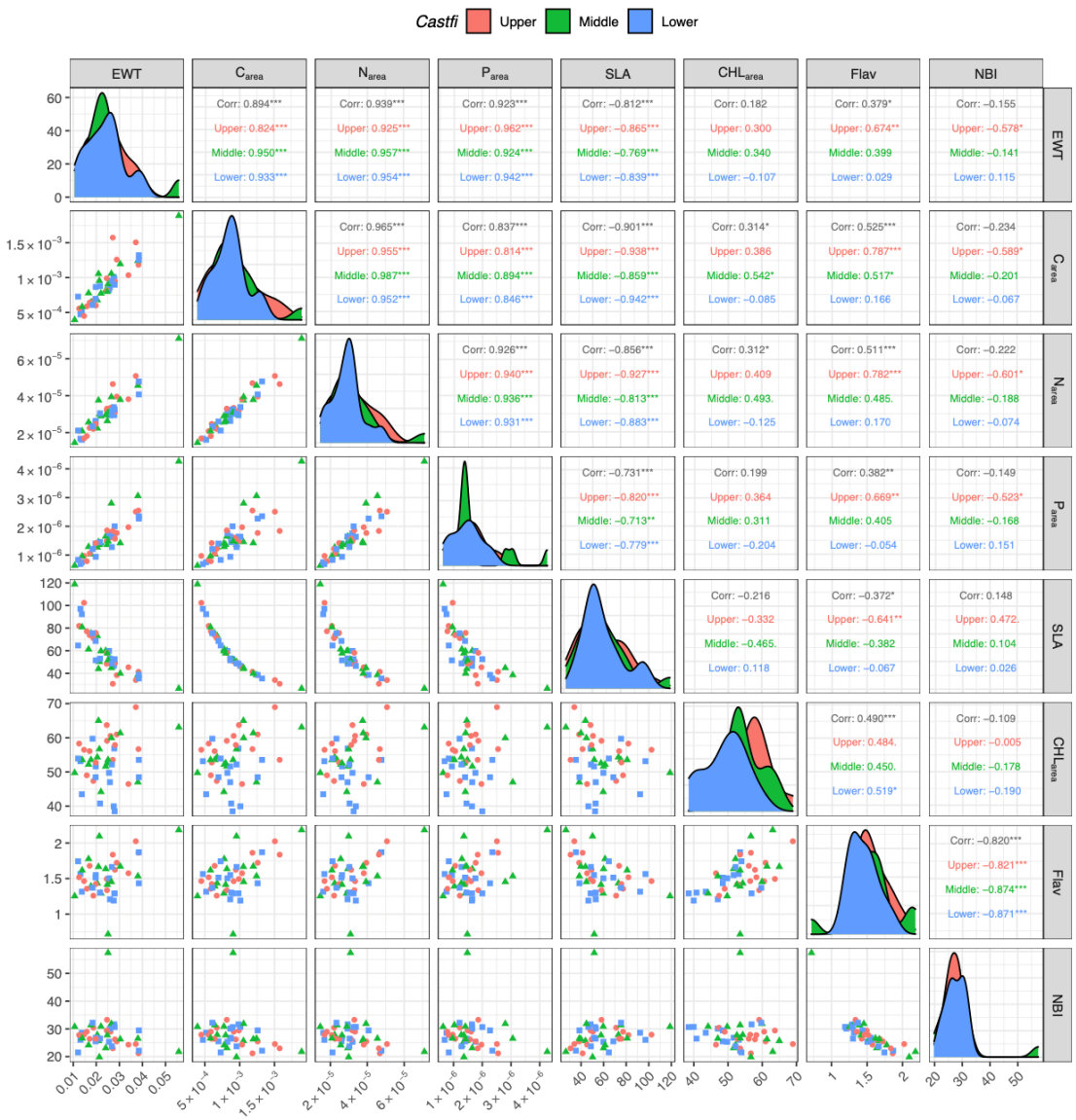
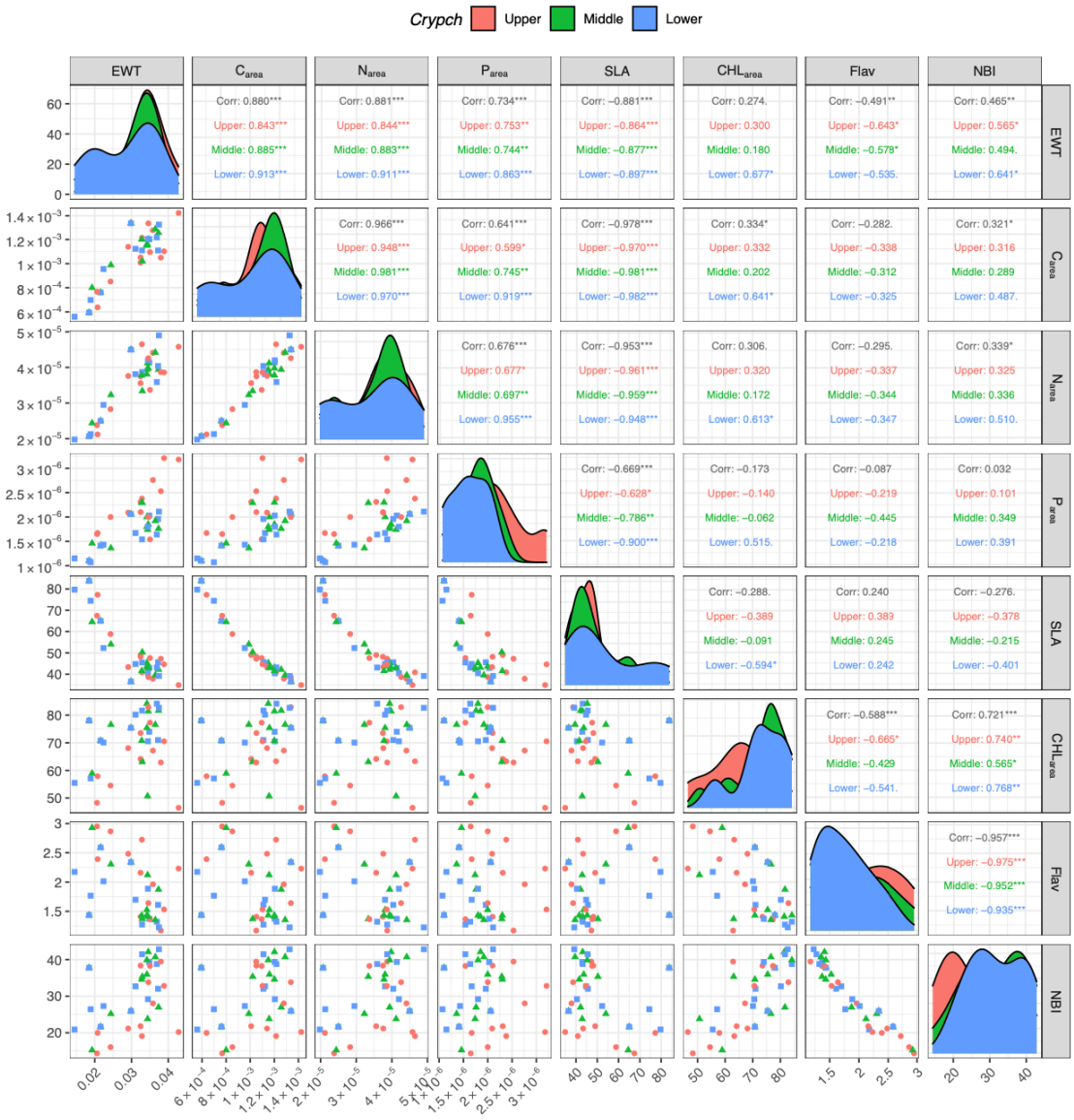
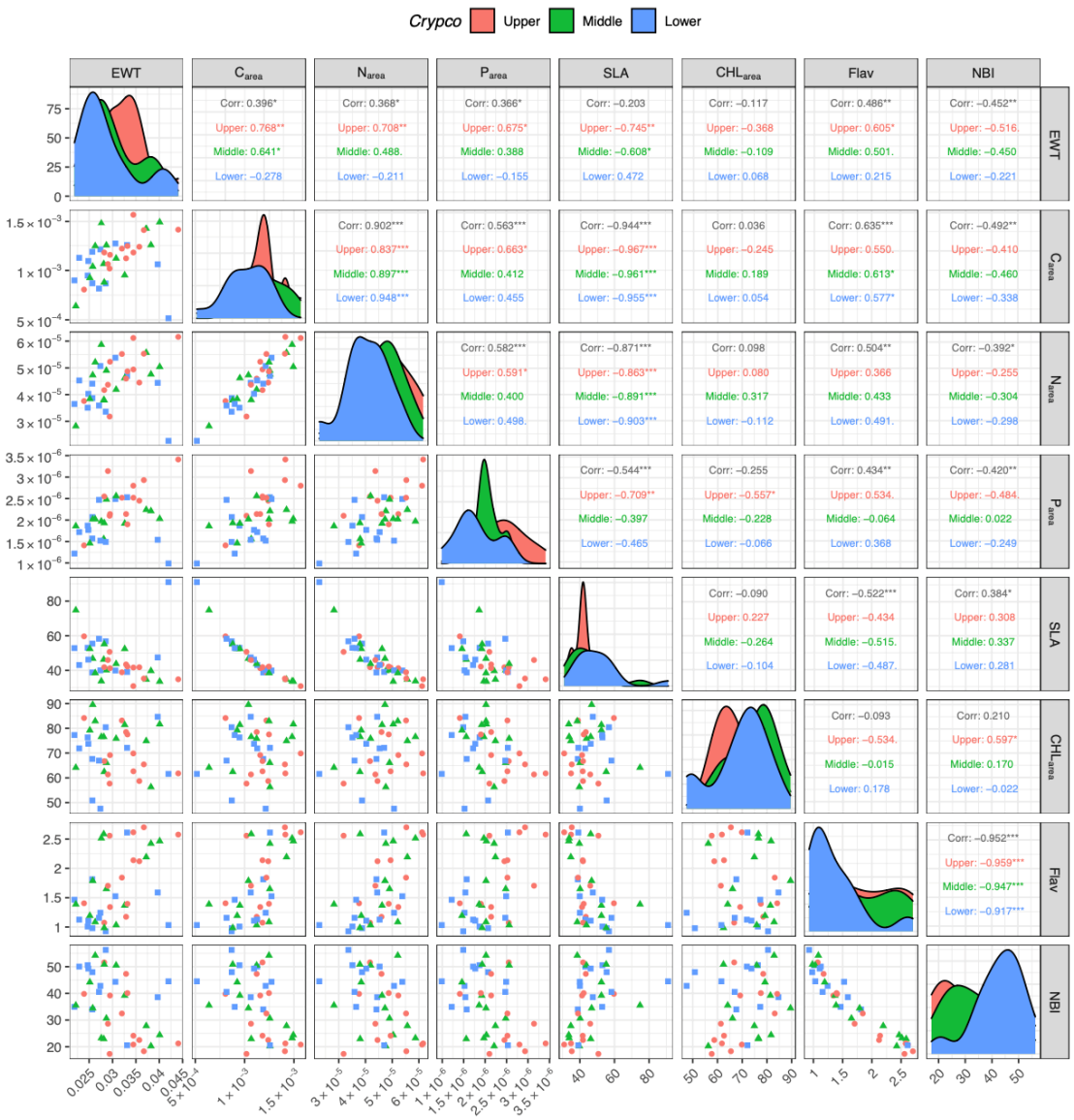
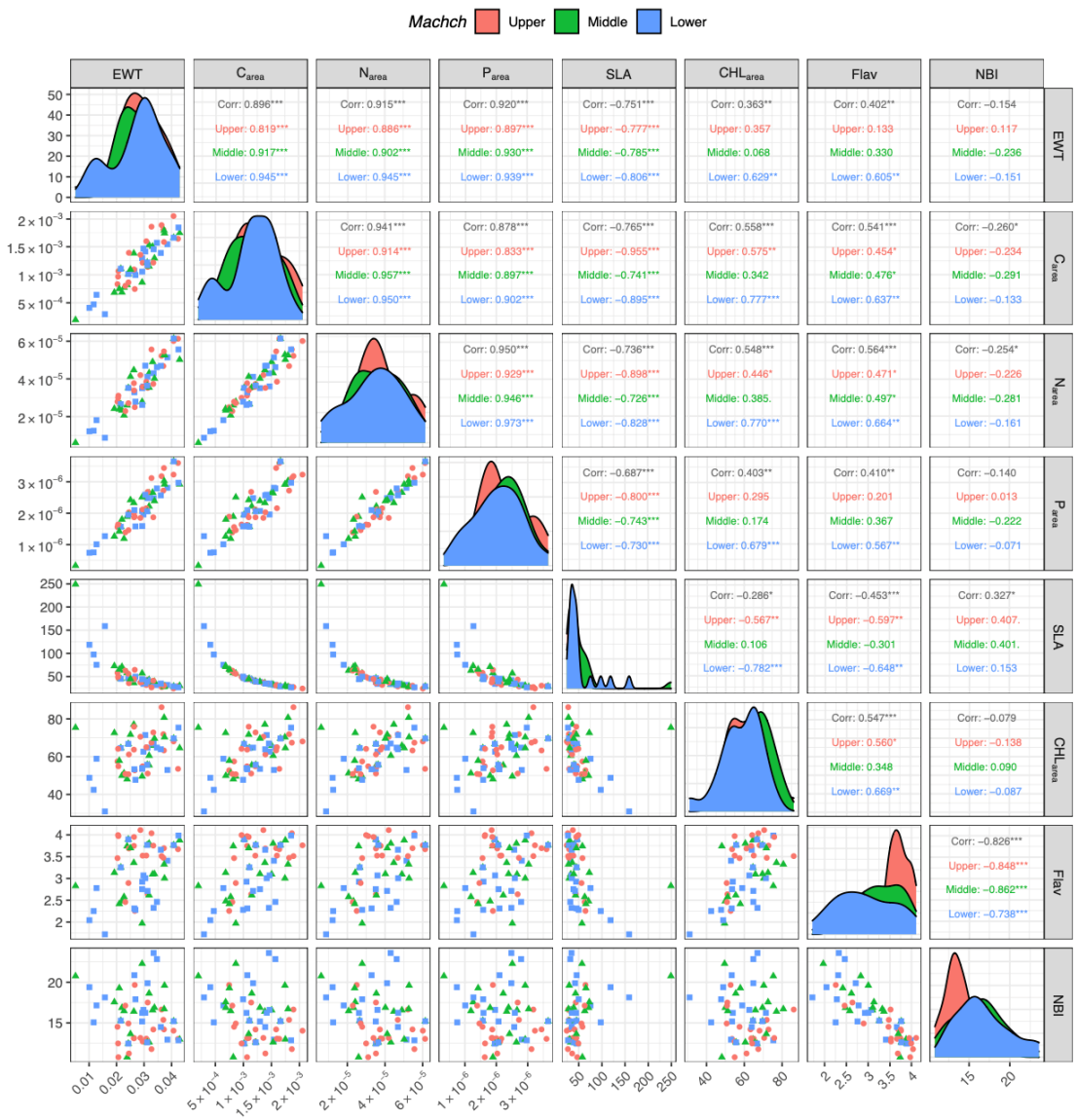
Supplementary Materials




Castfi
Upper
Middle
Lower
EWT
Carea
Narea
Parea
SLA
CHLarea
Flav
NBI
Corr: 0.894***
Upper: 0.824***
Middle: 0.950***
Lower: 0.933***
Corr: 0.939***
Upper: 0.925***
Middle: 0.957***
Lower: 0.954***
Corr: 0.923***
Upper: 0.962***
Middle: 0.924***
Lower: 0.942***
Corr: −0.812***
Upper: −0.865***
Middle: −0.769***
Lower: −0.839***
Corr: 0.182
Upper: 0.300
Middle: 0.340
Lower: −0.107
Corr: 0.379*
Upper: 0.674**
Middle: 0.399
Lower: 0.029
Corr: −0.155
Upper: −0.578*
Middle: −0.141
Lower: 0.115
Corr: 0.965***
Upper: 0.955***
Middle: 0.987***
Lower: 0.952***
Corr: 0.837***
Upper: 0.814***
Middle: 0.894***
Lower: 0.846***
Corr: −0.901***
Upper: −0.938***
Middle: −0.859***
Lower: −0.942***
Corr: 0.314*
Upper: 0.386
Middle: 0.542*
Lower: −0.085
Corr: 0.525***
Upper: 0.787***
Middle: 0.517*
Lower: 0.166
Corr: −0.234
Upper: −0.589*
Middle: −0.201
Lower: −0.067
Corr: 0.926***
Upper: 0.940***
Middle: 0.936***
Lower: 0.931***
Corr: −0.856***
Upper: −0.927***
Middle: −0.813***
Lower: −0.883***
Corr: 0.312*
Upper: 0.409
Middle: 0.493.
Lower: −0.125
Corr: 0.511***
Upper: 0.782***
Middle: 0.485.
Lower: 0.170
Corr: −0.222
Upper: −0.601*
Middle: −0.188
Lower: −0.074
Corr: −0.731***
Upper: −0.820***
Middle: −0.713**
Lower: −0.779***
Corr: 0.199
Upper: 0.364
Middle: 0.311
Lower: −0.204
Corr: 0.382**
Upper: 0.669**
Middle: 0.405
Lower: −0.054
Corr: −0.149
Upper: −0.523*
Middle: −0.168
Lower: 0.151
Corr: −0.216
Upper: −0.332
Middle: −0.465.
Lower: 0.118
Corr: −0.372*
Upper: −0.641**
Middle: −0.382
Lower: −0.067
Corr: 0.148
Upper: 0.472.
Middle: 0.104
Lower: 0.026
Corr: 0.490***
Upper: 0.484.
Middle: 0.450.
Lower: 0.519*
Corr: −0.109
Upper: −0.005
Middle: −0.178
Lower: −0.190
Corr: −0.820***
Upper: −0.821***
Middle: −0.874***
Lower: −0.871***


Crypch Upper Middle Lower
EWT
Carea
Narea
Parea
SLA
CHLarea
Flav
NBI
Corr: 0.880***
Upper: 0.843***
Middle: 0.885***
Lower: 0.913***
Corr: 0.881***
Upper: 0.844***
Middle: 0.883***
Lower: 0.911***
Corr: 0.734***
Upper: 0.753**
Middle: 0.744**
Lower: 0.863***
Corr: −0.881***
Upper: −0.864***
Middle: −0.877***
Lower: −0.897***
Corr: 0.274.
Upper: 0.300
Middle: 0.180
Lower: 0.677*
Corr: −0.491**
Upper: −0.643*
Middle: −0.578*
Lower: −0.535.
Corr: 0.465**
Upper: 0.565*
Middle: 0.494.
Lower: 0.641*
Corr: 0.966***
Upper: 0.948***
Middle: 0.981***
Lower: 0.970***
Corr: 0.641***
Upper: 0.599*
Middle: 0.745**
Lower: 0.919***
Corr: −0.978***
Upper: −0.970***
Middle: −0.981***
Lower: −0.982***
Corr: 0.334*
Upper: 0.332
Middle: 0.202
Lower: 0.641*
Corr: −0.282.
Upper: −0.338
Middle: −0.312
Lower: −0.325
Corr: 0.321*
Upper: 0.316
Middle: 0.289
Lower: 0.487.
Corr: 0.676***
Upper: 0.677*
Middle: 0.697**
Lower: 0.955***
Corr: −0.953***
Upper: −0.961***
Middle: −0.959***
Lower: −0.948***
Corr: 0.306.
Upper: 0.320
Middle: 0.172
Lower: 0.613*
Corr: −0.295.
Upper: −0.337
Middle: −0.344
Lower: −0.347
Corr: 0.339*
Upper: 0.325
Middle: 0.336
Lower: 0.510.
Corr: −0.669***
Upper: −0.628*
Middle: −0.786**
Lower: −0.900***
Corr: −0.173
Upper: −0.140
Middle: −0.062
Lower: 0.515.
Corr: −0.087
Upper: −0.219
Middle: −0.445
Lower: −0.218
Corr: 0.032
Upper: 0.101
Middle: 0.349
Lower: 0.391
Corr: −0.288.
Upper: −0.389
Middle: −0.091
Lower: −0.594*
Corr: 0.240
Upper: 0.389
Middle: 0.245
Lower: 0.242
Corr: −0.276.
Upper: −0.378
Middle: −0.215
Lower: −0.401
Corr: −0.588***
Upper: −0.665*
Middle: −0.429
Lower: −0.541.
Corr: 0.721***
Upper: 0.740**
Middle: 0.565*
Lower: 0.768**
Corr: −0.957***
Upper: −0.975***
Middle: −0.952***
Lower: −0.935***


Crypco Upper Middle Lower
EWT
Carea
Narea
Parea
SLA
CHLarea
Flav
NBI
Corr: 0.396*
Upper: 0.768**
Middle: 0.641*
Lower: −0.278
Corr: 0.368*
Upper: 0.708**
Middle: 0.488.
Lower: −0.211
Corr: 0.366*
Upper: 0.675*
Middle: 0.388
Lower: −0.155
Corr: −0.203
Upper: −0.745**
Middle: −0.608*
Lower: 0.472
Corr: −0.117
Upper: −0.368
Middle: −0.109
Lower: 0.068
Corr: 0.486**
Upper: 0.605*
Middle: 0.501.
Lower: 0.215
Corr: −0.452**
Upper: −0.516.
Middle: −0.450
Lower: −0.221
Corr: 0.902***
Upper: 0.837***
Middle: 0.897***
Lower: 0.948***
Corr: 0.563***
Upper: 0.663*
Middle: 0.412
Lower: 0.455
Corr: −0.944***
Upper: −0.967***
Middle: −0.961***
Lower: −0.955***
Corr: 0.036
Upper: −0.245
Middle: 0.189
Lower: 0.054
Corr: 0.635***
Upper: 0.550.
Middle: 0.613*
Lower: 0.577*
Corr: −0.492**
Upper: −0.410
Middle: −0.460
Lower: −0.338
Corr: 0.582***
Upper: 0.591*
Middle: 0.400
Lower: 0.498.
Corr: −0.871***
Upper: −0.863***
Middle: −0.891***
Lower: −0.903***
Corr: 0.098
Upper: 0.080
Middle: 0.317
Lower: −0.112
Corr: 0.504**
Upper: 0.366
Middle: 0.433
Lower: 0.491.
Corr: −0.392*
Upper: −0.255
Middle: −0.304
Lower: −0.298
Corr: −0.544***
Upper: −0.709**
Middle: −0.397
Lower: −0.465
Corr: −0.255
Upper: −0.557*
Middle: −0.228
Lower: −0.066
Corr: 0.434**
Upper: 0.534.
Middle: −0.064
Lower: 0.368
Corr: −0.420**
Upper: −0.484.
Middle: 0.022
Lower: −0.249
Corr: −0.090
Upper: 0.227
Middle: −0.264
Lower: −0.104
Corr: −0.522***
Upper: −0.434
Middle: −0.515.
Lower: −0.487.
Corr: 0.384*
Upper: 0.308
Middle: 0.337
Lower: 0.281
Corr: −0.093
Upper: −0.534.
Middle: −0.015
Lower: 0.178
Corr: 0.210
Upper: 0.597*
Middle: 0.170
Lower: −0.022
Corr: −0.952***
Upper: −0.959***
Middle: −0.947***
Lower: −0.917***


Machch Upper Middle Lower
EWT
Carea
Narea
Parea
SLA
CHLarea
Flav
NBI
Corr: 0.896*** Upper: 0.819*** Middle: 0.917*** Lower: 0.945***
Corr: 0.915*** Upper: 0.886*** Middle: 0.902*** Lower: 0.945***
Corr: 0.920*** Upper: 0.897*** Middle: 0.930*** Lower: 0.939***
Corr: −0.751*** Upper: −0.777*** Middle: −0.785*** Lower: −0.806***
Corr: 0.363** Upper: 0.357 Middle: 0.068 Lower: 0.629**
Corr: 0.402** Upper: 0.133 Middle: 0.330 Lower: 0.605**
Corr: −0.154 Upper: 0.117 Middle: −0.236 Lower: −0.151
Corr: 0.941*** Upper: 0.914*** Middle: 0.957*** Lower: 0.950***
Corr: 0.878*** Upper: 0.833*** Middle: 0.897*** Lower: 0.902***
Corr: −0.765*** Upper: −0.955*** Middle: −0.741*** Lower: −0.895***
Corr: 0.558*** Upper: 0.575** Middle: 0.342 Lower: 0.777***
Corr: 0.541*** Upper: 0.454* Middle: 0.476* Lower: 0.637**
Corr: −0.260* Upper: −0.234 Middle: −0.291 Lower: −0.133
Corr: 0.950*** Upper: 0.929*** Middle: 0.946*** Lower: 0.973***
Corr: −0.736*** Upper: −0.898*** Middle: −0.726*** Lower: −0.828***
Corr: 0.548*** Upper: 0.446* Middle: 0.385. Lower: 0.770***
Corr: 0.564*** Upper: 0.471* Middle: 0.497* Lower: 0.664**
Corr: −0.254* Upper: −0.226 Middle: −0.281 Lower: −0.161
Corr: −0.687*** Upper: −0.800*** Middle: −0.743*** Lower: −0.730***
Corr: 0.403** Upper: 0.295 Middle: 0.174 Lower: 0.679***
Corr: 0.410** Upper: 0.201 Middle: 0.367 Lower: 0.567**
Corr: −0.140 Upper: 0.013 Middle: −0.222 Lower: −0.071
Corr: −0.286* Upper: −0.567** Middle: 0.106 Lower: −0.782***
Corr: −0.453*** Upper: −0.597** Middle: −0.301 Lower: −0.648**
Corr: 0.327* Upper: 0.407. Middle: 0.401. Lower: 0.153
Corr: 0.547*** Upper: 0.560* Middle: 0.348 Lower: 0.669**
Corr: −0.079 Upper: −0.138 Middle: 0.090 Lower: −0.087
Corr: −0.826*** Upper: −0.848*** Middle: −0.862*** Lower: −0.738***

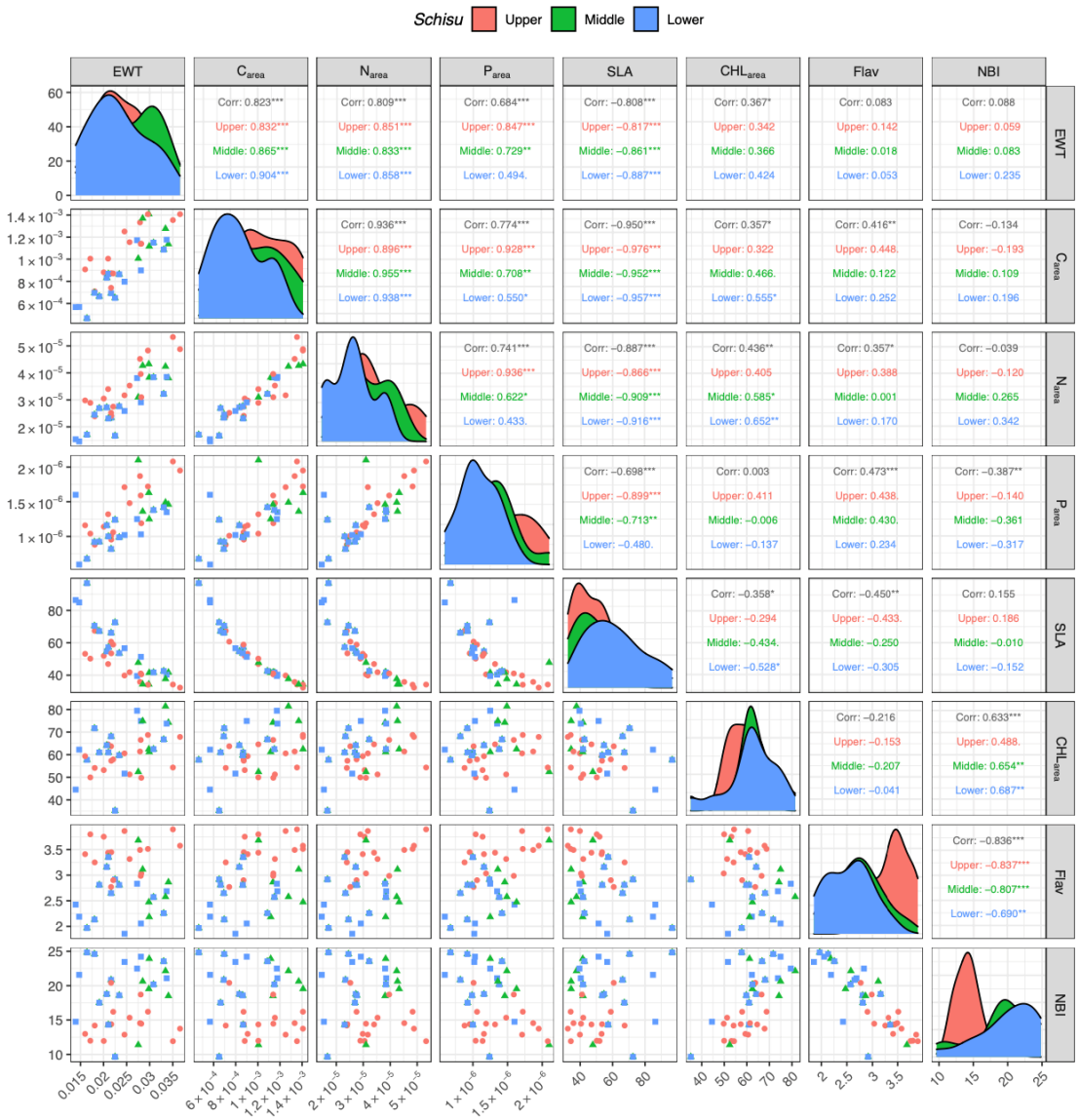


Figure S1. Pairwise scatter plots and correlation of the eight leaf traits (EWT, C_{area}, N_{area}, P_{area}, SLA, CHL_{area}, Flav, and NBI) for the six species (*Castch, Castfi, Crypch, Crypco, Machch,* and *Schisu*). The upper right panel shows the pairwise pooled data set and correlation coefficients of the three canopy layers. The symbol of *** , **, and * represents significance at the 0.001, 0.01 and 0.05 level, respectively.