Chivulescu S, Ciceu A, Popescu O, Leca S, Apostol B, Badea O (2020). **Development phases and structural characteristics of the Penteleu-Viforâta virgin forest in the Curvature Carpathians** iForest – Biogeosciences and Forestry – doi: 10.3832/ifor3094-013

## **Supplementary Material**

**Tab. S1** - Virgin stands development phases (Mayer 1976).

| Characteristics | Optimum phase         | Ageing phase   | Breakdown and dieback phase                            | Rejuvenation phase                              |
|-----------------|-----------------------|--|--|---|
| Number of trees | Large, with small DBH | Large, with average DBH                                  | Low with large DBH                                     | Very low, with small and average DBH            |
| Basal area      | Fast growth           | Low growth   | Maximum growth   | Decreasing growth                               |
| Volume          | Low with fast growth  | Large  | Maximum  | Decreased, decay of upperstorey                 |
| Growth          | Large                 | Reduction for<br>diameter and large<br>growth for volume | Minimum for<br>diameter and large<br>growth for volume | Large growth for diameter and reduce for volume |
| Stand storeyed  | optimal               | One storied stand  | One storied stand                                      | Multi storied stand                             |
| Vitality        | High                  | Starting to decrease                                     | Decreased  | Very decreased upperstorey                      |
| Mortality       | Relative reduced      | Low for middlestorey and understorey                     | Relative reduced for upperstorey                       | reduced   |
| Stand structure | Trees with even age   | Trees with relative uneven age                           | Trees with relative uneven age                         | Trees with uneven age                           |
| Stand stability | Large                 | Large  | Decreased  | Very low  |
| Regeneration    | reduced               | reduced  | reduced  | Start of regeneration                           |

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Tab. S2 - Diameter distribution of trees on storey position.

| _               | db              | dbh |    |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |       |
|-----------------|-----------------|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-------|
| Storey position | 8               | 12  | 16 | 2   | 0 2 | 24 | 28 | 32 | 36 | 40 | 44 | 48 | 52 | 56 | 60 | 64 | 68 | 72 | 76 | 80 | 84 | 88 | 92 | 96 | 100 | 104 | 120 | Total |
| position        | Number of trees |     |    |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |       |
| Inferior        | 64              | 83  | 42 | 2   | 1 5 | 5  | 1  | 1  |    |    |    |    |    |    |    |    |    |    |    |    |    | 1  |    |    |     |     |     | 218   |
| Middle          |                 |     | 2  | 1   | 3 2 | 25 | 14 | 18 | 7  | 7  | 3  | 3  | 2  | 1  |    |    |    |    | 1  |    | 1  |    |    |    |     |     |     | 97    |
| Superior        |                 |     |    | 1   |     |    | 2  | 1  | 3  | 3  | 4  | 4  | 7  | 5  | 4  | 6  | 7  | 2  | 3  | 7  | 4  | 7  | 5  | 4  | 1   | 1   | 1   | 82    |
| Total           | 64              | 83  | 44 | . 3 | 5 3 | 30 | 17 | 20 | 10 | 10 | 7  | 7  | 9  | 6  | 4  | 6  | 7  | 2  | 4  | 7  | 5  | 8  | 5  | 4  | 1   | 1   | 1   | 397   |

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Tab. S3 - Species distribution in relation with age.

| Age   | Number of trees |       |        |       |  |  |  |  |  |  |  |  |
|-------|-----------------|-------|--------|-------|--|--|--|--|--|--|--|--|
|       | Fir             | Beech | Spruce | Total |  |  |  |  |  |  |  |  |
| 20    | 1               | 2     | -      | 3     |  |  |  |  |  |  |  |  |
| 40    | 6               | 14    | 4      | 24    |  |  |  |  |  |  |  |  |
| 60    | 12              | 25    | 3      | 40    |  |  |  |  |  |  |  |  |
| 80    | 22              | 64    | 7      | 93    |  |  |  |  |  |  |  |  |
| 100   | 11              | 42    | 3      | 56    |  |  |  |  |  |  |  |  |
| 120   | 10              | 33    | 5      | 48    |  |  |  |  |  |  |  |  |
| 140   | 7               | 24    | 3      | 34    |  |  |  |  |  |  |  |  |
| 160   | 4               | 14    | 4      | 22    |  |  |  |  |  |  |  |  |
| 180   | 6               | 10    | 1      | 17    |  |  |  |  |  |  |  |  |
| 200   | 3               | 4     | 5      | 12    |  |  |  |  |  |  |  |  |
| 220   | 3               | 4     | 3      | 10    |  |  |  |  |  |  |  |  |
| 240   | 2               | 8     | -      | 10    |  |  |  |  |  |  |  |  |
| 260   | 4               | 4     | 2      | 10    |  |  |  |  |  |  |  |  |
| 280   | 3               | 4     | 1      | 8     |  |  |  |  |  |  |  |  |
| 300   | -               | 2     | -      | 2     |  |  |  |  |  |  |  |  |
| 320   | -               | 3     | -      | 3     |  |  |  |  |  |  |  |  |
| 340   | 2               | 1     | 1      | 4     |  |  |  |  |  |  |  |  |
| 380   | -               | 1     | -      | 1     |  |  |  |  |  |  |  |  |
| Total | 96              | 259   | 42     | 397   |  |  |  |  |  |  |  |  |