**Supporting Information**

**Paper 16, Volume 58(2), 2017**: Community structure and species diversity of *Pinus merkusii* Jungh. & de Vriese forest along an altitudinal gradient in Eastern Himalaya, Arunachal Pradesh, India

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**Table S1**. Structure and composition of trees, saplings, shrubs, seedlings and herbs in the three studied sites (Density in ha–1 and basal area in m2 ha–1).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Name of the species** | **Low elevation site** | | | **Medium elevation site** | | | **High elevation site** | | |
| **Density** | **Basal cover** | **IVI** | **Density** | **Basal cover** | **IVI** | **Density** | **Basal cover** | **IVI** |
| **TREES** | | | | | | | | | |
| *Albizia chinensis* (Osbeck) Merr. | 8 | 0.11 | 2.0 | 22 | 0.4 | 7.2 | 16 | 0.26 | 4.92 |
| *Alnus nepalensis*D.Don. | 56 | 0.69 | 11.0 | 78 | 1.2 | 23.4 | 60 | 0.98 | 22.09 |
| *Ardisia thyrsiflora* D. Don. | 38 | 0.37 | 6.9 | – | – | – | – | – | – |
| *Boehmeria penduliflora* Wedd. Ex D.G.Long | 20 | 0.18 | 4.5 | – | – | – | – | – | – |
| *Brassaiopsis hainla* Seem. | – | – | – | – | – | – | 16 | 0.27 | 5.44 |
| *Brassaiopsis glomerulata* (Blume) Regel | 12 | 0.12 | 3.0 | 20 | 0.2 | 5.5 | – | – | – |
| *Betula alnoides* Buch.- Ham. Ex D.Don | 22 | 0.34 | 5.4 | – | – | – | – | – | – |
| *Callicarpa arborea* Roxb. | 26 | 0.31 | 5.7 | – | – | – | – | – | – |
| *Castanopsis armata* (Roxb.) Spach | 54 | 1.66 | 16.6 | – | – | – | – | – | – |
| *Castanopsis echinocarpa* Miq. | 36 | 0.46 | 8.6 | – | – | – | – | – | – |
| *Castanopsis indica* (Roxb. ex Lindl.) A.DC | – | – | – | 54 | 1.8 | 18.5 | 30 | 0.34 | 10.68 |
| *Castanopsis lanceifolia* (Oerst.) Hickel&A.Camus | – | – | – | 30 | 0.6 | 10.1 | 4 | 0.04 | 1.54 |
| *Castanopsis tribuloides* (Smith) A.DC. | – | – | – | – | – | – | 24 | 0.55 | 8.00 |
| *Choerospondias axillaris* (Roxb.) B.L.Burtt | 26 | 0.24 | 5.5 | 16 | 0.1 | 4.3 | – | – | – |
| *Cinnamomum camphora* (L.) J.Presl | 20 | 0.23 | 4.3 | 20 | 0.3 | 5.7 | – | – | – |
| *Citrus* sp. | 10 | 0.09 | 2.1 | – | – | – | – | – | – |
| *Dobinea vulgaris* Buch.-Ham. Ex. D.Don | 10 | 0.09 | 2.4 | – | – | – | – | – | – |
| *Elaeagnus* sp. | 22 | 0.20 | 5.0 | 20 | 0.2 | 5.1 | 22 | 0.28 | 7.66 |
| *Ficus semicordata* Buch.-Ham.ex Sm. | 34 | 0.45 | 9.3 | 26 | 0.4 | 6.9 | 44 | 0.52 | 14.20 |
| *Ficus* sp. | 32 | 0.34 | 6.6 | – | – | – | – | – | – |
| *Hydrangea aspera* D.Don | 24 | 0.27 | 5.1 | – | – | – | – | – | – |
| *Leucosceptrum canum* Sm. | – | – | – | 20 | 0.2 | 5.5 | – | – | – |
| *Litsea cubeba*  (Lour.) Pers. | 38 | 0.44 | 9.3 | 20 | 0.2 | 6.0 | 26 | 0.27 | 11.08 |
| *Litsea laeta* Benth. &Hook.f. | – | – | – | 10 | 0.1 | 2.7 | – | – | – |
| *Litsea lancifolia* (Roxb. Ex Nees) Fern.-Vill | – | – | – | 28 | 0.6 | 7.9 | – | – | – |
| *Litsea monopetala* Pers.  *Litsea salicifolia* (J. Roxb. ex Nees) Hook. f. | 10  22 | 0.09  0.35 | 2.7  5.2 | 30  – | 0.4  – | 8.4  – | –  – | –  – | –  – |
| *Luculia pinceana*Hook. | 18 | 0.16 | 3.3 | – | – | – | – | – | – |
| *Macaranga denticulata* (Blume) Mull.Arg. | 16 | 0.27 | 4.4 | – | – | – | – | – | – |
| *Macluracochin chinensis* (Lour.) Corner | 30 | 0.45 | 7.4 | – | – | – | – | – | – |
| *Mallotus philippensis* (Lam.) Mull.Arg. | 34 | 0.49 | 8.2 | 14 | 0.2 | 4.5 | – | – | – |
| *Pinus merkusii* Jungh. & de Vriese | 286 | 21.83 | 104.2 | 424 | 46.2 | 147.2 | 504 | 34.38 | 163.3 |
| *Quercus acutissima* Carruth. | – | – | – | – | – | – | 62 | 2.14 | 22.07 |
| *Quercus lamellosa* Sm. | – | – | – | 20 | 0.2 | 5.1 | 24 | 0.93 | 10.42 |
| *Quercus semiserrata* Roxb. | 38 | 0.32 | 8.6 | – | – | – | 6 | 0.26 | 2.29 |
| *Rhus succedanea* L. | 22 | 0.21 | 5.0 | – | – | – | – | – | – |
| *Sarcochlamys pulcherrima* Gaudich. | 12 | 0.11 | 2.9 | 16 | 0.2 | 5.0 | – | – | – |
| *Saurauia armata* Kurz | 28 | 0.41 | 6.8 | – | – | – | – | – | – |
| *Saurauia napaulensis* DC. | – | – | – | 12 | 0.2 | 3.1 | 6 | 0.09 | 2.40 |
| *Saurauia punduana* Wall. | 32 | 0.41 | 7.4 | 32 | 0.6 | 9.0 | 24 | 0.30 | 7.91 |
| *Saurauia roxburghii* Wall. | – | – | – | 16 | 0.2 | 4.7 | – | – | – |
| *Syzygium syzygoides* (Miq.) Merr. & Perry | 24 | 0.38 | 6.0 | – | – | – | – | – | – |
| *Toona ciliate* M.Roem. | 26 | 0.34 | 5.8 | 14 | 0.2 | 4.1 | – | – | – |
| *Toona microcarpa* Harms | 24 | 0.25 | 5.6 | – | – | – | – | – | – |
| *Trema orientalis* (L.) Blume | 14 | 0.14 | 3.2 | – | – | – | – | – | – |
| Unidentified 1 | – | – | – | – | – | – | 28 | 0.33 | 5.92 |
| **SAPLINGS** | | | | | | | | | |
| *Alnus nepalensis* D.Don. | 60 | – | 27 | 76 | – | 24.9 | 56 | – | 26.8 |
| *Castanopsis armata* (Roxb.) Spach | 68 | – | 34 | – | – | – | – | – | – |
| *C. indica* (Roxb. ex Lindl.) A.DC | – | – | – | 64 | – | 20.9 | 24 | – | 16.3 |
| *Castanopsis tribuloides* (Smith) A.DC. | – | – | – | – | – | – | 60 | – | 34.3 |
| *Choerospondias axillaris* (Roxb.) B.L.Burtt | 16 | – | 8.3 | – | – | – | – | – | – |
| *Ficus semicordata* Buch.-Ham.ex Sm. | – | – | – | 16 | – | 5.71 | – | – | – |
| *Pinus merkusii* Jungh. & de Vriese | 152 | – | 78.4 | 232 | – | 72.6 | 256 | – | 82.1 |
| *Quercus lamellosa* Sm. | – | – | – | – | – | – | 48 | – | 20.4 |
| *Quercus semiserrata* Sm. | 52 | – | 27.4 | 72 | – | 27.2 | 44 | – | 21.2 |
| *Saurauia punduana* Wall. | – | – | – | 60 | – | 29.1 | – | – | – |
| *Toona ciliate* M.Roem. | 48 | – | 24.9 | 56 | – | 19.5 | – | – | – |
| **SHRUBS** | | | | | | | | | |
| *Abelmoschus manihot* (L.) Medik. | – | – | – | 88 | – | 12.26 | 64 | – | 17.3 |
| *Anisomeles indica* (L.) Kuntze | 100 | – | 7.2 | 120 | – | 15.26 | ̶ | – | – |
| *Ardisia crispa* (Thunb.) A.DC. | 92 | – | 5.4 | – | – | – | – | – | – |
| *Ardisia depressa* C.B.Clarke | 116 | – | 7.8 | – | – | – | – | – | – |
| *Artemisia indica* Willd. | 260 | – | 17.5 | – | – | – | – | – | – |
| *Artemisia nilagirica* (C.B.Clarke) Pamp. | 136 | – | 10.0 | – | – | – | – | – | – |
| *Artemisia* sp*.* | 228 | – | 15.4 | – | – | – | – | – | – |
| *Bauhinia glauca* (Benth.) Benth. | 92 | – | 5.7 | 84 | – | 9.64 | 76 | – | 17.2 |
| *Berberis wallichiana* DC. | – | – | – | – | – | -- | 88 | – | 21.8 |
| *Boehmeria hamiltoniana* Wedd. | – | – | – | 112 | – | 13.32 | 92 | – | 23.1 |
| *Boehmeria macrophylla* Hornem. | 72 | – | 5.3 | – | – | – | – | – | – |
| *Buddlejia asiatica* Lour*.* | – | – | – | 104 | – | 13.76 | – | – | – |
| *Crotolaria alata* D.Don | 88 | – | 5.8 | – | – | – | – | – | – |
| *Crotolaria capitata* Benth. Ex Lam. | 224 | – | 15.8 | 116 | – | 15.95 | – | – | – |
| *Edgeworthia gardener* sp*.* | 60 | – | 4.3 | – | – | – | – | – | – |
| *Elsholtzia blanda* (Benth.) Benth. | 108 | – | 6.7 | 72 | – | 9.82 | – | – | – |
| *Lyonia ovalifolia* (Wall.) Drude | – | – | – | – | – | – | 172 | – | 40.8 |
| *Maesaindica* (Roxb.) A.DC.*.* | 88 | – | 6.6 | – | – | – | – | – | – |
| *Melastoma melabathricum* | 64 | – | 5.0 | 272 | – | 34.93 | – | – | – |
| *Osbeckia nepalensis* Hook. f. | 124 | – | 8.8 | 108 | – | 12.59 | – | – | – |
| *Oxyspora paniculata* (D. Don) DC. | 76 | – | 4.6 | 184 | – | 23.61 | 52 | – | 14.2 |
| *Oxyspora cernua* (Roxb.) Hook. f. & Thompson | 112 | – | 7.1 | 76 | – | 9.60 | 100 | – | 25.6 |
| *Rubus alceifolius* Poir. | 188 | – | 12.8 | – | – | – | – | – | – |
| *Rubus kurzii* N.P.Balakr. | – | – | – | – | – | – | 88 | – | 21.0 |
| *Rubus niveus* Thunb. | 76 | – | 5.1 | – | – | – | 84 | – | 19.0 |
| *Rubus pectinaris* Focke | 292 | – | 18.9 | 132 | – | 17.44 | – | – | – |
| *Rubus rosifolius* Sm. | 72 | – | 5.3 | 96 | – | 11.83 | – | – | – |
| *Rubus lineatus* (Reinw.) Ex Blume | 136 | – | 9.2 | – | – | – | – | – | – |
| *Thunbergia coccinea* Wall | 128 | – | 9.5 | – | – | – | – | – | – |
| **SEEDLINGS** |  |  |  |  |  |  |  |  |  |
| *Alnus nepalensis* D.Don.  *Brassaiopsis hainla* Seem. | 48  – | –  – | 33.8  – | 48  – | –  – | 30.6  – | 72  28 | –  – | 19.1  9.49 |
| *Castanopsis indica* (Roxb. ex Lindl.) A.DC | 16 | – | 15.06 | 36 | – | 16.5 | 16 | – | 6.1 |
| *Ficus semicordata* Buch.-Ham.ex Sm. | 12 | – | 11.30 | 24 | – | 9.9 | 32 | – | 11.0 |
| *Pinus merkusii* Jungh. & de Vriese | 184 | – | 139.9 | 496 | – | 137.9 | 1024 | – | 149.0 |
| *Toona ciliata* M.Roem. | – | – | – | 12 | – | 4.9 | – | – | – |
| *Saurauia punduana* Wall. | – | – | – | – | – | – | 20 | – | 5.25 |
| **HERBS** |  |  |  |  |  |  |  |  |  |
| *Anaphalis busua* Buch.-Ham. Ex. D.Don. | 1900 | – | 12.16 | 600 | – | 4.82 | 2600 | – | 27.8 |
| *Arundina graminifolia* (D.Don) Hochr. | 1300 | – | 6.74 | 1100 | – | 6.14 | 1100 | – | 8.6 |
| *Asplenium nidus* L. | 500 | – | 3.34 | – | – | – | – | – | – |
| *Begonia iridescens* Dunn | 2100 | – | 13.67 | 1600 | – | 14.9 | – | – | – |
| *Bidens biterneta* (Lour.) Merr. &Sherff | 2200 | – | 14.43 | 900 | – | 5.99 | 2200 | – | 21.4 |
| *Botrychium lanuginosum* Wall. ex Hook. &Grev. | 1500 | – | 9.14 | – | – | – | – | – | – |
| *Thysanolaena latifolia* (Roxb. Ex Hornem.) Honda | 1600 | – | 11.21 | 1500 | – | 12.7 | – | – | – |
| *Crotolaria albida* Benth. Ex Lam. | 2500 | – | 14.93 | 1200 | – | 9.64 | 1200 | – | 13.4 |
| *Cyclosorus appendiculatus* (C. Presl) K.H.Shing | 100 | – | 0.76 | 2400 | – | 20.5 | 800 | – | 9.5 |
| *Dryopteris sparsa* D. Don | – | – | – | 1200 | – | 8.4 | 2400 | – | 28.4 |
| *Gnaphalium pensylvanicum* Willd. | 3200 | – | 18.91 | 800 | – | 4.98 | 400 | – | 4.7 |
| *Imperata cylindrica* (L.) Raeusch | – | – | – | – | – | – | 1600 | – | 20.7 |
| *Nephrolepis cordifolia* (L.) C. Presl. | 3100 | – | 20.35 | – | – | – | – | – | – |
| *Neyraudia reynaudiana* (Kunth) Keng ex Hitchc | 2600 | – | 16.13 | – | – | – | – | – | – |
| *Oplismenus compositus* (L.) P. Beauv*.* | 700 | – | 3.97 | 1900 | – | 14.8 | – | – | – |
| *Paspalum conjugatum* P.J.Bergius | 1100 | – | 6.99 | 2600 | – | 20.1 | – | – | – |
| *Phleum* sp*.* | 200 | – | 1.07 | 3800 | – | 27.2 | – | – | – |
| *Phragmites karka* (Retz.) Trin. Ex Steud*.* | – | – | – | 2200 | – | 17.3 | 2200 | – | 24.0 |
| *Pteridium aquilinum* (L.)Kuhn | 1400 | – | 9.26 | 1100 | – | 9.25 | 900 | – | 9.2 |
| *Pteris* sp. | – | – | – | 2800 | – | 23.3 | 2800 | – | 32.3 |
| *Pteris wallichiana* J. Agardh | 1700 | – | 11.09 | – | – | – | – | – | – |
| *Saccharum panicum* Lam. | 1300 | – | 8.51 | – | – | – | – | – | – |
| *Setaria pumila* (Poir.) Roem. & Schult. | 2700 | – | 17.33 | – | – | – | – | – | – |