleosa</i>	1	9.09
4	<i>Cassia siamea</i>	3	27.27
5	<i>Tectona grandis</i>	5	45.45

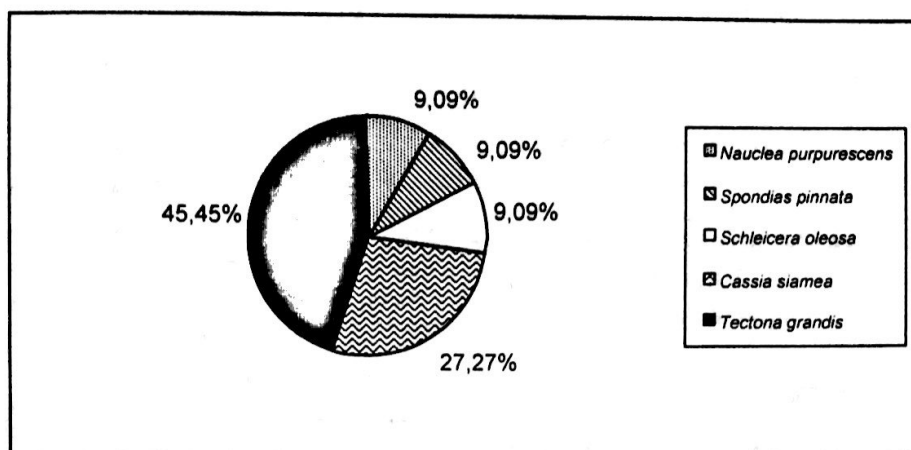


Figure 5. Percentage of vegetations used for peafowl roosting

The important value index of vegetation at roosting site of green peafowl were listed at Table 9. Dominant tree was *Tectona grandis* at Cidongke, Ciporang, Cibeber and Cikawung, and *Cassia siamea* at Ciporang and Cikawung.

At pole stage, *Cassia siamea* was dominant at Cidongke and Ciporang, while *Tectona grandis* was dominant at sample area.

Table 9. The importance value index (IVI) of vegetation analysis from sample plots at green peafowl roosting sites

Species	Local name	IVI (%) at local distribution			
		Cidongke	Ciporang	Cibeber	Cikawung
Trees					
<i>Tectona grandis</i>	Jati	272.70	236.87	240.50	229.26
<i>Cassia siamea</i>	Johar	12.00	63.13	-	70.74
<i>Eugenia subglauca</i>	Kopo	-	-	26.05	-
<i>Gmelina asiatica</i>	Wareng	-	-	25.38	-
<i>Anthocephalus cadamba</i>	Jabon	11.51	-	-	-
Pole					
<i>Tectona grandis</i>	Jati	187.48	233.58	162.69	248.81
<i>Cassia siamea</i>	Johar	112.52	66.42	35.67	29.37
<i>Eugenia suglauca</i>	Kopo	-	-	69.32	-
<i>Acacia fearresiana</i>	Bandara	-	-	-	21.82
Sapling					
<i>Tectona grandis</i>	Jati	116.67	171.96	121.56	173.10
<i>Eugenia subglauca</i>	Kopo	-	-	25.97	-
<i>Gmelina asiatica</i>	Wareng	-	-	24.68	-
<i>Cassia siamea</i>	Johar	83.33	28.04	-	12.92
Seedling, Shrubs, Herbs, Grasses					
<i>Ischaemum timorense</i>	Kijampang	25.39	29.80	19.13	23.57
<i>Paspalum conjugatum</i>	Jukut pait	24.65	-	19.91	21.85
<i>Eupatorium odoratum</i>	Kirinyuh	-	16.60	-	-
<i>Rynchospora conymbosa</i>	Jejendilan	-	16.62	-	-
<i>Eulesine indica</i>	Minyakan	23.42	-	18.59	21.56

CONCLUSION

The green peafowl abundances differ due to the differences of habitat type (composition and structure of vegetation, also patch). Eventhough the population structure were relatively stable, but the sex ratio was not normal (monogamous).

At teak plantation, the green peafowl preferred its habitat which was patchily in a mosaic form, composed of forest, grasses, shrubs, intercropping, riparian zone and their ecotone of them. Characteristics of trees selected by green peafowl for roosting site were : 1) tall trees, 2) the leaves were not so dense and the branch form a relatively upright angle to the stem, 3) the tree was surrounded by open area.

Nesting site was open area dominated by grasses and shrubs. Sheltering site chosen by the green peafowl were a luxuriant tree and it was not far from feeding site. For feeding area, the green peafowl preferred on open area, where grass and shrubs grew, or at intercropping area.

REFERENCES

- Collar, N.J. & P. Andrew. 1998. Birds to watch. ICBP tech. Publication 8. Cambridge. U K.
- Curtis J.T. & G. Cottam 1964. Plant ecology workbook. Burgerss Publishing Co. Minneapolis.
- Del Hoyo, Elliot & Sargatal. 1994. Handbook of the birds of the world. Volume 2. New World Vulture To Guineafowl. Birdlife International Lynx Editions. Barcelona.
- Delacour, J. 1977. The pheasant of the world (2 nd Edition) Spurr Publication. Saiga Publising Co Ltd Surr GU 26 GTD. England
- Hoogerwerf, A. 1970. Ujung Kulon : the land of the last javan rhinoceros. E.J. Brill Leiden. Netherland.
- Hernowo, J. B. 1995. Ecology and behaviour of the Green Peafowl (*Pavo muticus* Linnaeus 1766) in the Baluran National Park. East Java, Indonesia. Master Thesis .
- Faculty of Forestry Science, Georg August University Göttingen. Germany.
- Johnsgard, P. A. 1986. The pheasants of the world. Oxford University Press. London
- King B, F. & Warren B. 1981. Endangered birds of the World. The ICBP Red Data Book. Published by The Smithsonian Institute Press in Cooperation with International Council for Birds Preservation. Washington DC.
- Kuroda, N. 1936. Birds of island of java. Vol 2. Non - Passeres. Tokyo.
- Mackinnon, J. 1988. A field guide to the birds of Java and Bali. Gadjah Mada Press. Yogyakarta.
- Mulyana. 1988. Studi habitat merak hijau (*Pavo muticus* Linnaeus 1766) di Resort Bekol, Taman Nasional Baluran, Jawa Timur. Skripsi Jurusan Konservasi Sumberdaya Hutan Fakultas Kehutanan IPB. Bogor. Tidak Diterbitkan.
- Supratman, A. 1998. Kajian pola penyebaran dan kharakteristik habitat merak hijau (*Pavo muticus* Linnaeus 1766) pada musim tidak berbiak di Resort Rowobendo Taman Nasional Alas Purwo, Jawa Timur. Skripsi Jurusan Konservasi Sumberdaya Hutan Fakultas Kehutanan IPB. Bogor. Tidak Diterbitkan.
- Van Balen, B, D.M. Prawiradilaga, M. Indrawan, A. Marakarmah, I.W.A. Dirgayusa & M.A. Isa. Notes on the distribution and status of green peafowl on Java. World Pheasant Association - Worldwide Fund for Nature, Indonesia Programme. Bogor.
- Winarto, R. 1993. Beberapa aspek ekologi merak hijau (*Pavo muticus* Linnaeus 1766) pada musim berbiak di Taman Nasional Baluran, Jawa Timur. Skripsi Jurusan Konservasi Sumberdaya Hutan Fakultas Kehutanan IPB. Bogor. Tidak Diterbitkan.