**The potential conservation value of anthropogenically-modified habitat for the Endangered moor macaque** ***Macaca maura* in Sulawesi, Indonesia**

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Supplementary Table 1 Family Importance Index Values (FIVs) of moor macaque *Macaca maura* food tree species for the Karaenta Forest and the Education Forest (RDi: relative diversity, RDe: relative density, RDo: relative dominance, FIV: family importance index). Shaded families represent the top 10 based on FIVs.

|  |  |
| --- | --- |
| Karaenta Forest | Education Forest |
| Family  | RDi (%) | RDe (%) | RDo (%) | FIV | Family | RDi (%) | RDe (%) | RDo (%) | FIV |
| Moraceae | 18.31 | 4.48 | 15.76 | 38.54 | Moraceae | 23.53 | 7.63 | 66.58 | 97.74 |
| Sterculiaceae | 4.23 | 12.55 | 14.54 | 31.32 | Araliaceae | 1.96 | 21.07 | 5.83 | 28.86 |
| Dipterocarpaceae | 1.41 | 9.28 | 10.50 | 21.19 | Lauraceae | 3.92 | 14.66 | 1.81 | 20.39 |
| Meliaceae | 4.23 | 7.21 | 6.76 | 18.20 | Pinaceae | 1.96 | 6.26 | 10.98 | 19.20 |
| Myrtaceae | 4.23 | 10.48 | 2.79 | 17.49 | Rubiaceae | 5.88 | 7.63 | 2.60 | 16.12 |
| Anacardiaceae | 7.04 | 4.59 | 4.96 | 16.59 | Clusiaceae | 5.88 | 7.33 | 0.81 | 14.02 |
| Euphorbiaceae | 5.63 | 3.49 | 4.64 | 13.77 | Euphorbiaceae | 5.88 | 3.51 | 4.29 | 13.69 |
| Rubiaceae | 5.63 | 6.22 | 1.55 | 13.40 | Anacardiaceae | 5.88 | 3.51 | 1.82 | 11.21 |
| Verbenaceae | 1.41 | 4.91 | 4.75 | 11.07 | Meliaceae | 5.88 | 3.97 | 0.53 | 10.39 |
| Malvaceae | 1.41 | 1.97 | 7.14 | 10.52 | Flacourtiaceae | 1.96 | 5.80 | 0.46 | 8.22 |
| Fabaceae (Leguminosae) | 4.23 | 3.17 | 1.49 | 8.88 | Sapindaceae | 3.92 | 3.05 | 0.24 | 7.21 |
| Burceraceae | 1.41 | 4.59 | 2.12 | 8.11 | Myrtaceae | 3.92 | 2.60 | 0.37 | 6.88 |
| Urticaceae | 1.41 | 5.24 | 1.19 | 7.83 | Burceraceae | 1.96 | 2.29 | 1.08 | 5.33 |
| Combretaceae | 1.41 | 1.53 | 4.78 | 7.71 | Lecythidaceae | 1.96 | 2.60 | 0.73 | 5.29 |
| Annonaceae | 2.82 | 2.73 | 2.09 | 7.63 | Actinidiaceae | 1.96 | 2.14 | 0.03 | 4.13 |
| Clusiaceae | 4.23 | 1.75 | 0.52 | 6.49 | Lythraceeae | 1.96 | 1.22 | 0.41 | 3.59 |
| Arecaceae | 2.82 | 0.87 | 2.70 | 6.39 | Dilleniaceae | 1.96 | 0.92 | 0.38 | 3.25 |
| Sapindaceae | 2.82 | 2.18 | 0.64 | 5.64 | Leeaceae | 1.96 | 0.92 | 0.06 | 2.94 |
| Sapotaceae | 1.41 | 1.31 | 2.66 | 5.38 | Pandanaceae | 1.96 | 0.76 | 0.02 | 2.75 |
| Lauraceae | 1.41 | 1.09 | 1.98 | 4.48 | Fabaceae | 1.96 | 0.31 | 0.36 | 2.63 |
| Calophyllaceae | 1.41 | 1.64 | 1.34 | 4.38 | Rutaceae | 1.96 | 0.61 | 0.04 | 2.62 |
| Tiliaceae | 1.41 | 0.66 | 1.24 | 3.30 | Sapotaceae | 1.96 | 0.31 | 0.06 | 2.33 |
| Pandanaceae | 1.41 | 1.42 | 0.29 | 3.12 | Annonaceae | 1.96 | 0.31 | 0.05 | 2.31 |
| Myristicaceae | 1.41 | 1.09 | 0.56 | 3.06 | Malvaceae | 1.96 | 0.15 | 0.17 | 2.29 |
| Rhamnaceae | 1.41 | 0.87 | 0.76 | 3.04 | Arecaceae | 1.96 | 0.15 | 0.17 | 2.28 |
| Ebanaceae | 1.41 | 1.09 | 0.42 | 2.92 | Sterculiaceae | 1.96 | 0.15 | 0.10 | 2.22 |
| Thymelaceae | 1.41 | 1.20 | 0.22 | 2.83 | Verbanaceae | 1.96 | 0.15 | 0.01 | 2.12 |
| Rutaceae | 1.41 | 0.11 | 0.87 | 2.39 |  |  |  |  |  |
| Icacinaceae | 1.41 | 0.55 | 0.10 | 2.06 |  |  |  |  |  |
| Cornaceae | 1.41 | 0.44 | 0.09 | 1.94 |  |  |  |  |  |
| Borraginaceae | 1.41 | 0.11 | 0.25 | 1.76 |  |  |  |  |  |
| Leeaceae | 1.41 | 0.33 | 0.02 | 1.76 |  |  |  |  |  |
| Lythraceae | 1.41 | 0.33 | 0.02 | 1.76 |  |  |  |  |  |
| Gnetaceae | 1.41 | 0.22 | 0.07 | 1.70 |  |  |  |  |  |
| Apocynaceae | 1.41 | 0.22 | 0.06 | 1.69 |  |  |  |  |  |
| Silacaceae | 1.41 | 0.11 | 0.14 | 1.66 |  |  |  |  |  |
| *Total* | *100%* | *100%* | *100%* | *300%* | *Total* | *100%* | *100%* | *100%* | *300%* |

Supplementary Table 2 Species Importance Index Values for macaque food tree species for Karaenta Forest (RF: relative frequency, RDe: relative density, RDo: relative dominance, SIV: species importance value). Species shaded in grey represent the top 10 important food tree species.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Scientific name | Vernacular name | Family | RF(%) | RDe(%) | RDo (%) | SIV |
| *Hopea celebica* | Keri | Dipterocarpaceae | 3.16 | 9.28 | 10.49 | 22.94 |
| *Sterculia coccinea* | Dangan-dangan, Kalumpang | Sterculiaceae | 5.38 | 7.97 | 8.68 | 22.03 |
| *Toona sureni* | Mepala, Orisi | Meliaceae | 3.48 | 5.57 | 6.18 | 15.23 |
| *Vitex cofassus* | Bitti | Verbenaceae | 4.11 | 4.91 | 4.75 | 13.77 |
| *Canarium ovatum* | Rao heja | Burceraceae | 5.38 | 4.59 | 2.12 | 12.09 |
| *Psidium guajava* | Jambu biji | Myrtaceae | 3.80 | 6.00 | 1.41 | 11.21 |
| *Kleinhovia hospita* | Paliasa, Maraliken, Karang nasi | Malvaceae | 1.90 | 1.97 | 7.14 | 11.01 |
| *Pterospermum celebicum* | Banyor | Sterculiaceae | 2.53 | 3.60 | 4.46 | 10.59 |
| *Terminalia supitiana* | Katabo | Combretaceae | 3.48 | 1.53 | 4.78 | 9.79 |
| *Villebrunea rubescens* | Bukkang-bukkang | Urticaceae | 2.22 | 5.24 | 1.19 | 8.64 |
| *Orophea* sp. | Mawait | Annonaceae | 2.85 | 2.40 | 1.98 | 7.23 |
| *Spondias dulcis*  | Empo | Anacardiaceae | 2.22 | 2.84 | 1.66 | 6.72 |
| *Nauclea orientalis* | Bintawang | Rubiaceae | 2.53 | 3.06 | 0.98 | 6.57 |
| *Ficus congesta*  | Marihallasa | Moraceae | 0.63 | 0.22 | 5.68 | 6.53 |
| *Morinda elliptica* | Binkuru | Rubiaceae | 3.48 | 2.29 | 0.42 | 6.19 |
| *Syzygium aqueum* | Jambu air | Myrtaceae | 2.53 | 3.06 | 0.52 | 6.11 |
| *Palaquium obovatum* | Nato | Sapotaceae | 1.58 | 1.31 | 2.66 | 5.56 |
| *Calophyllum soualattri* | Batta-batta, Bittao | Calophyllaceae | 1.90 | 1.64 | 1.34 | 4.88 |
| *Derris* sp. | Kaleleng Maccera | Fabaceae (Leguminosae) | 2.22 | 2.07 | 0.48 | 4.77 |
| *Mallotus ricinoides* | Semekanukko | Euphorbiaceae | 1.90 | 2.18 | 0.59 | 4.68 |
| *Litsea mappacea* | Bakan | Lauraceae | 1.58 | 1.09 | 1.98 | 4.65 |
| *Ficus pubinervis*  | Kaju ara Capuko | Moraceae | 0.63 | 0.44 | 3.30 | 4.37 |
| *Elattostachys verrucosa* | Bitongtong, Lonrong | Sapindaceae | 1.90 | 1.97 | 0.49 | 4.36 |
| *Pterocymbium tinctorium* | Ga'mi | Sterculiaceae | 1.58 | 0.98 | 1.40 | 3.97 |
| *Arenga pinnata* | Areng | Arecaceae | 0.63 | 0.55 | 2.63 | 3.81 |
| *Ficus microcarpa* | Kaju ara Ramba | Moraceae | 0.95 | 0.87 | 1.89 | 3.72 |
| *Aglaia tomentosa* | Bitongtong ca'di | Meliaceae | 1.58 | 1.53 | 0.56 | 3.67 |
| *Knema cinerea* | Pala-pala | Myristicaceae | 1.90 | 1.09 | 0.56 | 3.55 |
| *Decaspermum fruticosum* | Jambu-jambu | Myrtaceae | 1.27 | 1.42 | 0.86 | 3.54 |
| *Ziziphus angustifolia* | Ganjeng-ganjeng | Rhamnaceae | 1.90 | 0.87 | 0.76 | 3.53 |
| *Mangifera laurina*  | Mangga | Anacardiaceae | 0.63 | 0.55 | 2.31 | 3.49 |
| *Grewia multiflora* | Bunga-bunga, Arisi | Tiliaceae | 1.58 | 0.66 | 1.24 | 3.48 |
| *Bridelia insulana*  | Bu'ne bu'ne | Euphorbiaceae | 1.27 | 0.66 | 1.45 | 3.37 |
| *Phaleria capitata*  | Kaleleng Susuan, Kopi kopi romang | Thymelaceae | 1.58 | 1.20 | 0.22 | 3.01 |
| *Pandanus* sp. | Banga | Pandanaceae | 1.27 | 1.42 | 0.29 | 2.97 |
| *Aleurites moluccana* | Kemiri | Euphorbiaceae | 0.32 | 0.33 | 2.15 | 2.80 |
| *Buchanania arborescens* | Marapao | Anacardiaceae | 1.27 | 0.87 | 0.66 | 2.80 |
| *Ficus miquelli*  | Tambung-tambung | Moraceae | 1.27 | 0.87 | 0.48 | 2.62 |
| *Ficus benjamina* | Kaju ara Rampa | Moraceae | 0.63 | 0.33 | 1.59 | 2.55 |
| *Diospyros sp.*  | Eboni | Ebanaceae | 0.95 | 1.09 | 0.42 | 2.46 |
| *Garcinia tetrandra*  | Bole-bole | Clusiaceae | 1.27 | 0.87 | 0.24 | 2.38 |
| *Ficus tinctoria* | Kaju ara Langa-langa | Moraceae | 0.63 | 0.44 | 1.17 | 2.24 |
| *Pterocarpus indicus* | Ansana, Bilawa | Fabaceae (Leguminosae) | 0.95 | 0.87 | 0.38 | 2.20 |
| *Alangium salviifolium*  | Kaleleng Panka-panka | Cornaceae | 1.27 | 0.44 | 0.09 | 1.80 |
| *Psychotria malayana* | Lankean poce | Rubiaceae | 0.95 | 0.76 | 0.07 | 1.79 |
| *Garcinia dulcis* | Kirasa | Clusiaceae | 0.95 | 0.55 | 0.17 | 1.66 |
| *Albizia saponaria* | Langiri | Fabaceae (Leguminosae) | 0.63 | 0.22 | 0.63 | 1.48 |
| *Drypetes longifolia* | Kunyi-kunyi | Euphorbiaceae | 0.63 | 0.33 | 0.45 | 1.41 |
| *Garcinia balica* | Kacalla | Clusiaceae | 0.95 | 0.33 | 0.11 | 1.39 |
| *Ficus glomerata*  | Duajeng | Moraceae | 0.32 | 0.11 | 0.94 | 1.37 |
| *Caryota mitis* | Ba'ru | Arecaceae | 0.95 | 0.33 | 0.07 | 1.35 |
| *Lagerstroemia ovalifolia* | Langoting | Lythraceae | 0.95 | 0.33 | 0.02 | 1.30 |
| *Melicope confusa* | Mara-mara sikapa | Rutaceae | 0.32 | 0.11 | 0.87 | 1.29 |
| *Phytocrene hirsuta* | Pacci-pacci dare | Icacinaceae | 0.63 | 0.55 | 0.10 | 1.28 |
| *Ficus fistulosa*  | Lambere | Moraceae | 0.63 | 0.44 | 0.12 | 1.19 |
| *Xylopia peekelii* | Lalatan | Annonaceae | 0.63 | 0.33 | 0.11 | 1.07 |
| *Gnetum gnemon* | Kaleleng Lebar daun | Gnetaceae | 0.63 | 0.22 | 0.07 | 0.92 |
| *Lepiniopsis ternatensis*  | Gatta-gatta | Apocynaceae | 0.63 | 0.22 | 0.06 | 0.91 |
| *Ficus chrysolepis* | Kaju ara Karisa Batang | Moraceae | 0.32 | 0.22 | 0.37 | 0.90 |
| *Spondias malayana* | Accang | Anacardiaceae | 0.32 | 0.22 | 0.32 | 0.85 |
| *Tristiropsis acutangula*  | Lolorupa | Sapindaceae | 0.32 | 0.22 | 0.14 | 0.68 |
| *Cordia dichotoma* | Kanonau | Borraginaceae | 0.32 | 0.11 | 0.25 | 0.67 |
| *Leea aculeata* | Mali-Mali | Leeaceae | 0.32 | 0.33 | 0.02 | 0.66 |
| *Ficus* sp. 2 | Kaju ara Sangila | Moraceae | 0.32 | 0.22 | 0.06 | 0.60 |
| *Pangium edule* | Pangi | Silacaceae | 0.32 | 0.11 | 0.14 | 0.57 |
| *Trophis phillipinensis*  | Opa opasa | Moraceae | 0.32 | 0.11 | 0.13 | 0.56 |
| *Aidia racemosa* | Tallu-tallu raung | Rubiaceae | 0.32 | 0.11 | 0.07 | 0.50 |
| *Aphanamixis polystachya* | Lassa-lassa, Rao rao dare | Meliaceae | 0.32 | 0.11 | 0.03 | 0.45 |
| *Dracontomelon dao* | Rao, Kodong kodong | Anacardiaceae | 0.32 | 0.11 | 0.02 | 0.44 |
| *Ficus drupacea* | Kaju ara Coppeng | Moraceae | 0.32 | 0.11 | 0.01 | 0.44 |
| *Ficus* sp. 1 | Kaju ara Ballusu | Moraceae | 0.32 | 0.11 | 0.01 | 0.44 |
| *Total* | *100%* | *100%* | *100%* | *300%* |

Supplementary Table 3 Species Importance Index Values for macaque food tree species for the Education Forest (RF: relative frequency, RDe: relative density, RDo: relative dominance, SIV: species importance value). Species shaded grey represent the top 10 important food tree species.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Scientific name | Vernacular name | Family | RF (%) | RDe (%) | RDo (%) | SIV |
| *Ficus virens* | Kajuara Puca | Moraceae | 1.29 | 1.21 | 33.89 | 36.39 |
| *Arthrophyllum diversifolium*  | Lento-Lento | Araliaceae | 6.44 | 20.91 | 5.82 | 33.17 |
| *Cinnamomum celebicum* | Kayu Manis | Lauraceae | 11.16 | 13.48 | 1.56 | 26.20 |
| *Pinus merkusii* | Pinus | Pinaceae | 2.58 | 6.21 | 10.97 | 19.76 |
| *Ficus* sp. | Kaju Rambat | Moraceae | 0.43 | 0.15 | 13.03 | 13.61 |
| *Psychotria* sp. | Langkeyang Poce | Rubiaceae | 6.01 | 5.00 | 2.06 | 13.07 |
| *Flacourtia inermis*  | Lobe-Lobe | Flacourtiaceae | 6.44 | 5.76 | 0.46 | 12.66 |
| *Artocarpus elasticus*  | Tokka | Moraceae | 2.15 | 1.06 | 7.73 | 10.94 |
| *Aleurites moluccana* | Kemiri | Euphorbiaceae | 2.58 | 1.82 | 4.17 | 8.56 |
| *Garcinia tetrandra*  | Bole-Bole | Clusiaceae | 3.43 | 4.70 | 0.38 | 8.51 |
| *Aphanamixis polystachya*  | Lassa-Lassa | Meliaceae | 3.00 | 3.48 | 0.32 | 6.81 |
| *Ficus drupacea*  | Kajuara Coppeng/Morecca | Moraceae | 1.29 | 0.76 | 4.12 | 6.16 |
| *Ganophyllum falcatum* | Lolorupa | Sapindaceae | 3.00 | 2.88 | 0.21 | 6.09 |
| *Canarium ovatum* | Rao Eja | Burceraceae | 2.58 | 2.27 | 1.08 | 5.93 |
| *Barringtonia accutangula* | Putat | Lecythidaceae | 2.58 | 2.58 | 0.73 | 5.88 |
| *Dracontomelon dao*  | Rao/Dao | Anacardiaceae | 3.43 | 1.97 | 0.21 | 5.61 |
| *Mangifera indica* | Mangga/Pao (Bugis)/Taipa (Dentong) | Anacardiaceae | 1.72 | 1.21 | 1.58 | 4.51 |
| *Garcinia dulcis*  | Kirasa/Manggis Hutan | Clusiaceae | 1.72 | 2.42 | 0.33 | 4.47 |
| *Morinda elliptica* | Bingkuru | Rubiaceae | 2.58 | 1.67 | 0.12 | 4.36 |
| *Syzygium splendens* | Kacala | Myrtaceae | 2.15 | 1.52 | 0.19 | 3.85 |
| *Lagerstroemia ovalifolia*  | Bungur/Langoting/Langoting | Lythraceeae | 2.15 | 1.21 | 0.41 | 3.76 |
| *Ficus annulata* | Kajuara Lompo | Moraceae | 0.86 | 1.06 | 1.58 | 3.50 |
| *Dillenia obovata*  | Ranging | Dilleniaceae | 2.15 | 0.91 | 0.38 | 3.43 |
| *Ficus sumatrana* | unknown | Moraceae | 1.29 | 1.06 | 0.95 | 3.30 |
| *Baccaurea* sp. | Ropisi | Euphobiaceae | 2.15 | 0.91 | 0.07 | 3.13 |
| *Nauclea orientalis* | Bintawang | Rubiaceae | 1.72 | 0.91 | 0.42 | 3.05 |
| *Saurauia tristyla* | Ni'ni | Actinidiaceae | 0.86 | 2.12 | 0.03 | 3.01 |
| *Ficus tinctoria*  | Kajuara Langa-Langa | Moraceae | 0.86 | 0.30 | 1.83 | 2.99 |
| *Ficus variegata*  | Kalukendrang | Moraceae | 0.43 | 0.15 | 2.29 | 2.87 |
| *Leea aculeata*  | Mali-Mali | Leeaceae | 1.72 | 0.91 | 0.06 | 2.69 |
| *Litsea mappacea*  | Bakan | Lauraceae | 1.29 | 1.06 | 0.25 | 2.60 |
| *Antiaris toxicaria* | Gellong | Moraceae | 1.72 | 0.61 | 0.22 | 2.54 |
| *Drypetes longifolia* | Danggang-Danggang | Euphorbiaceae | 1.72 | 0.76 | 0.05 | 2.52 |
| *Melicope lunu-akenda* | Mara Mara Sikapa | Rutaceae | 1.72 | 0.61 | 0.04 | 2.37 |
| *Ficus glomerata* | Duajeng | Moraceae | 1.29 | 0.45 | 0.52 | 2.26 |
| *Syzygium* sp*.* | Jambu-Jambu | Myrtaceae | 0.86 | 1.06 | 0.18 | 2.10 |
| *Pandanus* sp. | Banga | Pandanaceae | 1.29 | 0.76 | 0.02 | 2.07 |
| *Ficus obscura*  | Pa'da | Moraceae | 0.86 | 0.61 | 0.38 | 1.84 |
| *Pterocarpus indicus*  | Cendrana/Ansana | Fabaceae | 0.86 | 0.30 | 0.36 | 1.52 |
| Unknown | Bicocoro | unknown | 0.86 | 0.61 | 0.02 | 1.48 |
| *Toona sureni* | Mahoni/Mepala  | Meliaceae | 0.86 | 0.30 | 0.20 | 1.36 |
| *Palaquium obovatum*  | Nato | Sapotaceae | 0.86 | 0.30 | 0.06 | 1.22 |
| *Buchanania arborences* | Marapao/Taepa Dare | Anacardiaceae | 0.86 | 0.30 | 0.03 | 1.19 |
| *Xylopia peekelii*  | Lalatang | Annonaceae | 0.43 | 0.30 | 0.05 | 0.78 |
| *Sterculia foetida*  | Kapo Hutan/Kau Kau Romang | Malvaceae | 0.43 | 0.15 | 0.17 | 0.75 |
| *Arenga pinnata*  | Aren/Inru/Indru | Arecaceae | 0.43 | 0.15 | 0.17 | 0.75 |
| *Pterocymbium tinctorium*  | Gammi | Sterculiaceae | 0.43 | 0.15 | 0.10 | 0.68 |
| *Garcinia riedeleana*  | Salat-Salat | Clusiaceae | 0.43 | 0.15 | 0.10 | 0.68 |
| Unknown | Pasui | Unknown | 0.43 | 0.15 | 0.04 | 0.62 |
| *Allophylus cobbe*  | Tallu Tallu Ruang | Sapindaceae | 0.43 | 0.15 | 0.03 | 0.61 |
| *Dysoxylum* sp. | unknown | Meliaceae | 0.43 | 0.15 | 0.02 | 0.60 |
| *Ficus miquelli*  | Tambung-Tambung | Moraceae | 0.43 | 0.15 | 0.01 | 0.59 |
| *Vitex cofessus* | Bitti | Verbanaceae | 0.43 | 0.15 | 0.01 | 0.59 |
| *Total* | *100%* | *100%* | *100%* | *300%* |

Supplementary Table 4 Nutritional composition of fruits eaten by moor macaques collected from the two study sites.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  Scientific name |  Family |  Ripe/unripe | Protein % of DM | Lipid % of DM | NDF % of DM | TNC % of DM | Available energy kcal/100g (low NDF) |
| **Karaenta Forest** |   |   |  |  |  |  |  |
| *Alangium salviifolium*  | Cornaceae | ripe | 0.3 | 0.5 | 41.1 | 54.1 | 244.5 |
| *Arenga pinnata*  | Arecaceae | ripe | 8.1 | 0.1 | 4.1 | 68.7 | 309.9 |
| *Artocarpus elasticus*  | Moraceae | ripe | 7.5 | 4.1 | 45.9 | 35.4 | 233.3 |
| *Cordia dichotoma*  | Borraginaceae | ripe | 0.3 | 8.5 | 32.1 | 51.3 | 300.6 |
| *Dracontomelon dao*  | Anacardiaceae | ripe | 16.5 | 0.4 | 8.2 | 71.2 | 358.7 |
| *Ficus chrysolepis* | Moraceae | ripe | 7.2 | 1.4 | 39.2 | 43.3 | 235.6 |
| *Ficus fistulosa*  | Moraceae | ripe | 13.7 | 2.1 | 34.3 | 30.9 | 215.6 |
| *Ficus glomerata* | Moraceae | ripe | 5.1 | 4.5 | 49.0 | 30.0 | 207.9 |
| *Ficus tinctoria*  | Moraceae | ripe | 10.7 | 8.6 | 35.3 | 29.5 | 257.2 |
| *Ficus virens*  | Moraceae | ripe | 4.0 | 1.6 | 42.4 | 46.7 | 240.0 |
| *Garcinia tetrandra*  | Clusiaceae | ripe | 5.5 | 6.1 | 20.6 | 63.6 | 342.6 |
| *Litsea mappacea*  | Lauraceae | ripe | 22.3 | 29.5 | 24.9 | 14.7 | 427.4 |
| *Morinda elliptica* | Rubiaceae | unripe | 23.1 | 2.5 | 44.7 | 19.9 | 219.2 |
| *Morinda elliptica* | Rubiaceae | ripe | 9.0 | 0.4 | 34.4 | 44.7 | 236.6 |
| *Phaleria capitata*  | Thymelaeaceae | unripe | 25.1 | 1.0 | 25.2 | 43.0 | 295.3 |
| *Phaleria capitata*  | Thymelaeaceae | ripe | 11.6 | 14.1 | 43.5 | 25.9 | 300.7 |
| *Terminalia supitiana*  | Combretaceae | unripe | 5.9 | 3.5 | 30.2 | 54.9 | 291.2 |
|  *Mean available energy kcal/100g in Karaenta Forest* |  | *277.4 ± 59.3* |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Scientific name |  Family | Ripe/unripe | Protein % of DM | Lipid % of DM | NDF % of DM | TNC % of DM | Available energy kcal/100g (low NDF) |
| **Education Forest** |  |  |  |  |  |  |  |
| *Aphanamixis polystachya*  | Meliaceae | unripe | 7.4 | 29.2 | 43.8 | 14.6 | 374.8 |
| *Arthrophyllum diversifolium*  | Araliaceae | ripe | 10,6 | 30.7 | 42.8 | 11.0 | 386.2 |
| *Baccaurea* sp. | Euphorbiaceae | unripe | 5.4 | 4.8 | 50.2 | 34.2 | 229.0 |
| *Cinnamomum celebicum* | Lauraceae | ripe  | 21.9 | 27.3 | 40.9 | 5.2 | 376.4 |
| *Dracontomelon dao*  | Anacardiaceae | ripe | 5.1 | 2.3 | 65.8 | 21.5 | 163.1 |
| *Ficus drupacea*  | Moraceae | ripe | 16.5 | 0.4 | 31.8 | 38.2 | 239.4 |
| *Ficus miquelli*  | Moraceae | ripe | 11.7 | 2.6 | 42.1 | 31.9 | 220.3 |
| *Ficus obscura*  | Moraceae | ripe | 12.3 | 5.8 | 35.0 | 37.5 | 270.4 |
| *Ficus* sp. | Moraceae | unripe | 0.8 | 7.5 | 33.6 | 43.8 | 263.8 |
| *Flacourtia inermis*  | Flacourtiaceae | ripe | 1.9 | 0.6 | 29.1 | 65.0 | 289.0 |
| *Leea aculeata* | Leeaceae | ripe | 6.6 | 2.3 | 50.3 | 33.7 | 210.8 |
| *Morinda elliptica* | Rubiaceae | unripe | 11.6 | 7.6 | 44.6 | 30.5 | 260.8 |
| *Morinda elliptica*  | Rubiaceae | ripe | 13.7 | 0.4 | 9.0 | 73.6 | 357.4 |
| *Pandanus* sp. | Pandanaceae | ripe | 10.0 | 1.5 | 50.1 | 33.6 | 215.1 |
| *Psychotria* sp. | Rubiaceae | unripe | 6.6 | 5.5 | 48.3 | 33.6 | 236.8 |
| *Psychotria* sp. | Rubiaceae | ripe | 7.0 | 7.0 | 52.7 | 23.6 | 214.0 |
| *unknown* | Anacardiaceae | ripe | 4.3 | 1.7 | 7.8 | 83.6 | 371.2 |
|  *Mean available energy kcal/100g in the Education Forest 275.2 ± 69.0* |

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