

Supplementary material to

Dengler, J., Jansen, F., ... & Gillet, F. (2023) Ecological Indicator Values for Europe (EIVE) 1.0. *Vegetation Classification and Survey*.

Supplementary material 5. Documentation of the stepwise approach to derive the European consensus system of niche positions *EIVEres* (EIVE 1.0) from the individual EIV source systems after initial rescaling (*EIVini*).

The following document provides the relevant violin plots and regression plots for the five niche dimensions in the sequence M – N – R – L – T.

For each niche dimension, violin plots show the distribution of initial (*EIVini*) and rescaled (*EIVres*, mean variant) niche positions in each regional system. Then, two series of scatter plots compare these regional niche positions to their respective European indicator values for one selected computation variant (unweighted mean). The blue line is the linear regression line with confidence interval. The red line is the $y = x$ matching line.

Finally, we compare regional (EIV) and European (EIVE) niche position metrics before and after the optimization process. Six pair comparisons were performed for each indicator: *EIVEini* vs. *EIVini* and *EIVEres* vs. *EIVres* for each of the three computation variants (Table S5.1).

Moisture (M)

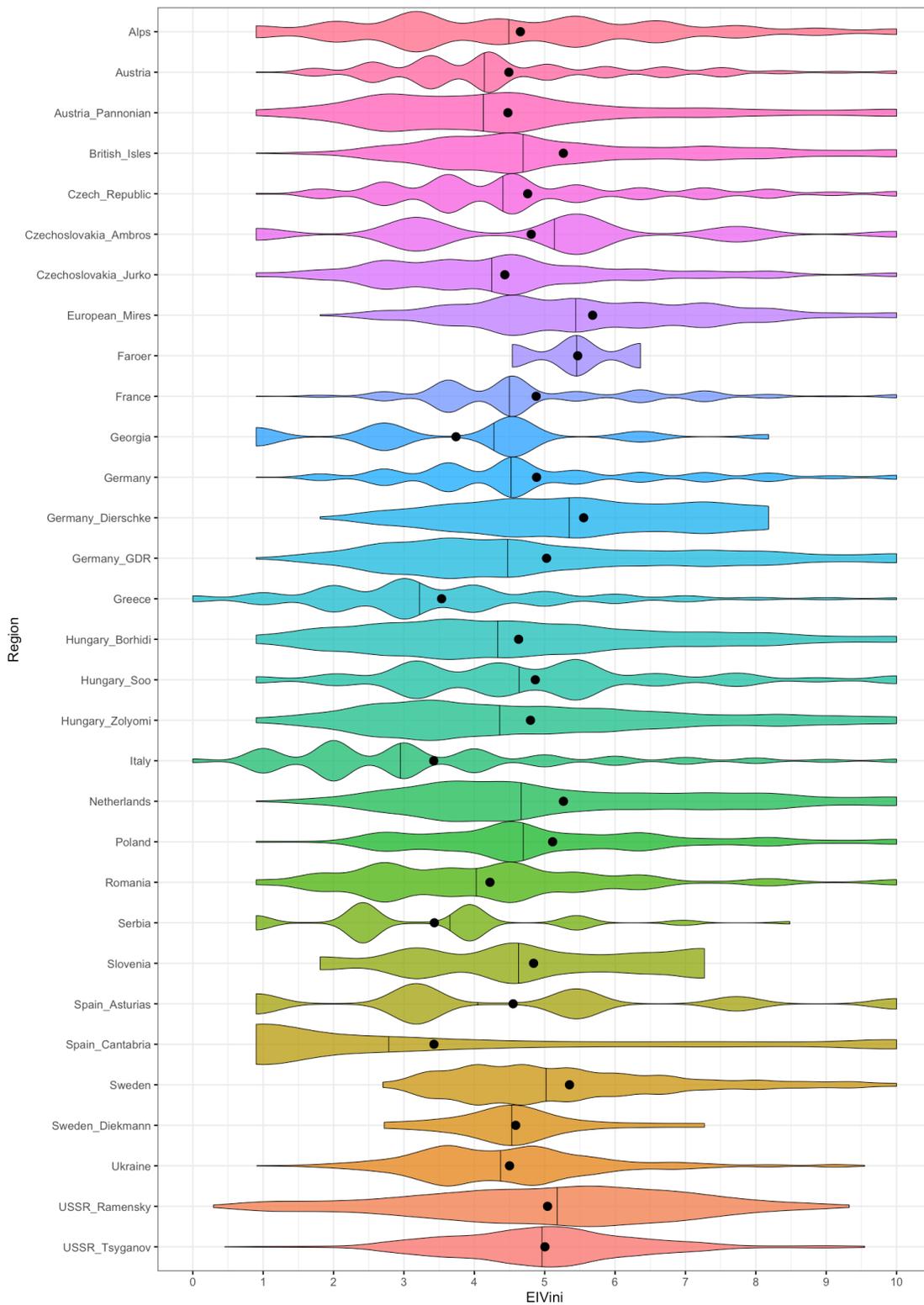


Figure S5.1. Distribution of the initially scaled EIV values (EIV_{ini}) of moisture per EIV system.

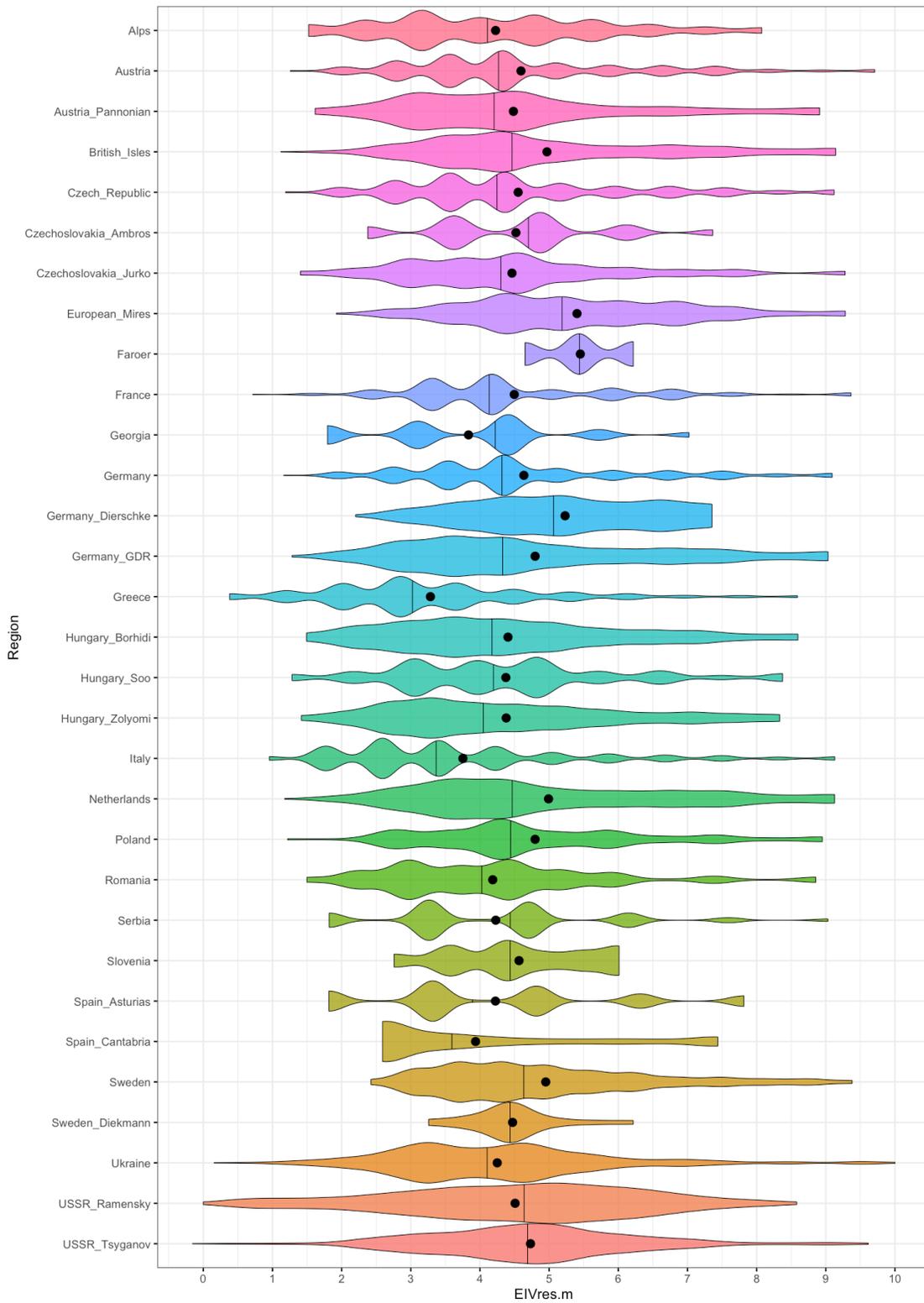


Figure S5.2. Distribution of the final rescaled EIV values (*EIVres*) of moisture per EIV system.

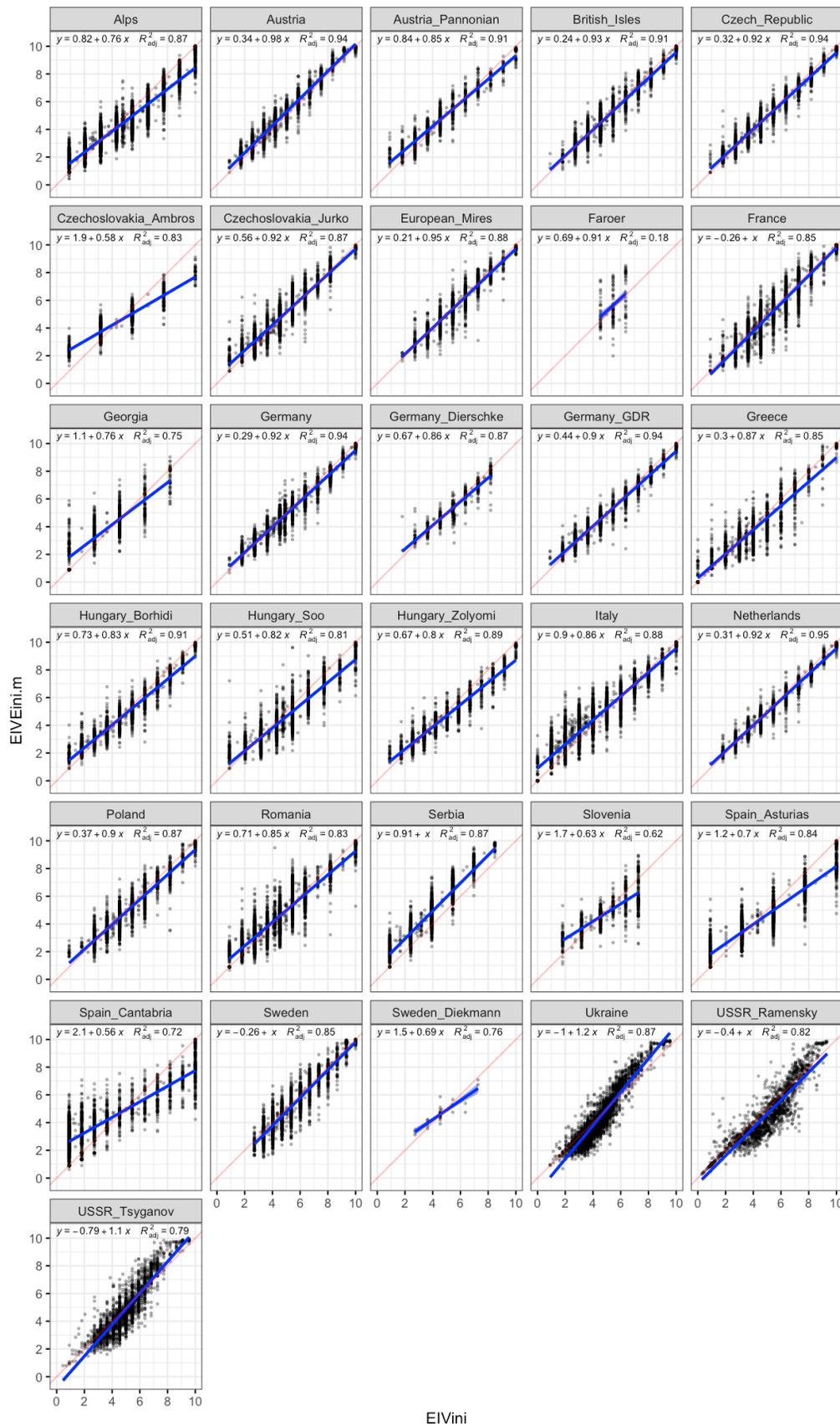


Figure S5.3. Scatterplots of $EIVE_{ini}$ (mean variant) vs. EIV_{ini} for moisture per EIV system.

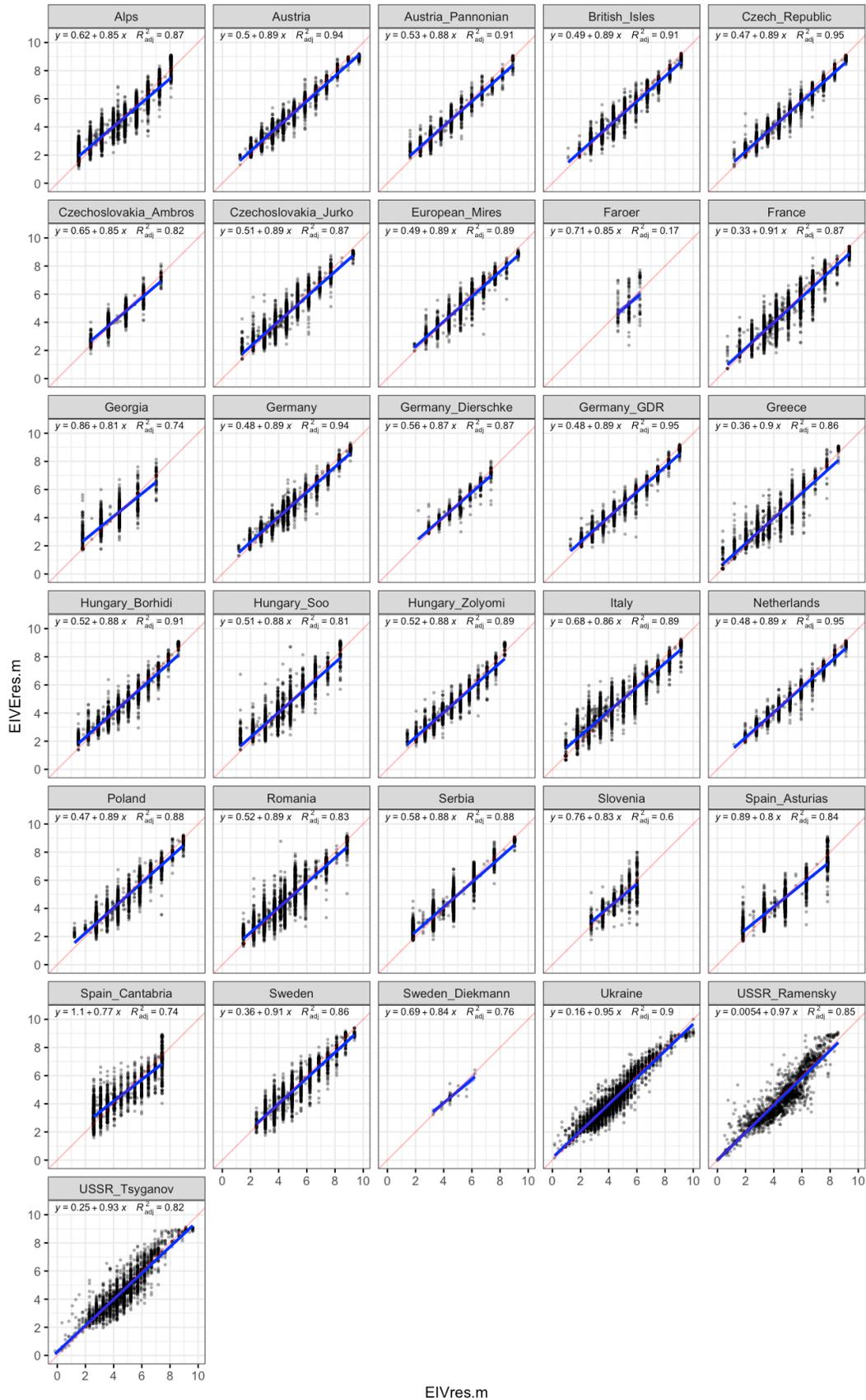


Figure S5.4. Scatterplots of EIV_{eres} (mean variant) vs. EIV_{res} for moisture per EIV system.

Nitrogen (N)

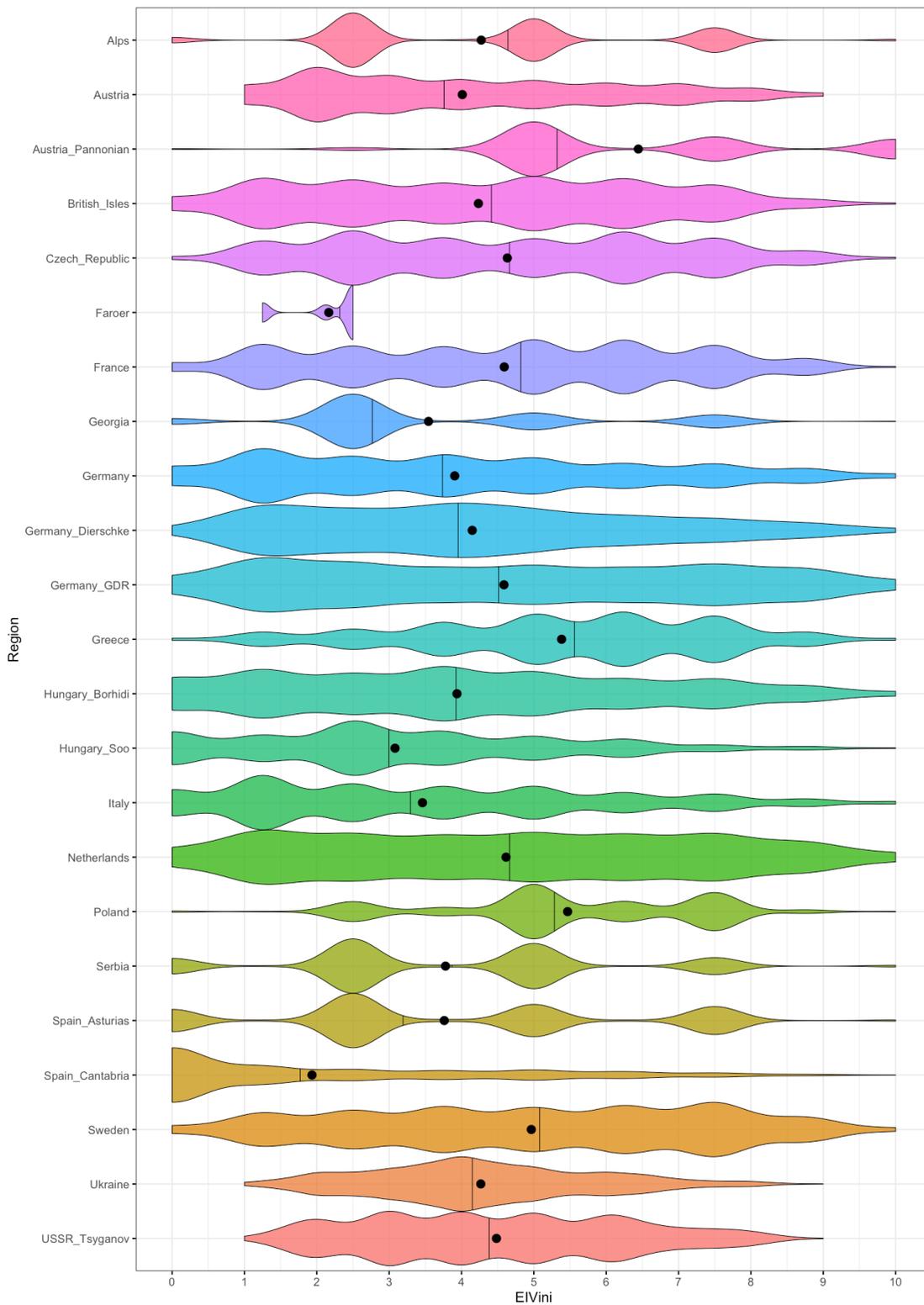


Figure S5.5. Distribution of the initially scaled EIV values (EIV_{ini}) of nitrogen per EIV system.

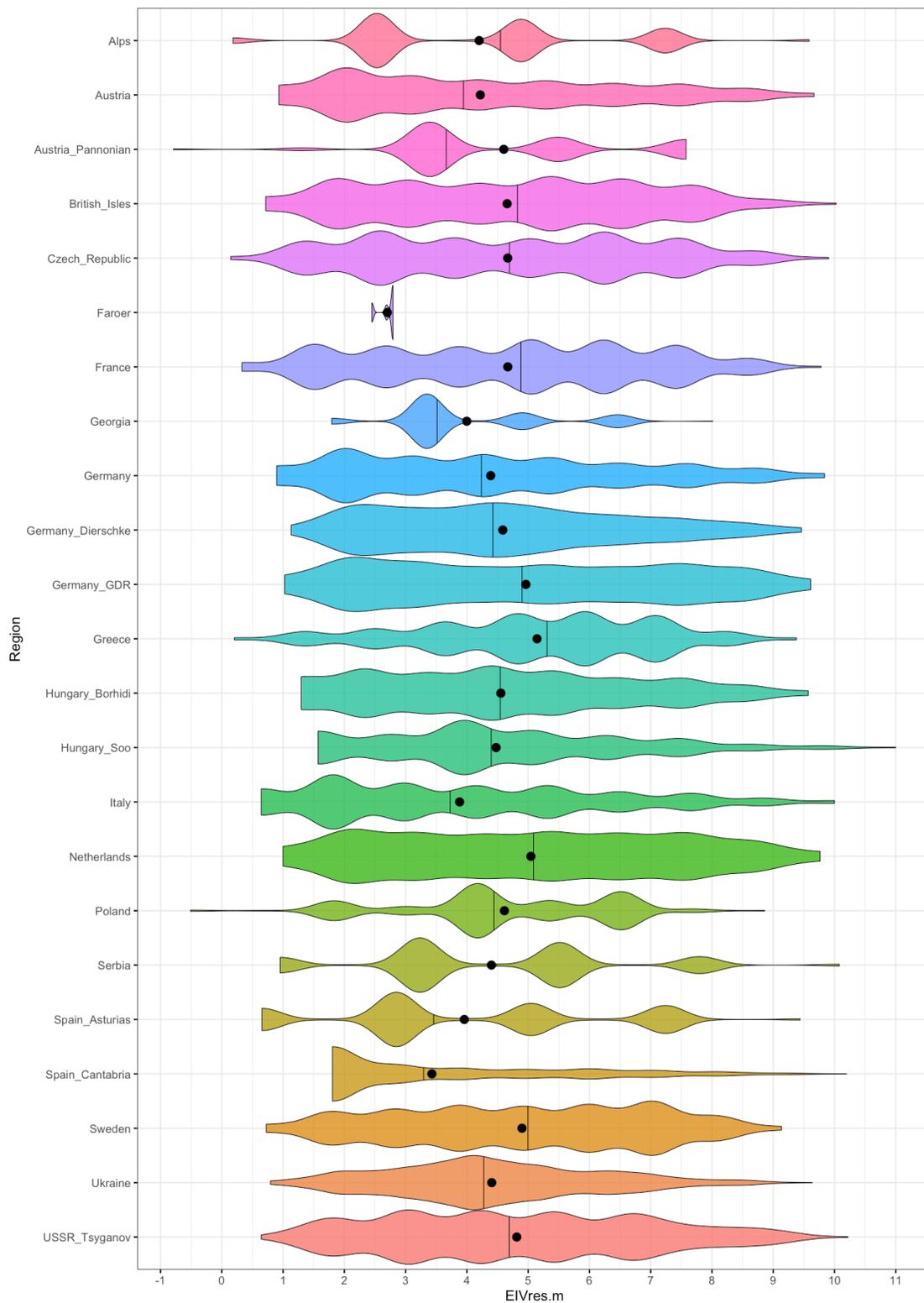


Figure S5.6. Distribution of the final rescaled EIV values (EIV_{res}) of nitrogen per EIV system.

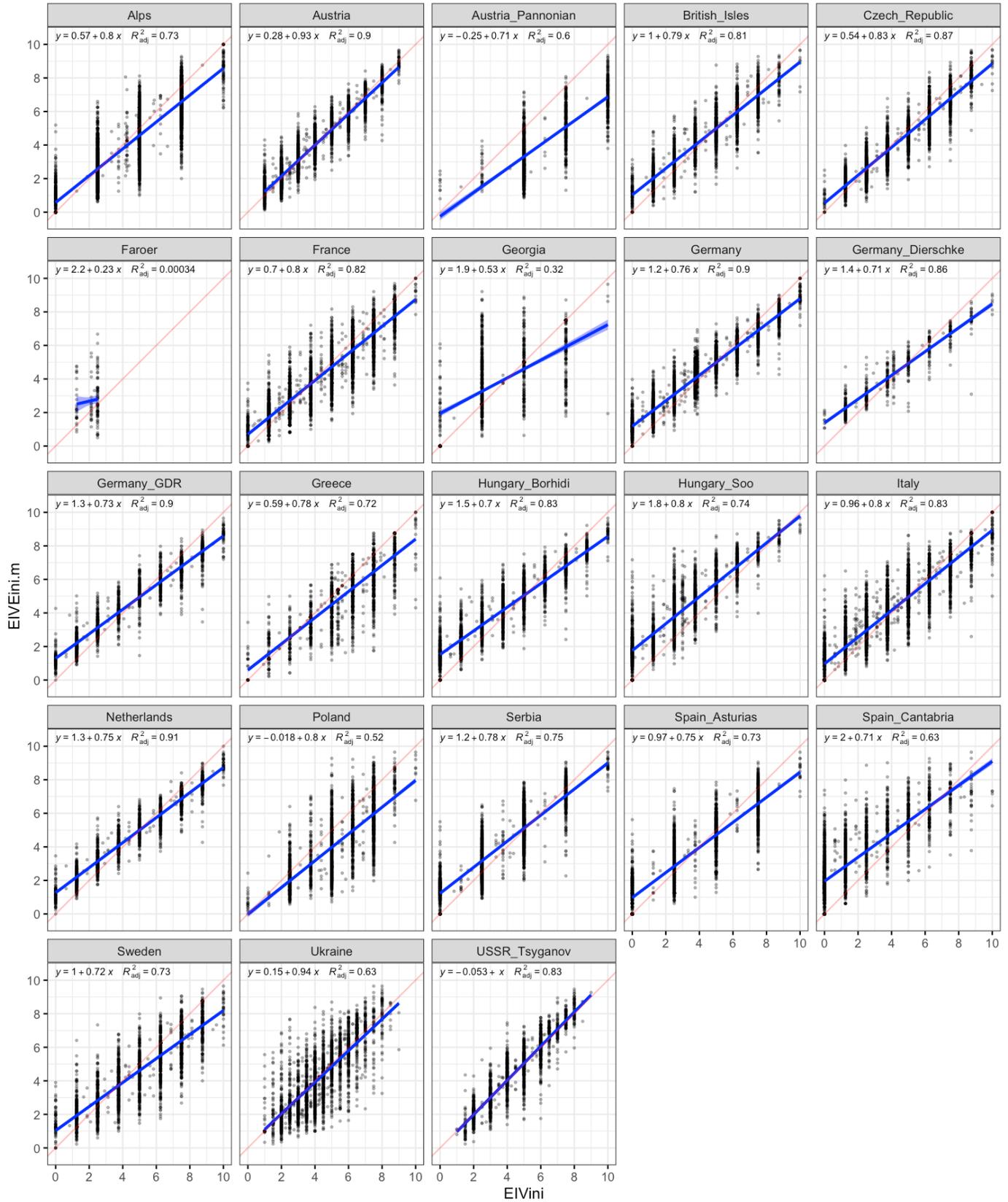


Figure S5.7. Scatterplots of $EIVE_{ini}$ (mean variant) vs. EIV_{ini} for nitrogen per EIV system.

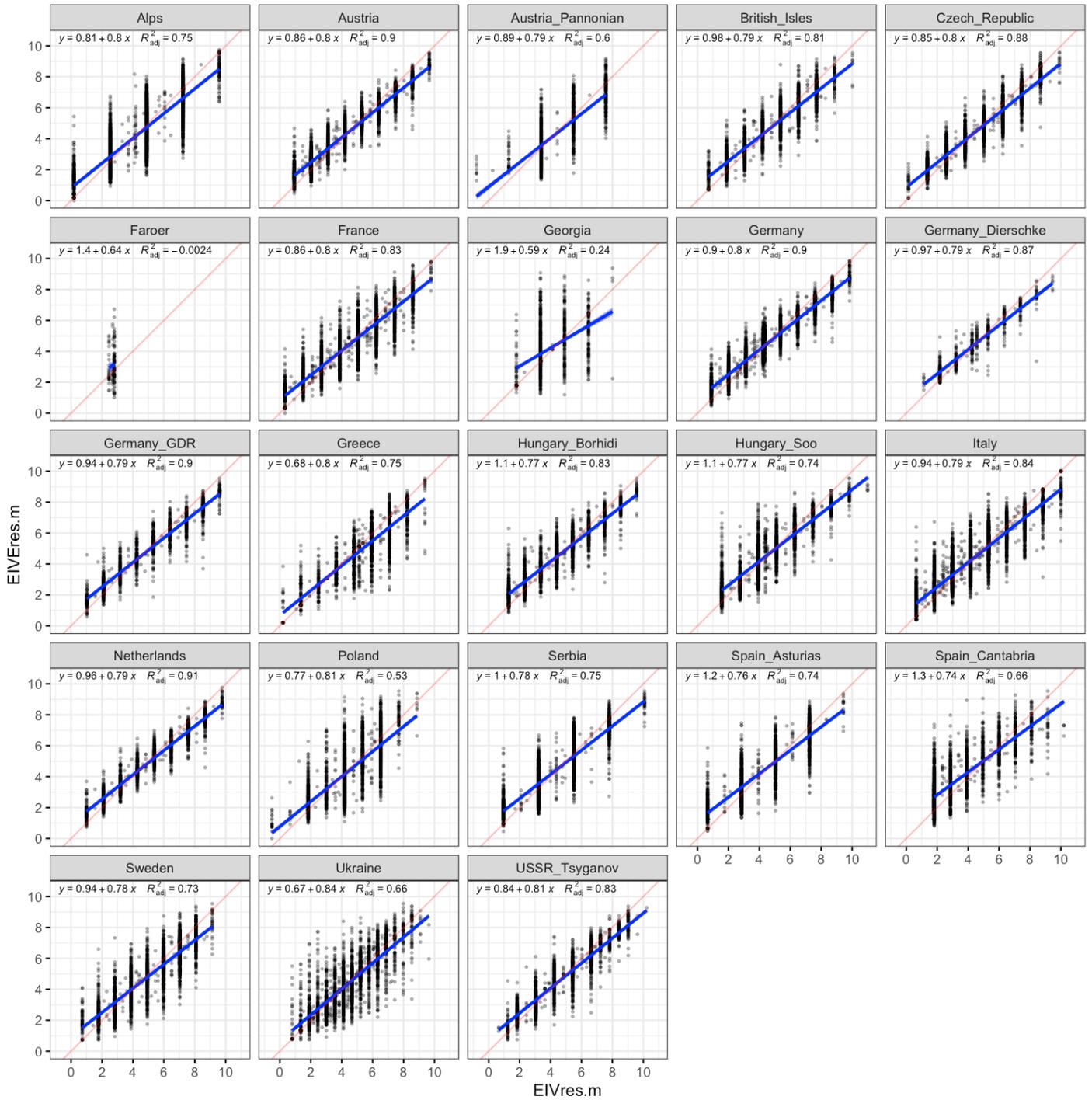


Figure S5.8. Scatterplots of *EIVres* (mean variant) vs. *EIVres* for nitrogen per EIV system.

Reaction (R)

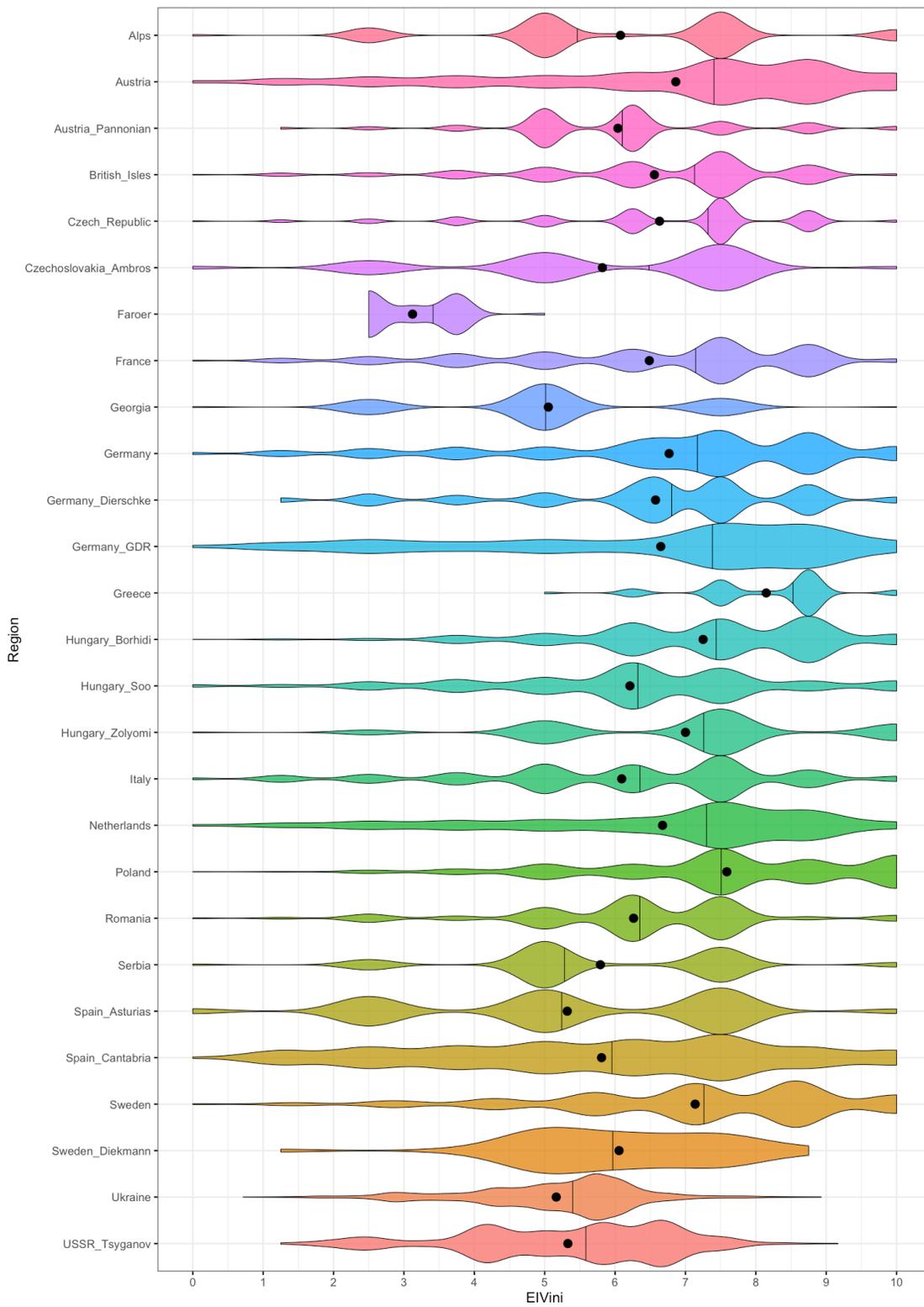


Figure S5.9. Distribution of the initially scaled EIV values (*EIVini*) of reaction per EIV system.

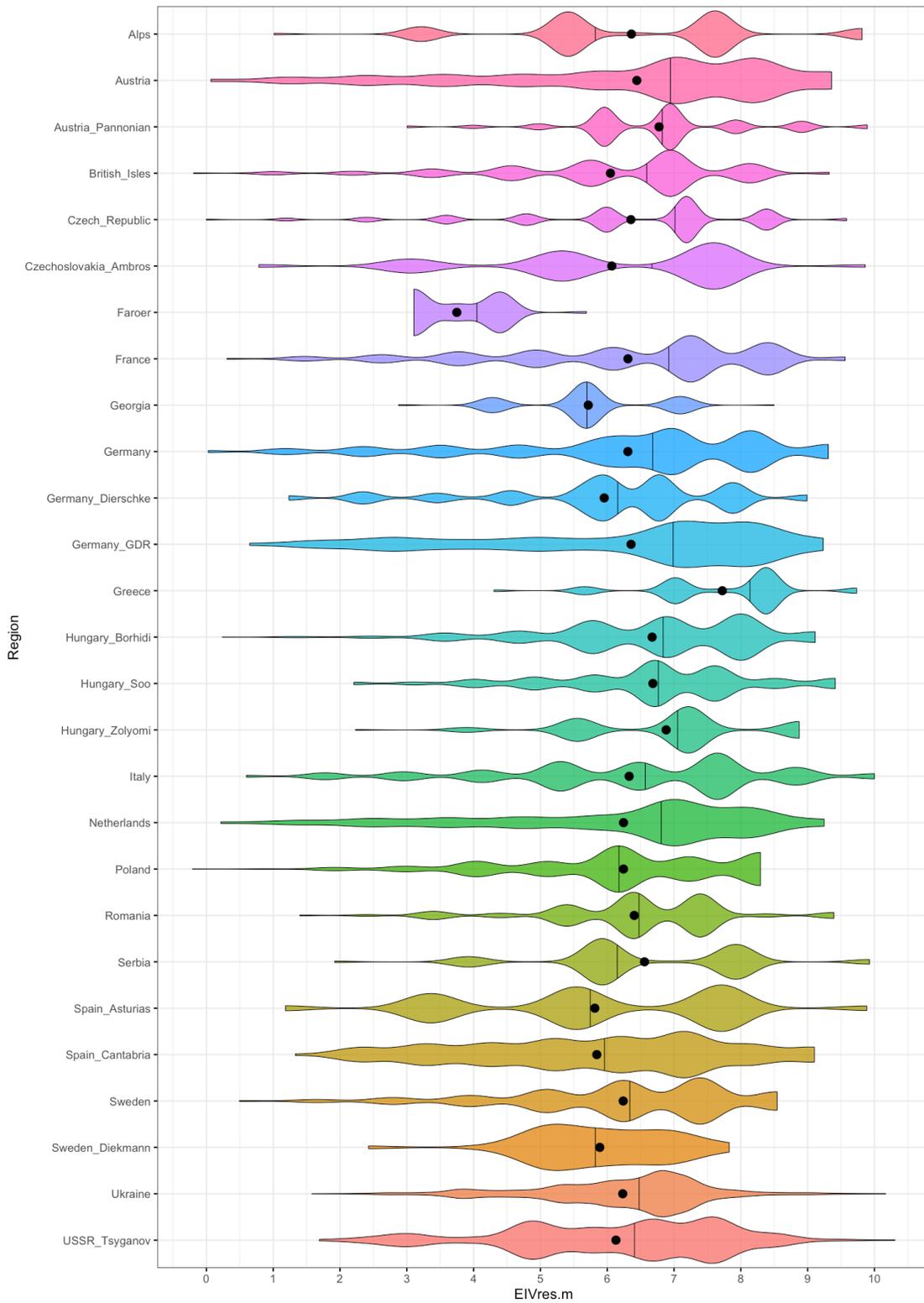


Figure S5.10. Distribution of the final rescaled EIV values (*EIVres*) of reaction per EIV system.

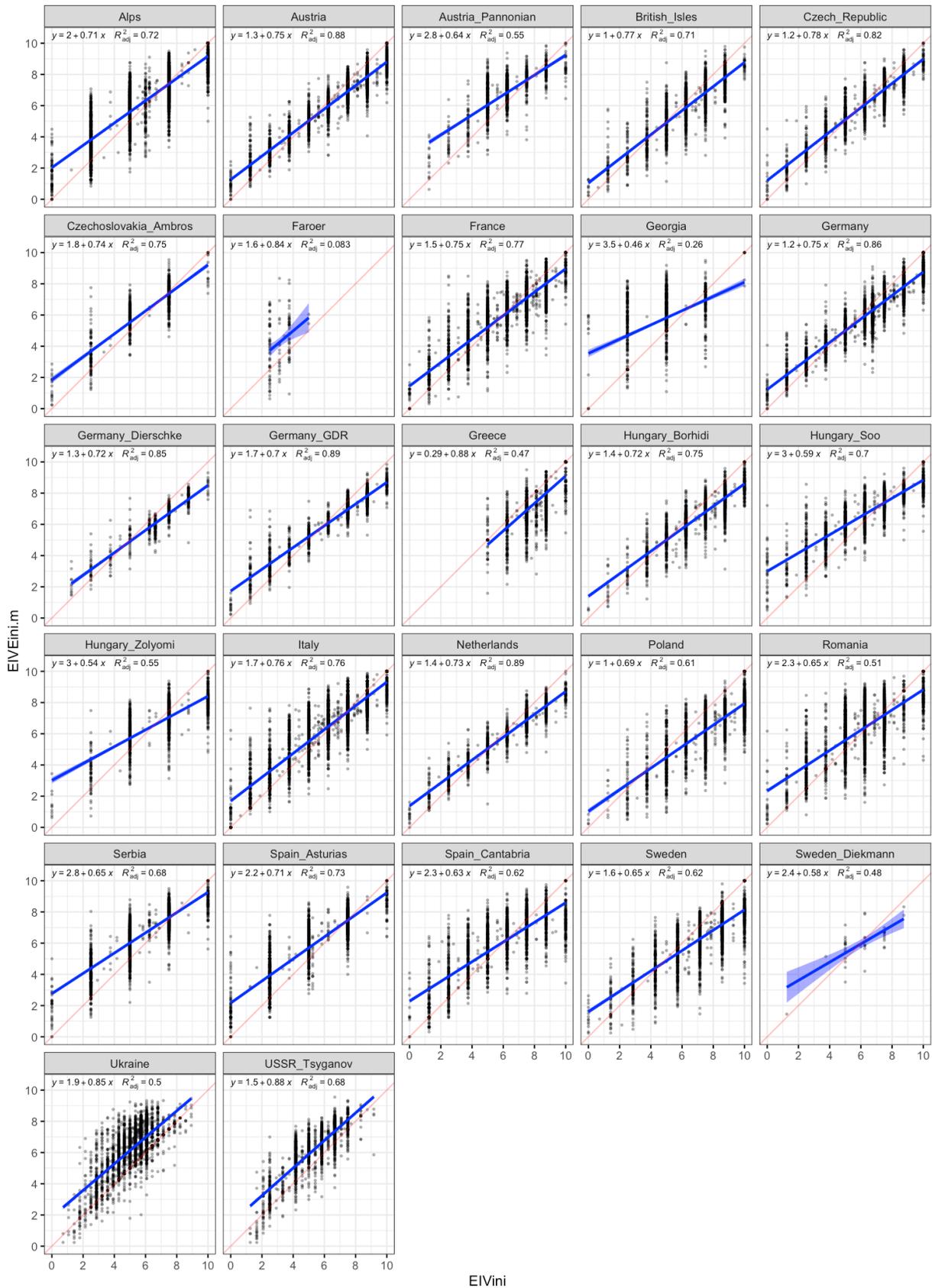


Figure S5.11. Scatterplots of $EIVEini$ (mean variant) vs. $EIVini$ for reaction per EIV system.

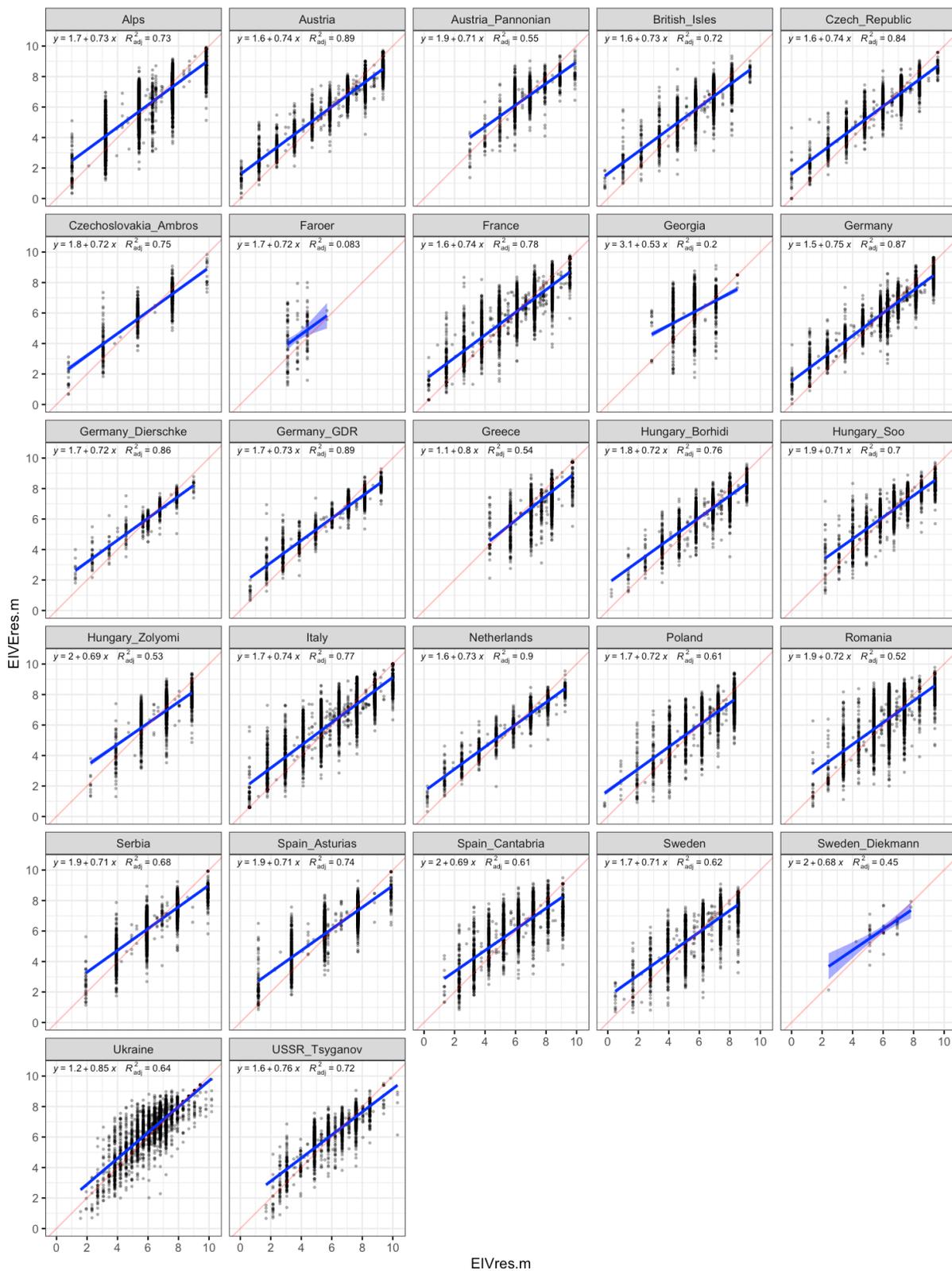


Figure S5.12. Scatterplots of EIV_{res} (mean variant) vs. EIV_{res} for reaction per EIV system.

Light (L)

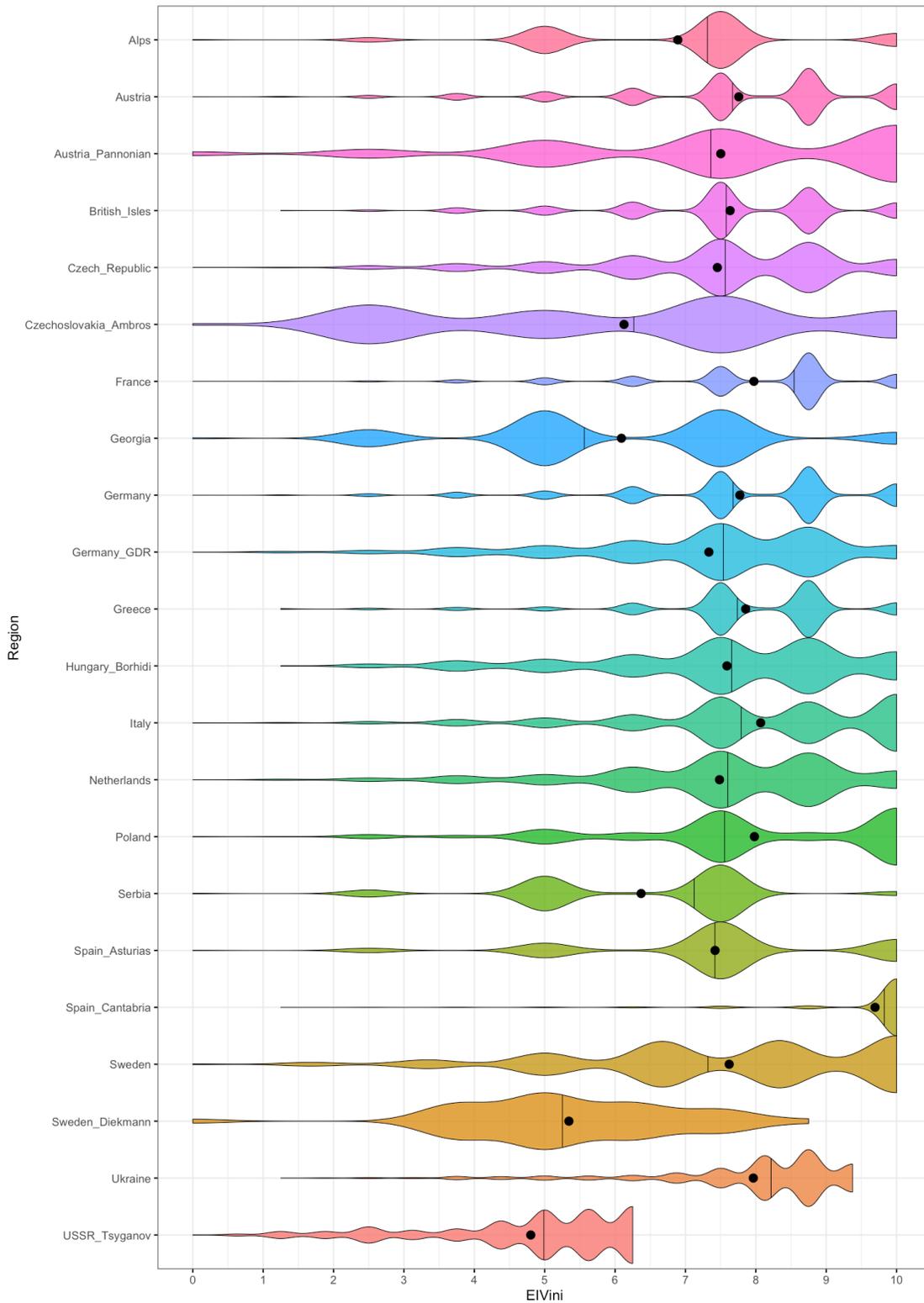


Figure S5.13. Distribution of the initially scaled EIV values (*EIVini*) of light per EIV system.

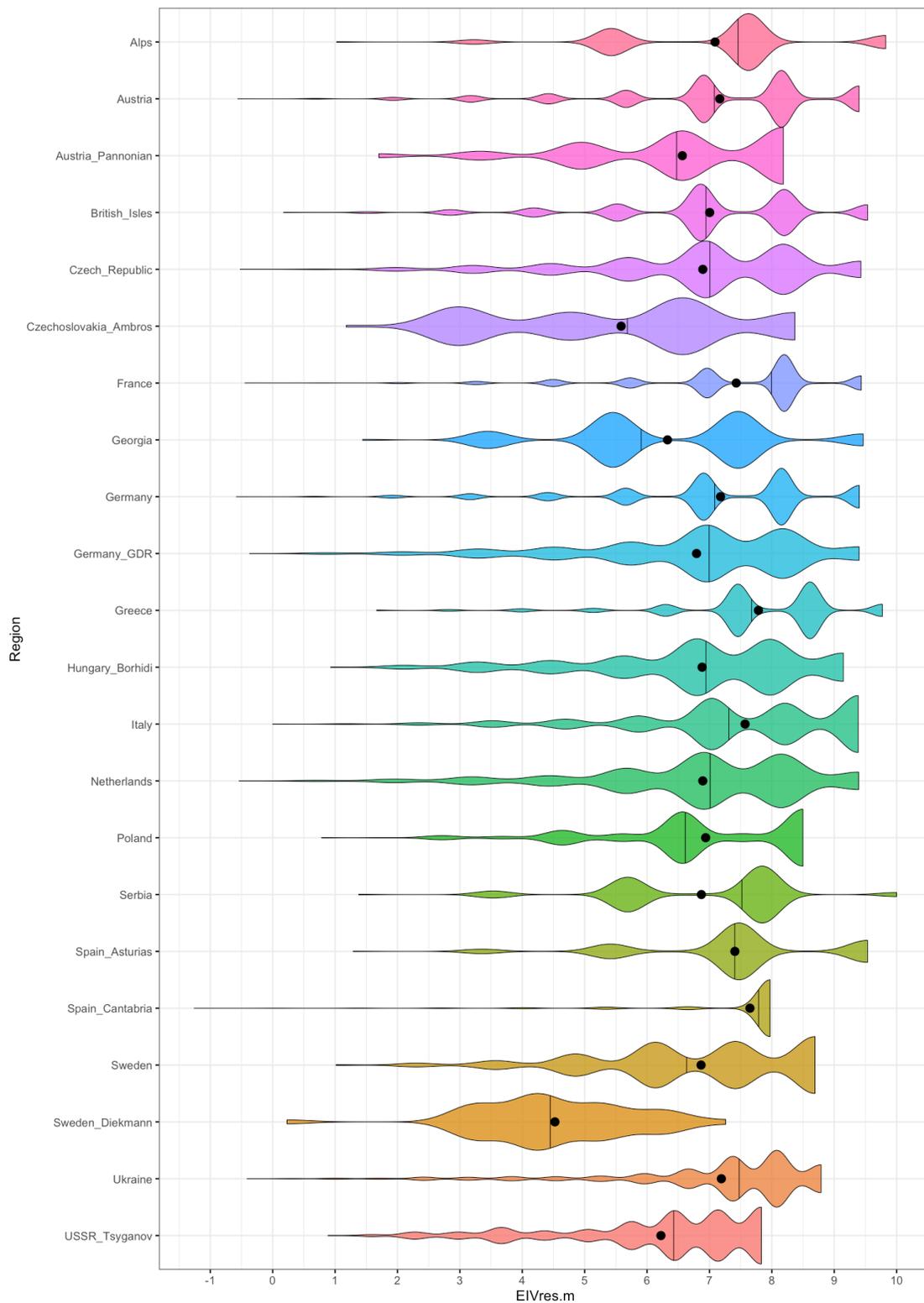


Figure S5.14. Distribution of the final rescaled EIV values (EIV_{res}) of light per EIV system.

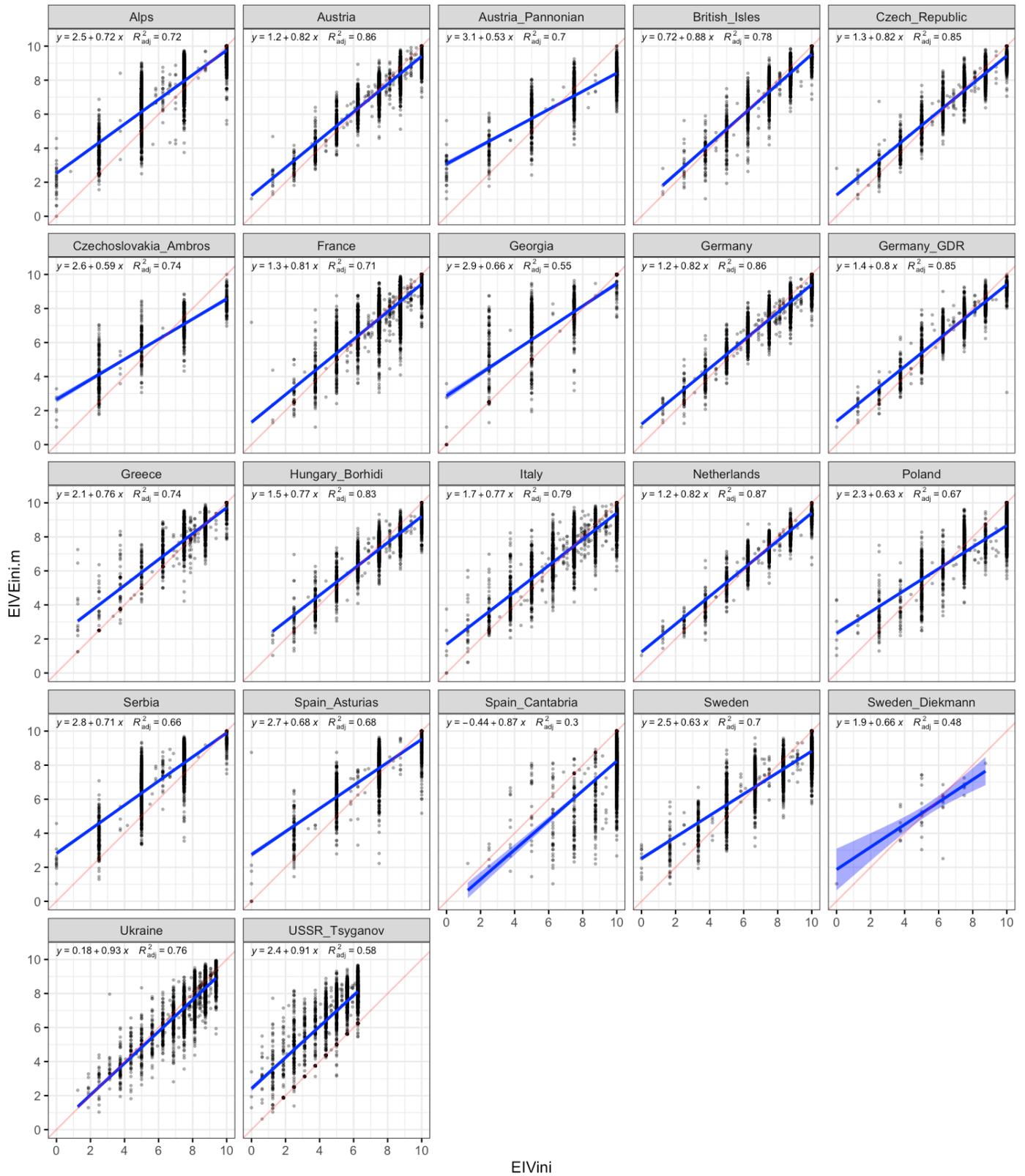


Figure S5.15. Scatterplots of $EIVEini$ (mean variant) vs. $EIVini$ for light per EIV system.

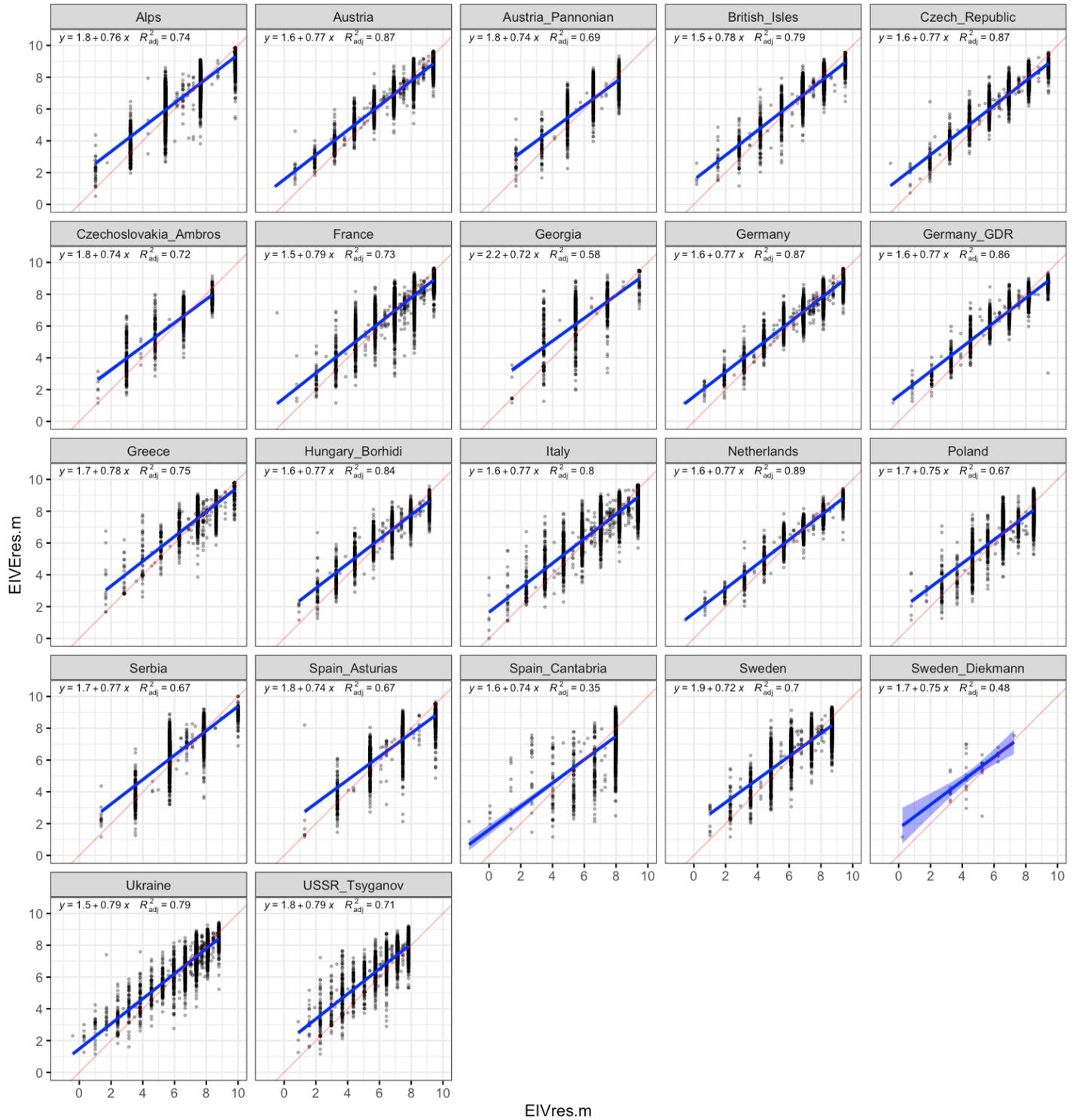


Figure S5.16. Scatterplots of EIV_{res} (mean variant) vs. EIV_{res} for light per EIV system.

Temperature (T)

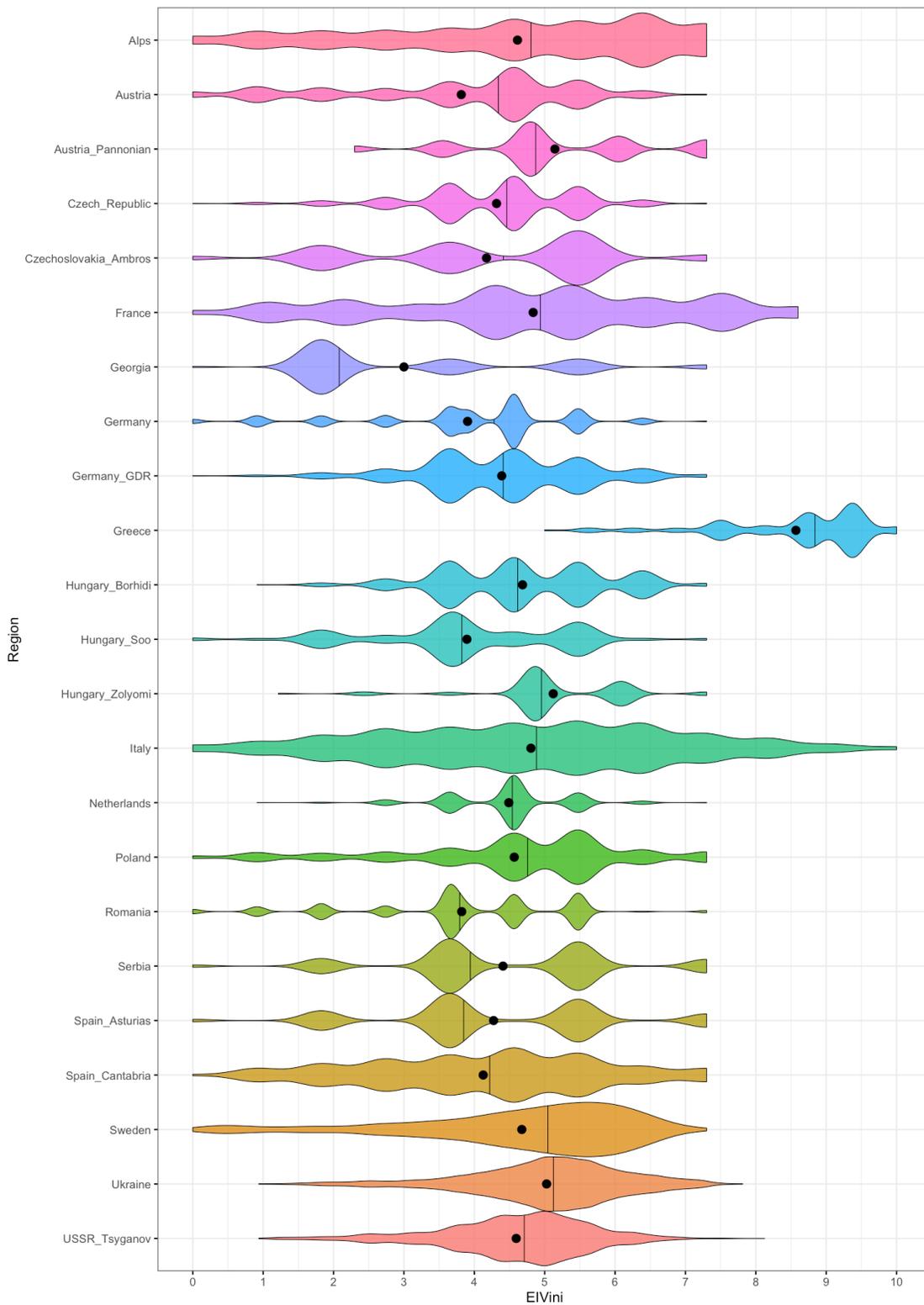


Figure S5.17. Distribution of the initially scaled EIV values (EIV_{ini}) of temperature per EIV system.

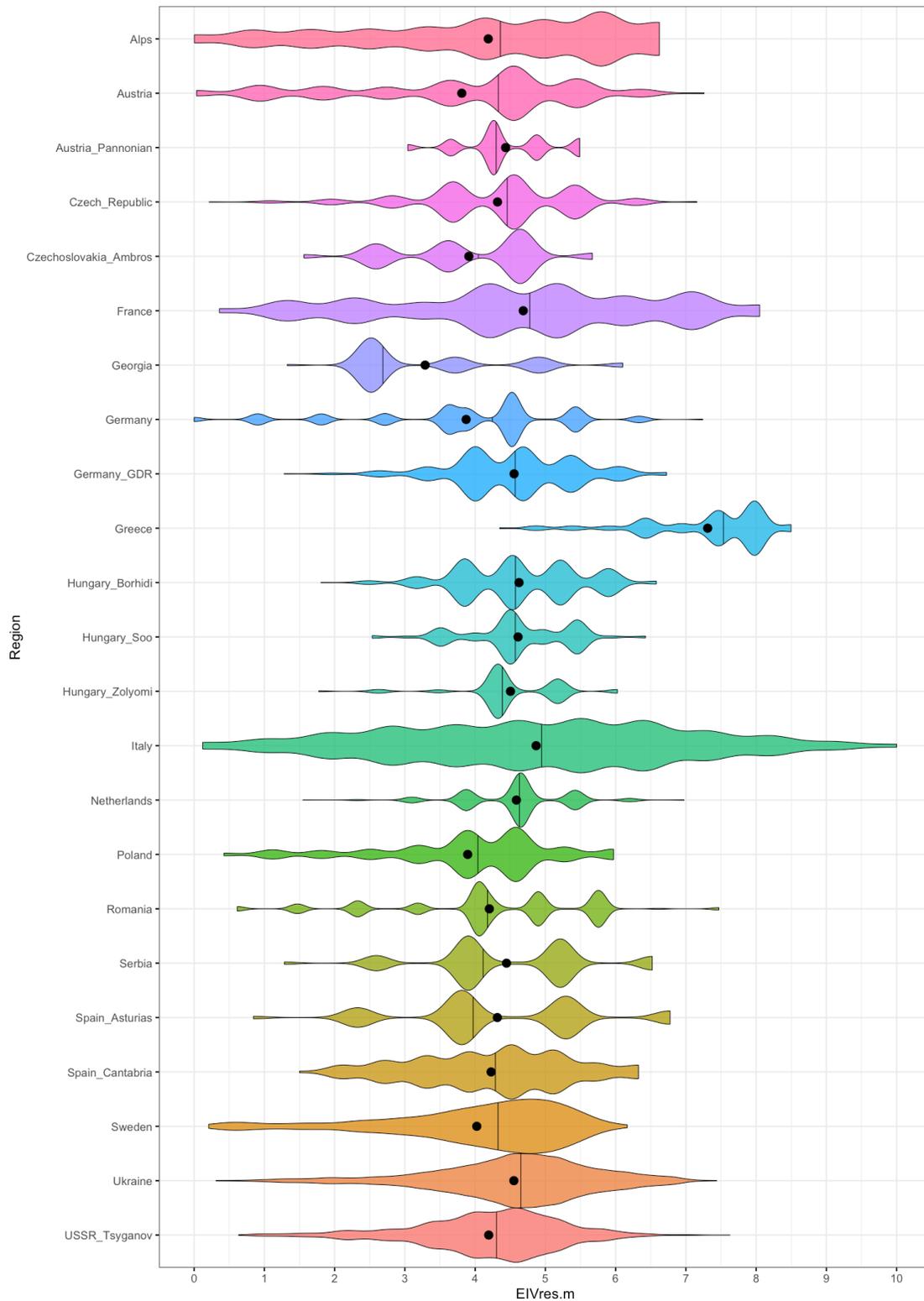


Figure S5.18. Distribution of the final rescaled EIV values (EIV_{res}) of temperature per EIV system.

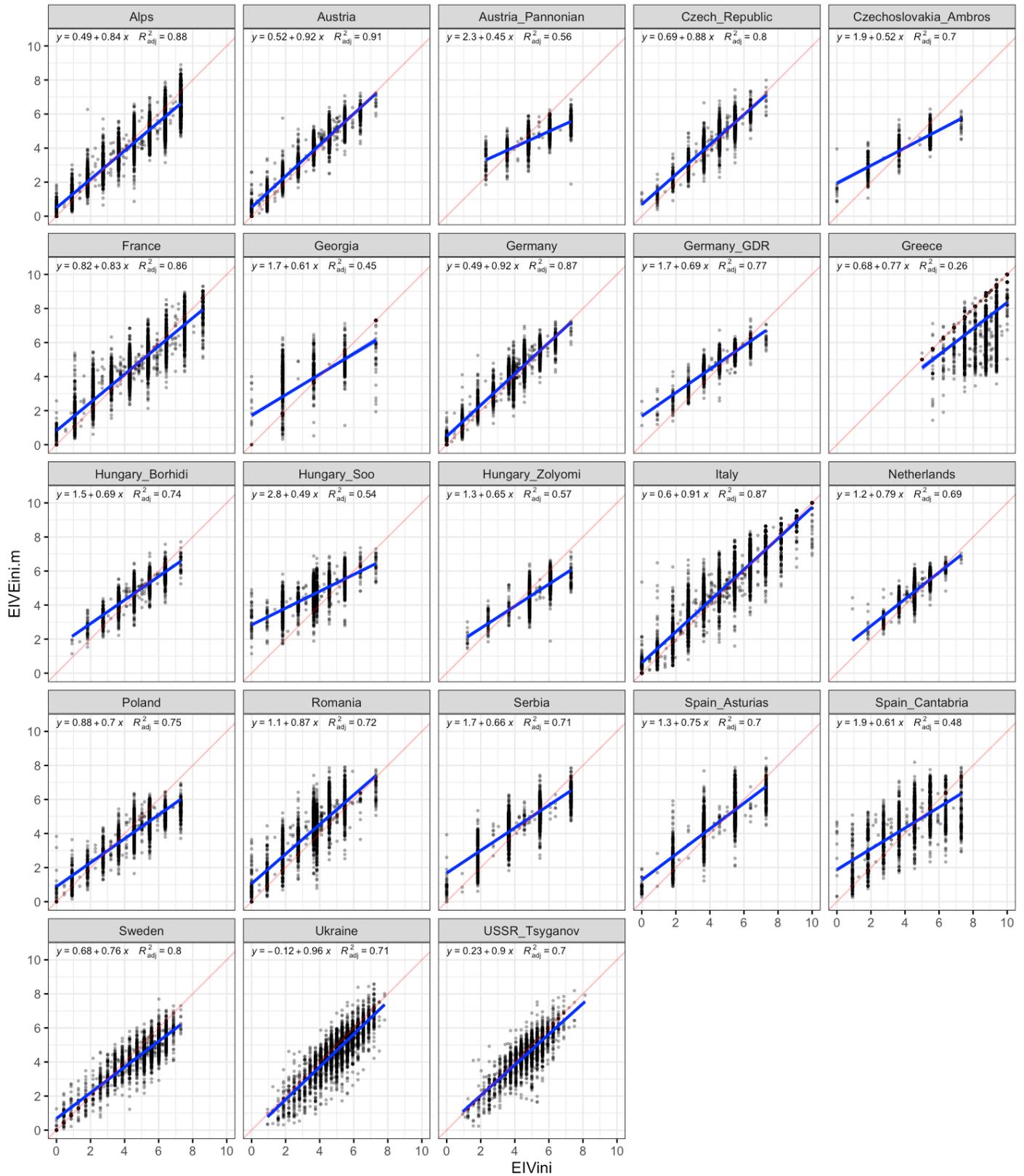


Figure S5.19. Scatterplots of $EIVEini$ (mean variant) vs. $EIVini$ for temperature per EIV system.

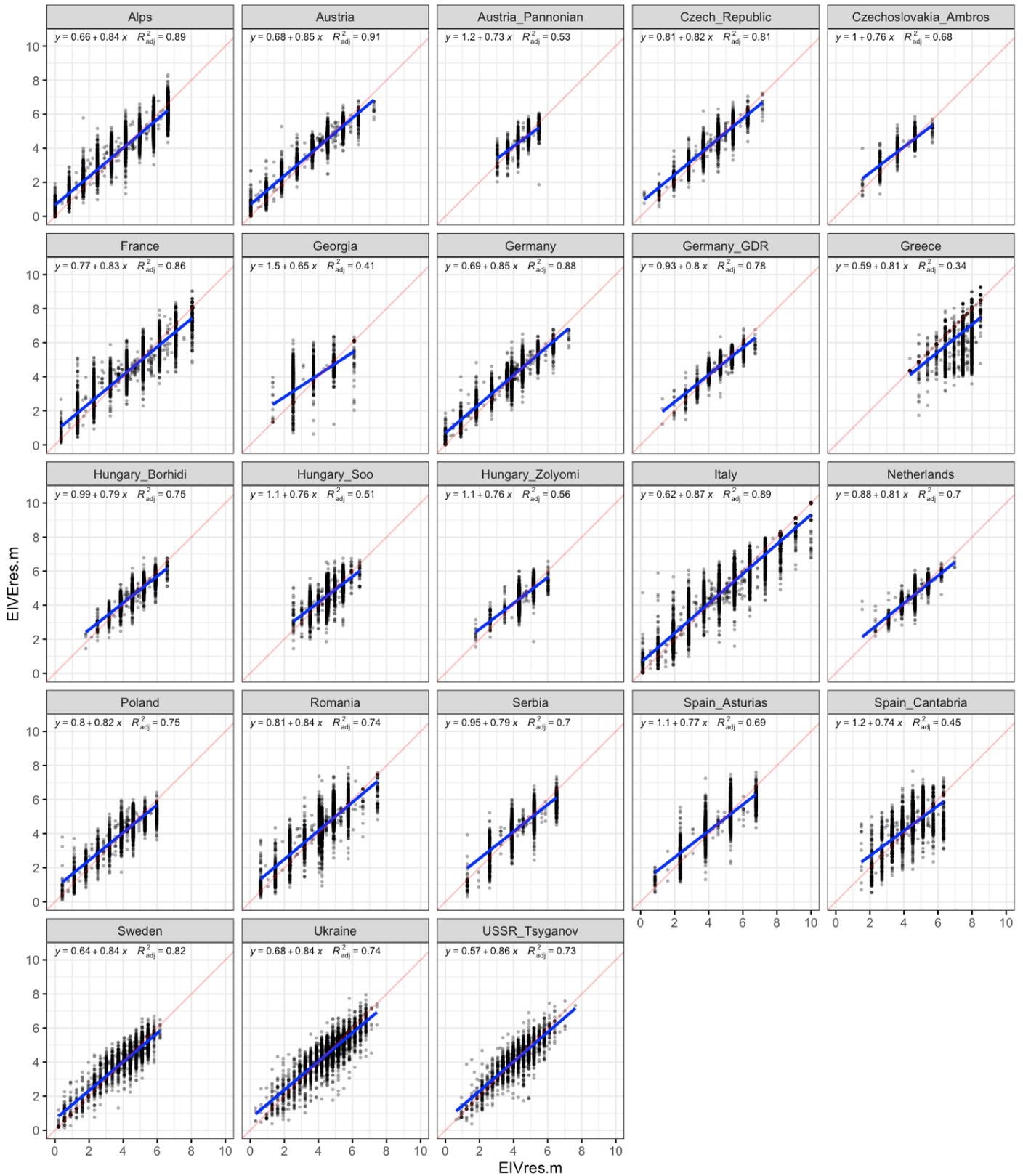


Figure S5.20. Scatterplots of *EIVres* (mean variant) vs. *EIVres* for temperature per EIV system.

Comparative overview of the effect of the iteration on the five indicators

Table S5.1. Average regression parameters for EIV and EIVE niche position before iteration (*EIVini*, *EIVEini*) and after iteration and rescaling (*EIVres*, *EIVERes*). for the three computation variants. “Min diff.,” “max diff.” and “mean diff.” denote the minimum, maximum and mean of the mean differences between regional (*x*) and European (*y*) paired values. The last letter refers to the respective calculation variant: unweighted mean (*m*), median (*d*) and weighted mean (*w*).

Indicator	<i>x</i>	<i>y</i>	<i>r</i>	adj. R^2	Slope	Intercept	Min diff.	Max diff.	Mean diff.
M	<i>EIVini</i>	<i>EIVEini.m</i>	0.907	0.832	0.872	0.565	-0.379	0.933	-0.009
	<i>EIVini</i>	<i>EIVEini.d</i>	0.900	0.820	0.887	0.501	-0.377	0.942	-0.003
	<i>EIVini</i>	<i>EIVEini.w</i>	0.905	0.829	0.857	0.653	-0.363	0.952	0.005
	<i>EIVres.m</i>	<i>EIVERes.m</i>	0.910	0.838	0.878	0.533	-0.119	0.191	-0.013
	<i>EIVres.d</i>	<i>EIVERes.d</i>	0.905	0.829	0.902	0.424	-0.108	0.192	-0.009
	<i>EIVres.w</i>	<i>EIVERes.w</i>	0.908	0.835	0.878	0.541	-0.122	0.198	-0.006
N	<i>EIVini</i>	<i>EIVEini.m</i>	0.830	0.721	0.756	0.967	-2.109	1.402	0.006
	<i>EIVini</i>	<i>EIVEini.d</i>	0.815	0.699	0.801	0.734	-2.202	1.402	-0.033
	<i>EIVini</i>	<i>EIVEini.w</i>	0.827	0.717	0.755	0.984	-2.129	1.449	0.022
	<i>EIVres.m</i>	<i>EIVERes.m</i>	0.830	0.725	0.775	0.989	-0.329	0.444	0.015
	<i>EIVres.d</i>	<i>EIVERes.d</i>	0.819	0.710	0.811	0.814	-0.314	0.370	0.008
	<i>EIVres.w</i>	<i>EIVERes.w</i>	0.826	0.720	0.784	0.966	-0.316	0.432	0.024
R	<i>EIVini</i>	<i>EIVEini.m</i>	0.798	0.655	0.709	1.846	-1.316	1.124	0.025
	<i>EIVini</i>	<i>EIVEini.d</i>	0.776	0.622	0.765	1.583	-1.217	1.186	0.113
	<i>EIVini</i>	<i>EIVEini.w</i>	0.793	0.649	0.703	1.909	-1.285	1.252	0.051
	<i>EIVres.m</i>	<i>EIVERes.m</i>	0.803	0.665	0.722	1.753	-0.437	0.675	0.030
	<i>EIVres.d</i>	<i>EIVERes.d</i>	0.792	0.649	0.751	1.637	-0.346	0.676	0.069
	<i>EIVres.w</i>	<i>EIVERes.w</i>	0.798	0.659	0.723	1.742	-0.438	0.600	0.023
L	<i>EIVini</i>	<i>EIVEini.m</i>	0.840	0.712	0.755	1.778	-1.725	1.994	0.011
	<i>EIVini</i>	<i>EIVEini.d</i>	0.821	0.683	0.800	1.535	-1.692	2.119	0.091
	<i>EIVini</i>	<i>EIVEini.w</i>	0.836	0.707	0.754	1.776	-1.763	1.973	0.002
	<i>EIVres.m</i>	<i>EIVERes.m</i>	0.851	0.730	0.761	1.687	-0.409	0.560	0.053
	<i>EIVres.d</i>	<i>EIVERes.d</i>	0.838	0.709	0.789	1.511	-0.337	0.498	0.068
	<i>EIVres.w</i>	<i>EIVERes.w</i>	0.847	0.724	0.766	1.657	-0.385	0.541	0.053
T	<i>EIVini</i>	<i>EIVEini.m</i>	0.829	0.697	0.746	1.145	-1.316	0.861	-0.007
	<i>EIVini</i>	<i>EIVEini.d</i>	0.812	0.672	0.756	1.031	-1.391	0.796	-0.081
	<i>EIVini</i>	<i>EIVEini.w</i>	0.825	0.693	0.737	1.197	-1.388	0.867	-0.001
	<i>EIVres.m</i>	<i>EIVERes.m</i>	0.831	0.701	0.801	0.882	-0.798	0.361	0.010
	<i>EIVres.d</i>	<i>EIVERes.d</i>	0.824	0.691	0.815	0.807	-0.788	0.323	-0.015
	<i>EIVres.w</i>	<i>EIVERes.w</i>	0.826	0.694	0.805	0.861	-0.792	0.368	0.005