**Table S1: Photoprotective strategies in Mediterranean high-mountain grasslands.**

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**Table S1**. Xanthophyll component analysis and lutein levels, de-epoxidation state of xanthophyll cycle pigments during the day in the studied species. ND, no data.

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| --- | --- | --- | --- | --- | --- | --- |
| Elevation (m.a.s.l.) | Species | Daytime interval | DEPS (%) | | Lut (µg/gDW) | |
| **2018** | **2019** | **2018** | **2019** | |
| 2244 | *Festuca curvifolia* | Morning | 0% | 0% | 14.29 | 50.53 | |
| Midday | 0% | 20% | 34.84 | 38.00 | |
| Afternoon | ND | 63% | ND | 37.66 | |
| *Erysimum penyalarense* | Morning | 0% | 40% | 27.55 | 25.14 | |
| Midday | 0% | 0% | 26.45 | 25.02 | |
| Afternoon | ND | 44% | ND | 25.96 | |
| *Senecio carpetanus* | Morning | 0% | 0% | 24.10 | 52.45 | |
| Midday | 50% | 0% | 19.66 | 32.28 | |
| Afternoon | ND | 0% | ND | 50.78 | |
| *Hieracium vahlii* | Morning | 45% | 0% | 22.54 | 26.95 | |
| Midday | 43% | 46% | 27.83 | 19.75 | |
| Afternoon | ND | 11% | ND | 24.83 | |
| *Jurinea humilis* | Morning | 41% | 0% | 27.57 | 38.14 | |
| Midday | 40% | 48% | 32.24 | 24.32 | |
| Afternoon | ND | 63% | ND | 41.68 | |
| 1980 | *Festuca curvifolia* | Morning | 0% | 0% | 23.71 | 31.85 | |
| Midday | 0% | 50% | 28.18 | 40.93 | |
| Afternoon | 45% | 0% | 29.01 | 28.97 | |
| *Erysimum penyalarense* | Morning | 0% | 0% | 14.98 | 29.44 | |
| Midday | 46% | 48% | 14.27 | 39.70 | |
| Afternoon | 0% | 0% | 25.33 | 25.33 | |
| *Senecio carpetanus* | Morning | 41% | 0% | 18.50 | 39.31 | |
| Midday | 100% | 0% | 31.50 | 45.59 | |
| Afternoon | 50% | 50% | 23.40 | 23.35 | |