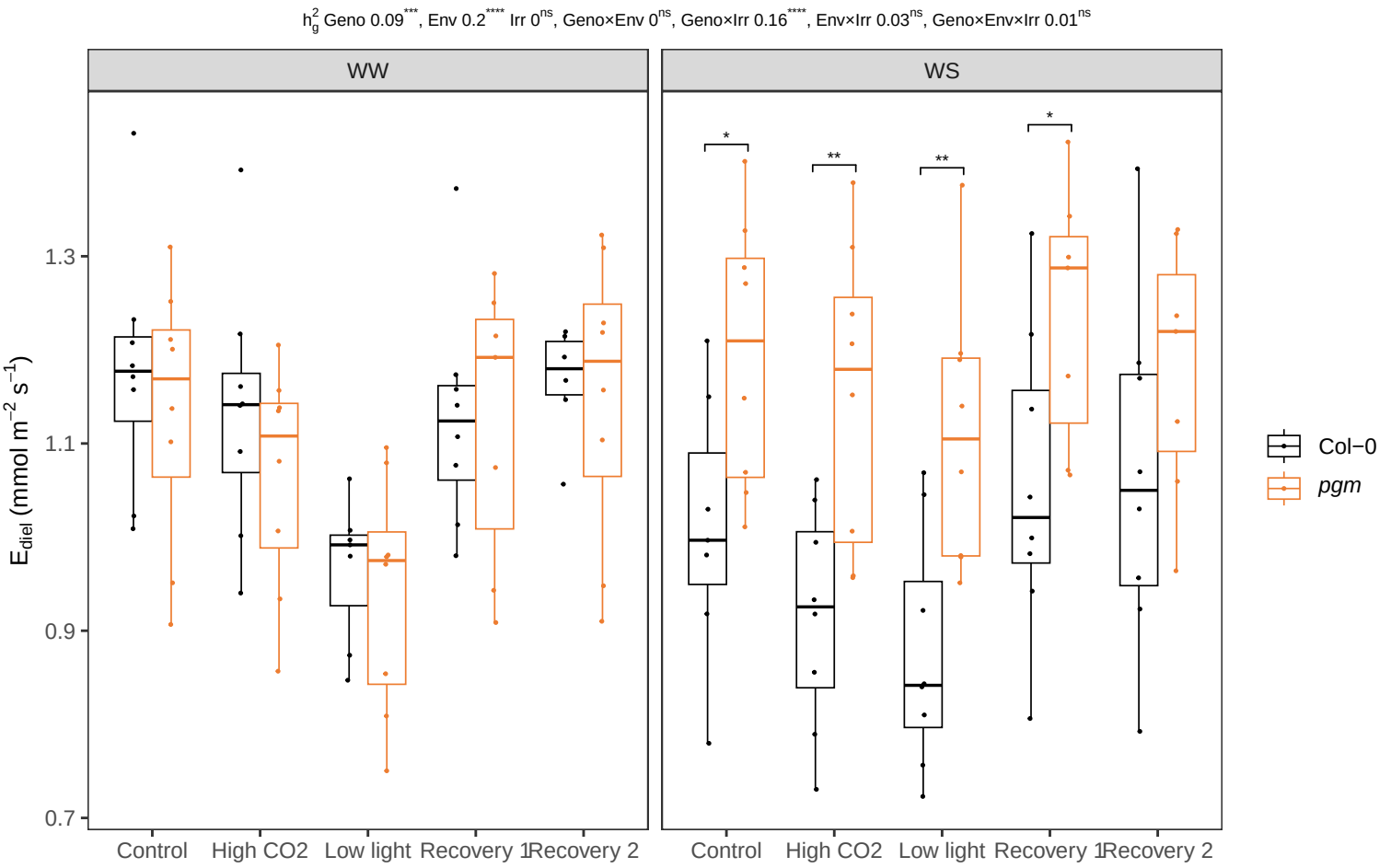
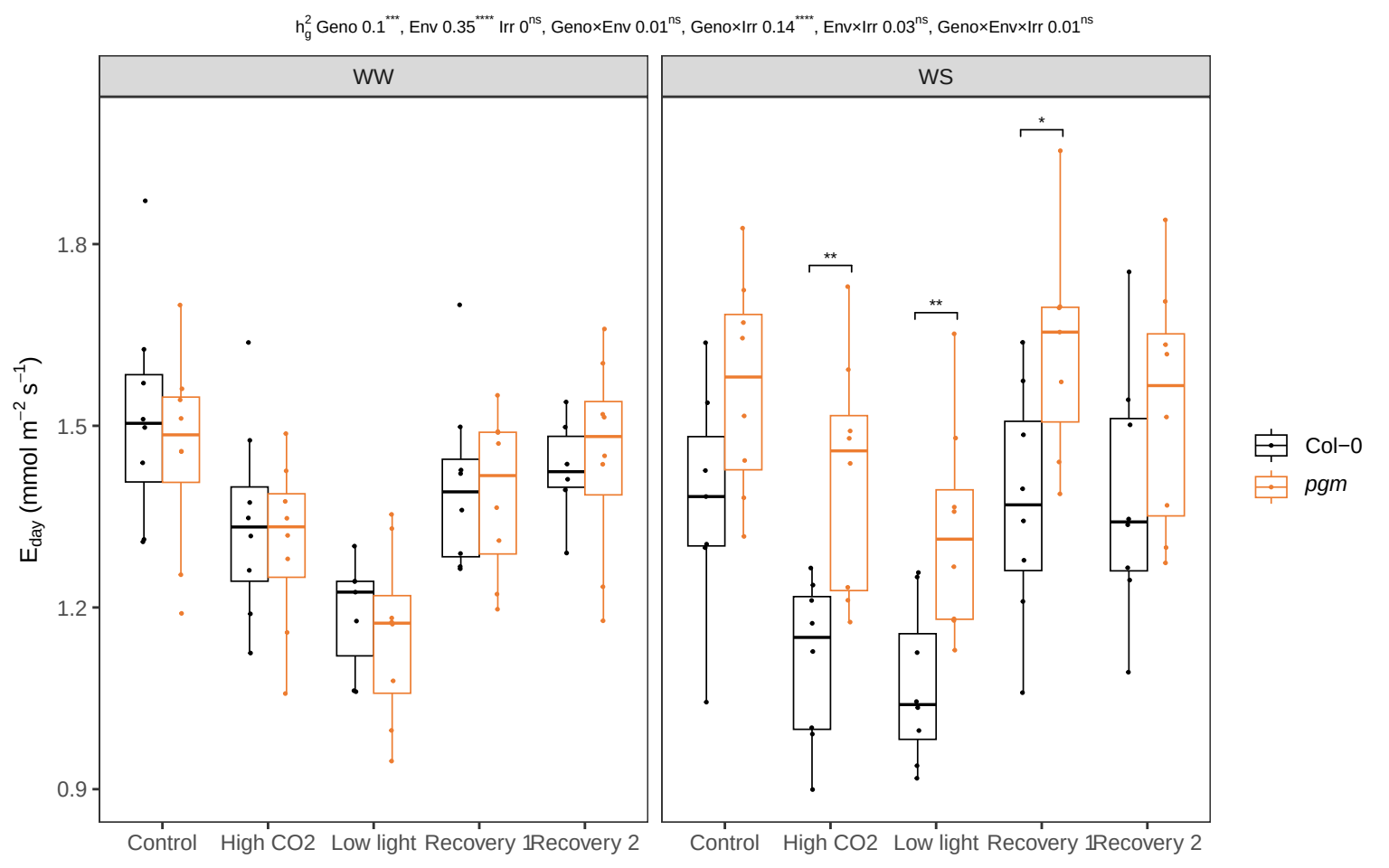
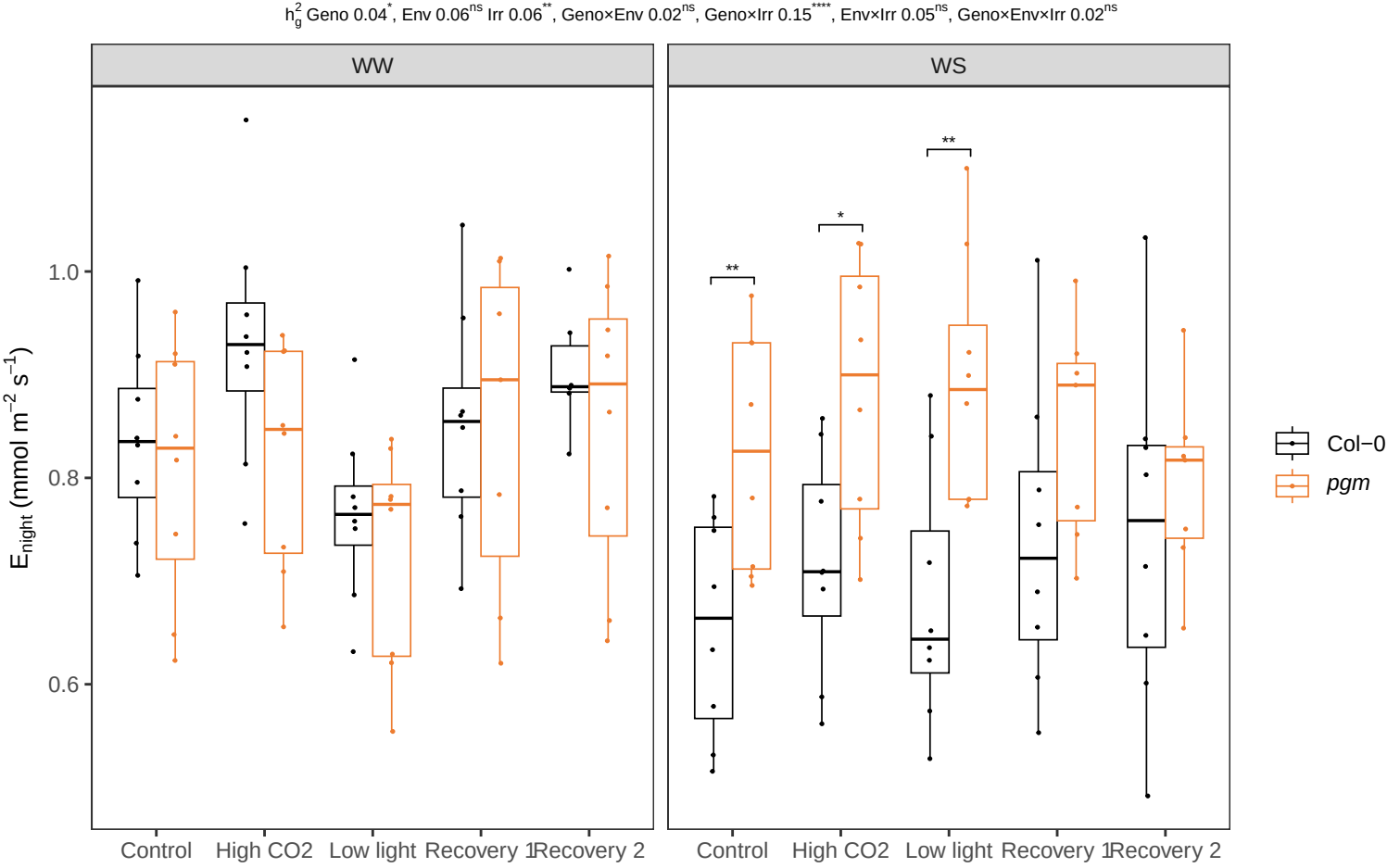
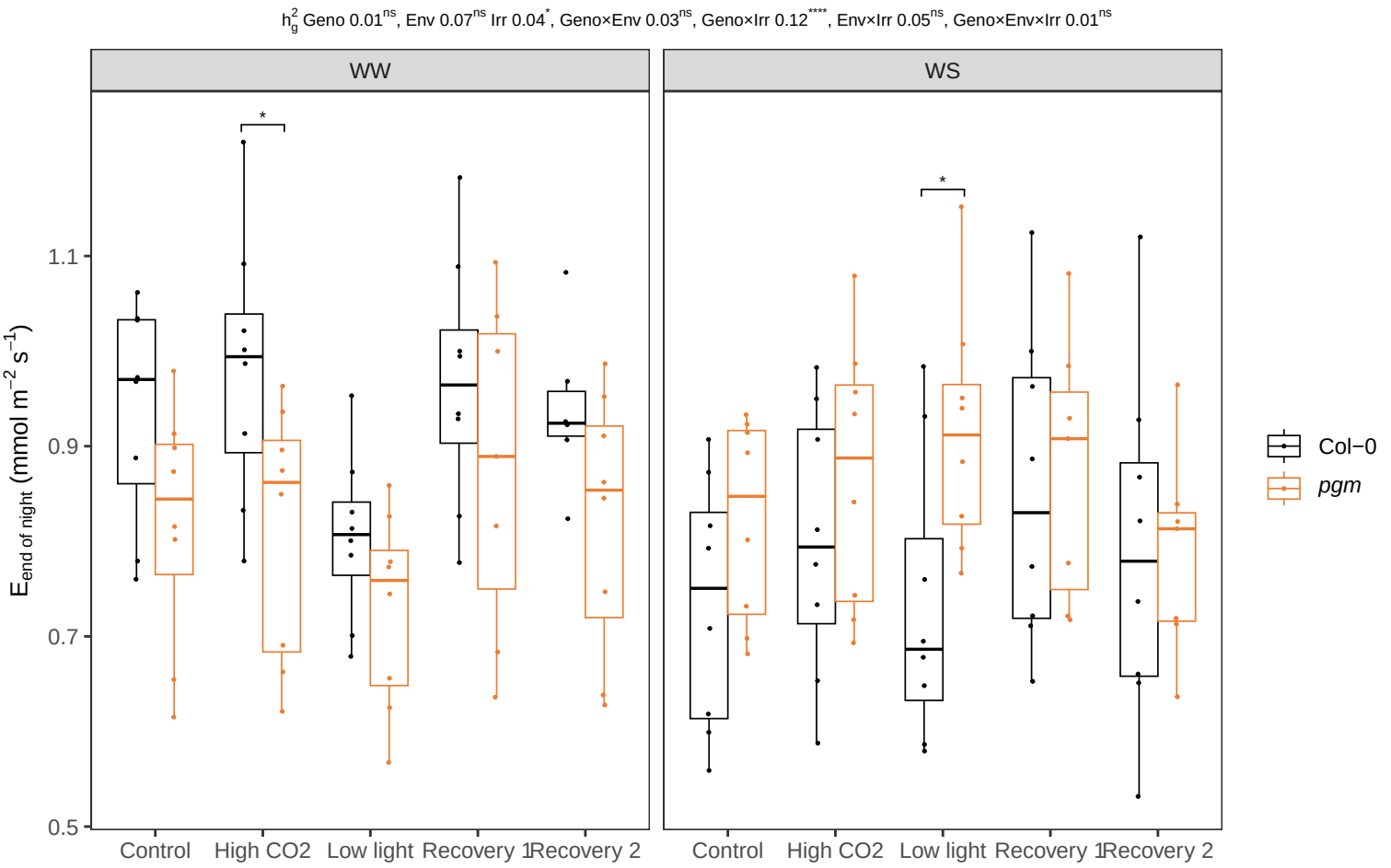
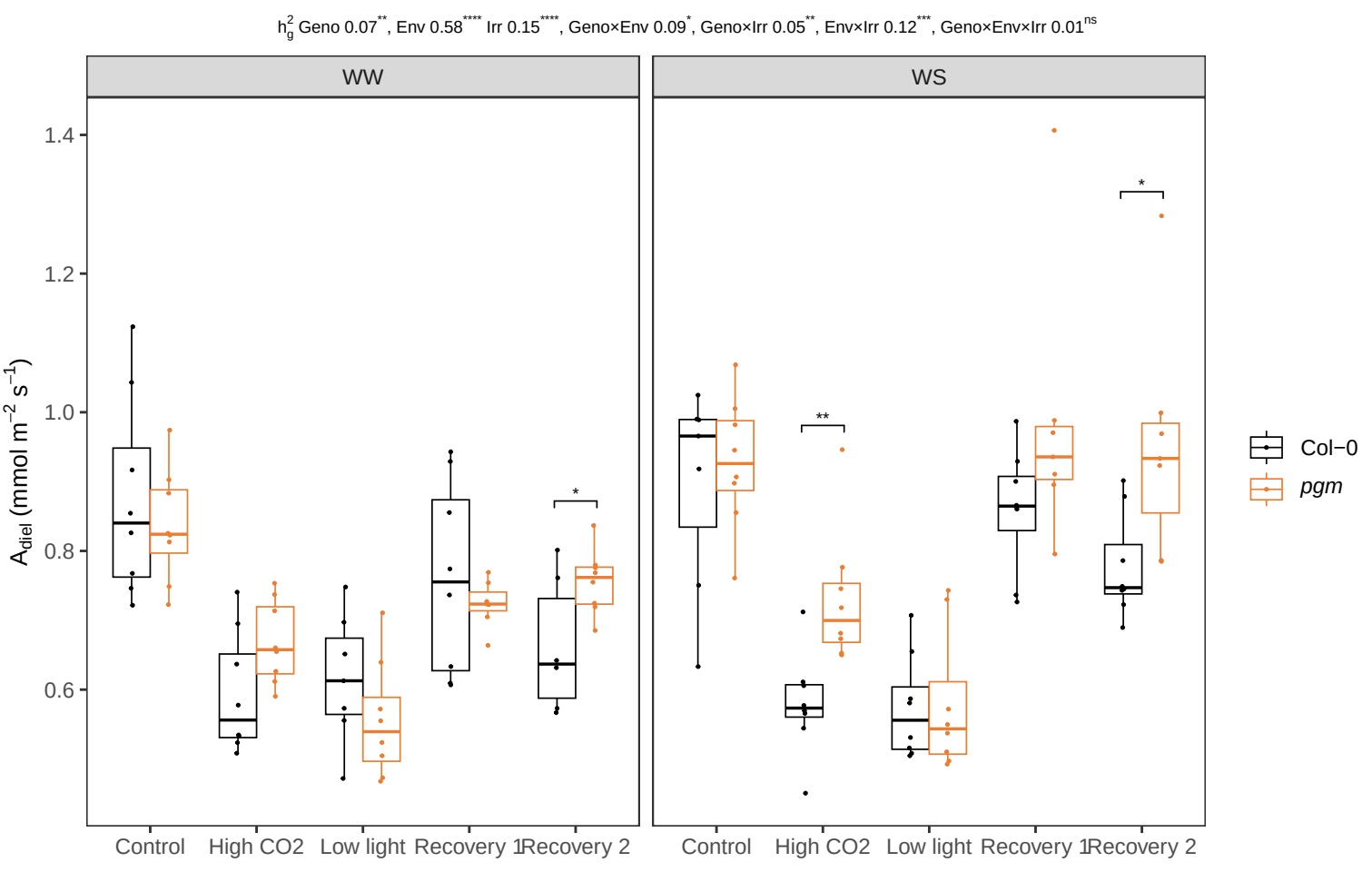
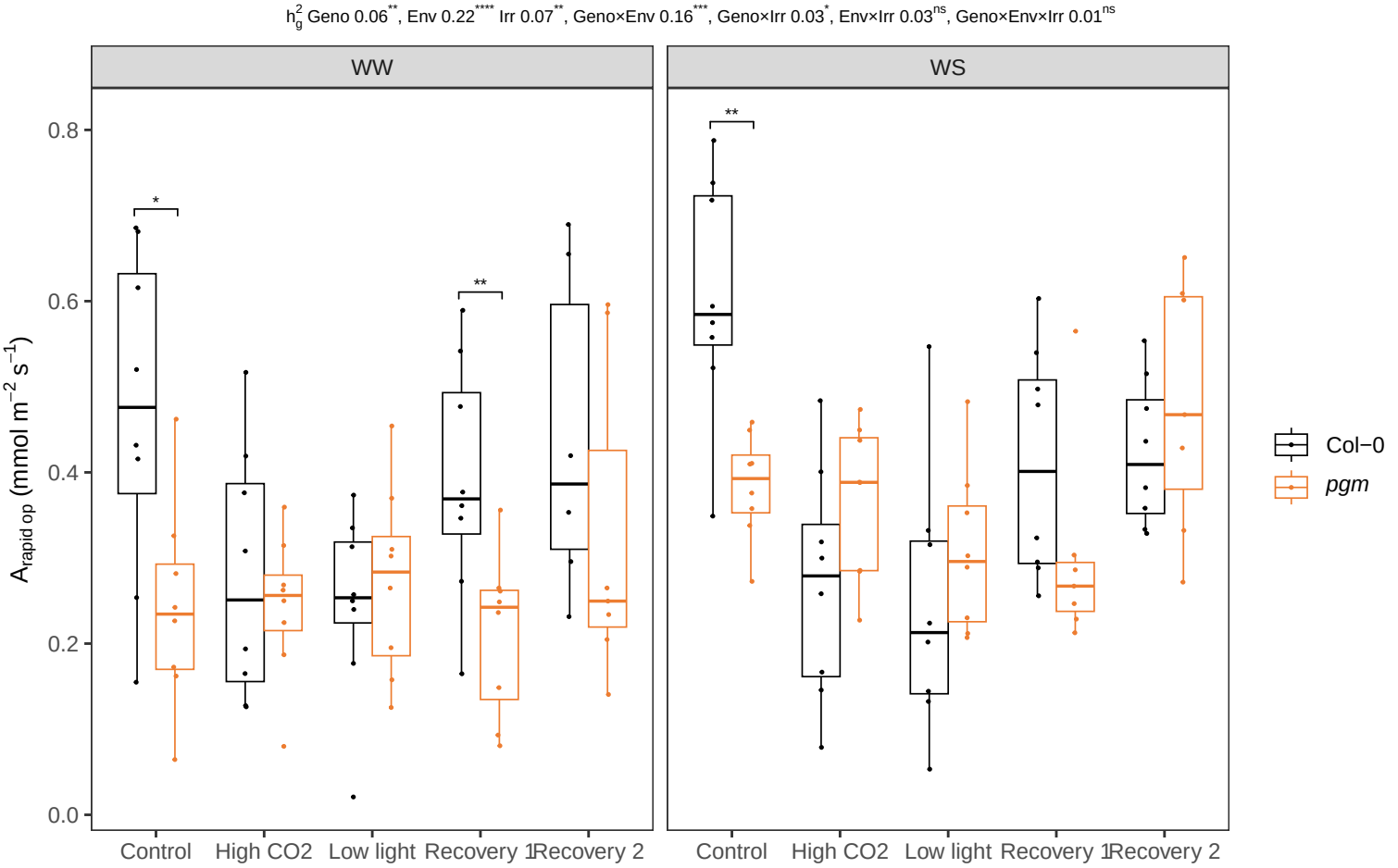

h^2_g Geno 0.09***, Env 0.2**** Irr 0ns, Geno×Env 0ns, Geno×Irr 0.16****, Env×Irr 0.03ns, Geno×Env×Irr 0.01ns
WW
WS
E_{diel} (mmol m^{-2} s^{-1})
1.3
1.1
0.9
0.7
Control
High CO2
Low light
Recovery 1
Recovery 2
*
**
**
*
Col−0
pgm

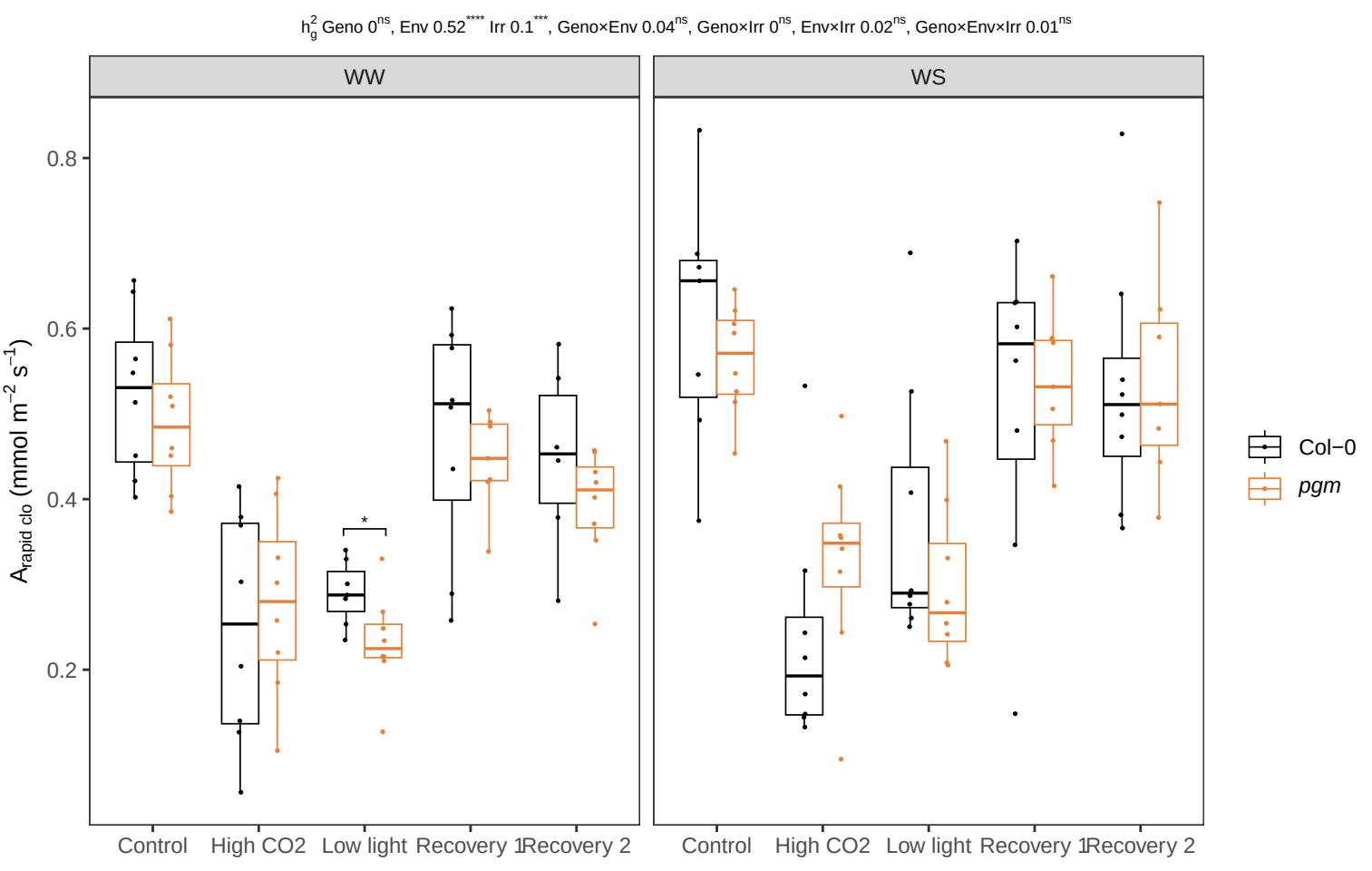

h^2_g Geno 0.1***, Env 0.35**** Irr 0^{ns}, Geno×Env 0.01^{ns}, Geno×Irr 0.14****, Env×Irr 0.03^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
E_{day} (mmol m^{-2} s^{-1})
0.9
1.2
1.5
1.8
Control
High CO2
Low light
Recovery 1
Recovery 2
*
**
**
Col−0
pgm

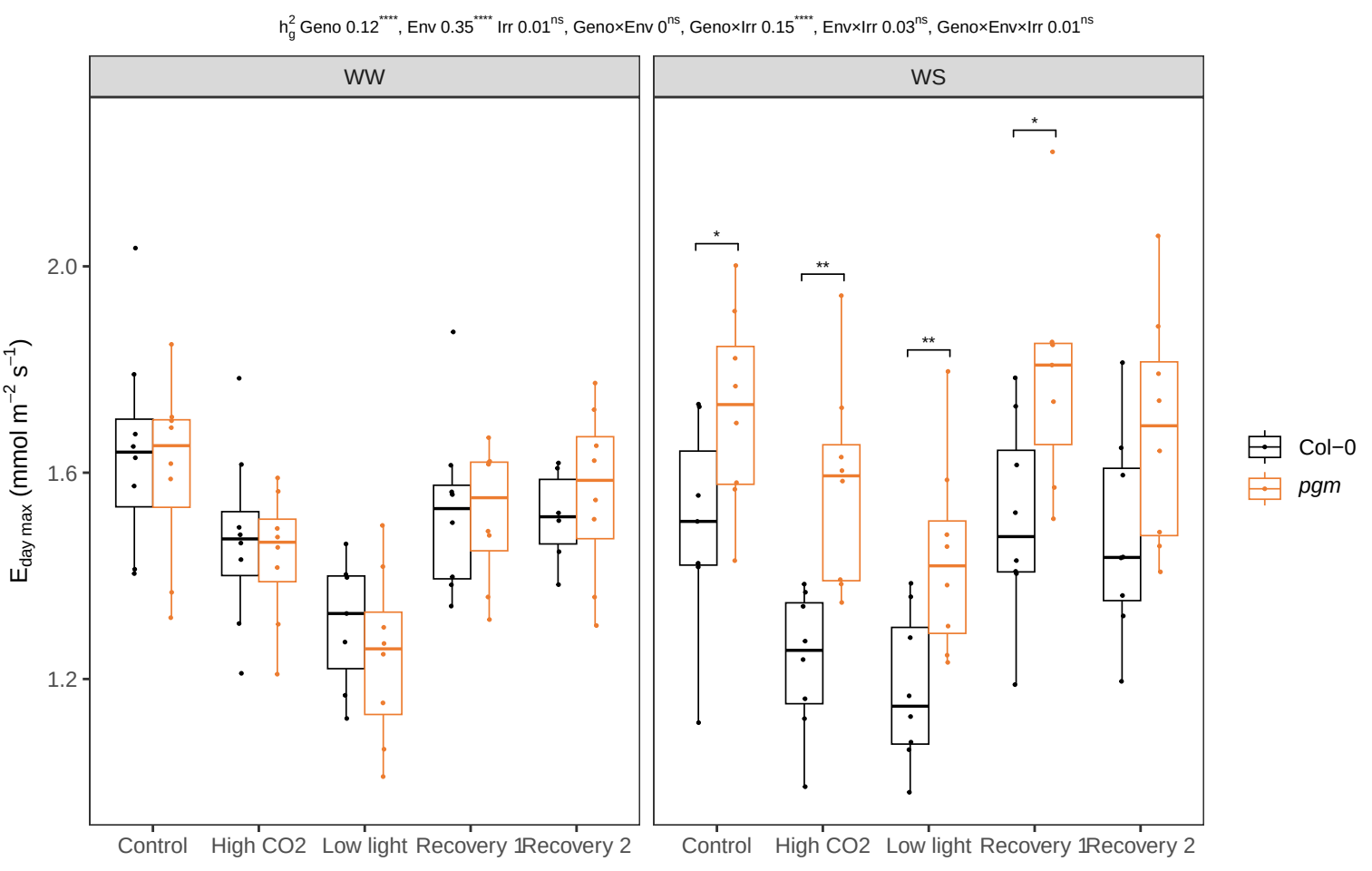

h^2_g Geno 0.04*, Env 0.06ns Irr 0.06**, Geno×Env 0.02ns, Geno×Irr 0.15****, Env×Irr 0.05ns, Geno×Env×Irr 0.02ns
WW
WS
E_{night} (mmol m^{-2} s^{-1})
1.0
0.8
0.6
**
*
**
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

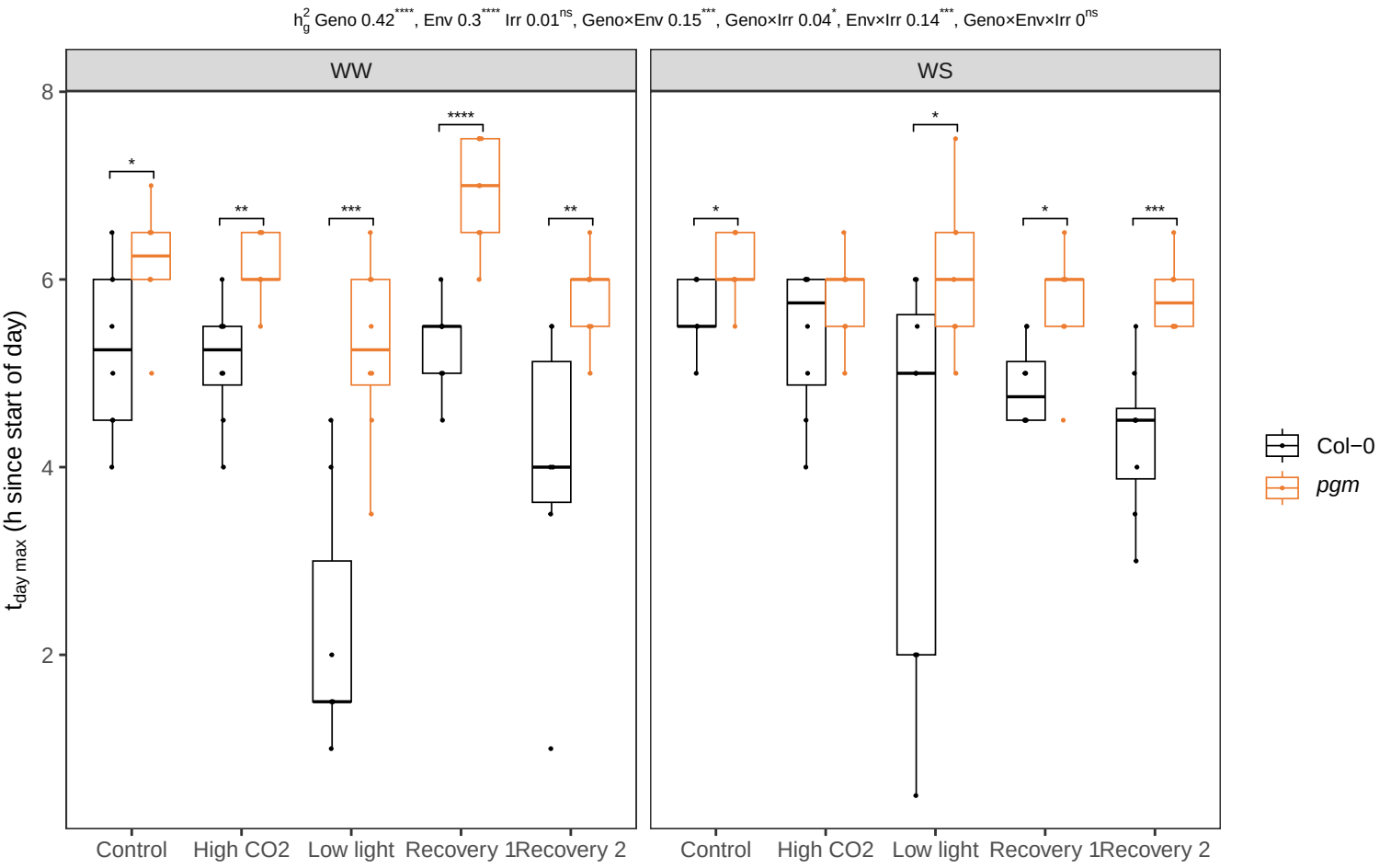

h^2_g Geno 0.01^{ns}, Env 0.07^{ns} Irr 0.04*, Geno×Env 0.03^{ns}, Geno×Irr 0.12****, Env×Irr 0.05^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
$E_{end\ of\ night}$ (mmol m^{-2} s^{-1})
1.1
0.9
0.7
0.5
*
*
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

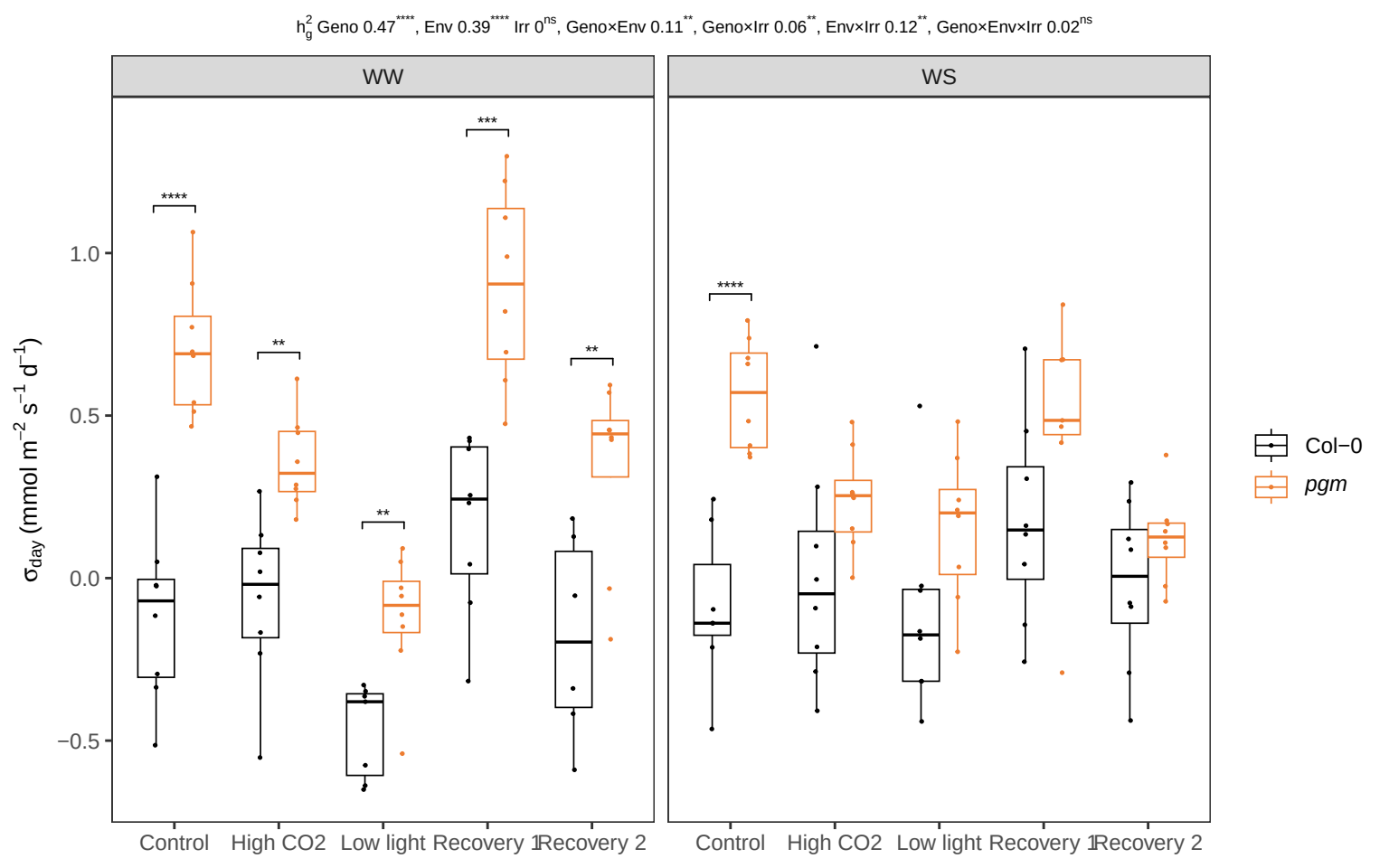

h^2_g Geno 0.07**, Env 0.58**** Irr 0.15****, Geno×Env 0.09*, Geno×Irr 0.05**, Env×Irr 0.12***, Geno×Env×Irr 0.01ns
WW
WS
A_{diel} (mmol m^{-2} s^{-1})
1.4
1.2
1.0
0.8
0.6
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm
*
**
*

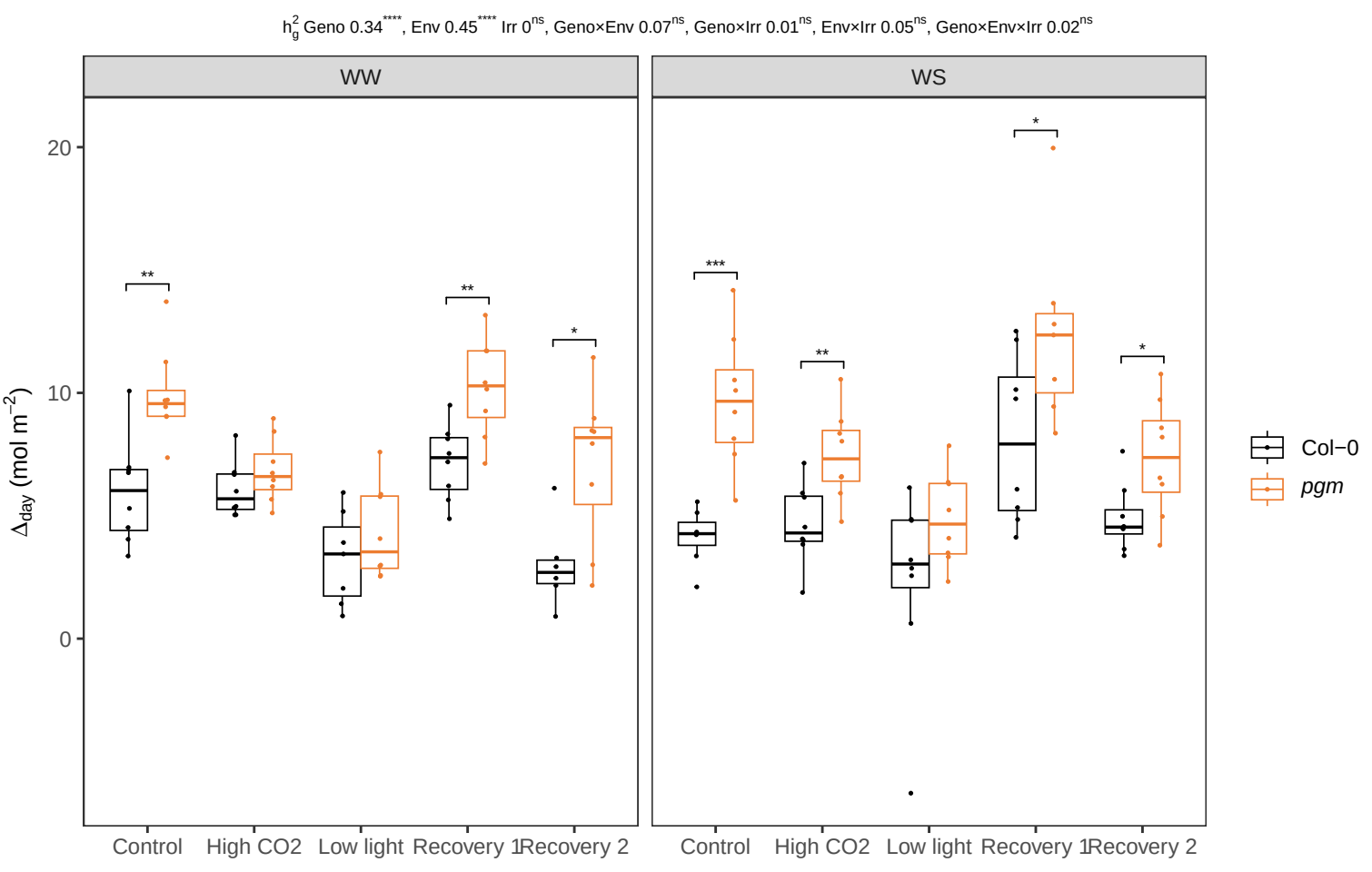

h_g^2 Geno 0.06**, Env 0.22**** Irr 0.07**, Geno×Env 0.16***, Geno×Irr 0.03*, Env×Irr 0.03^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
$A_{rapid\ op}$ (mmol m^{-2} s^{-1})
0.0
0.2
0.4
0.6
0.8
*
**
**
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

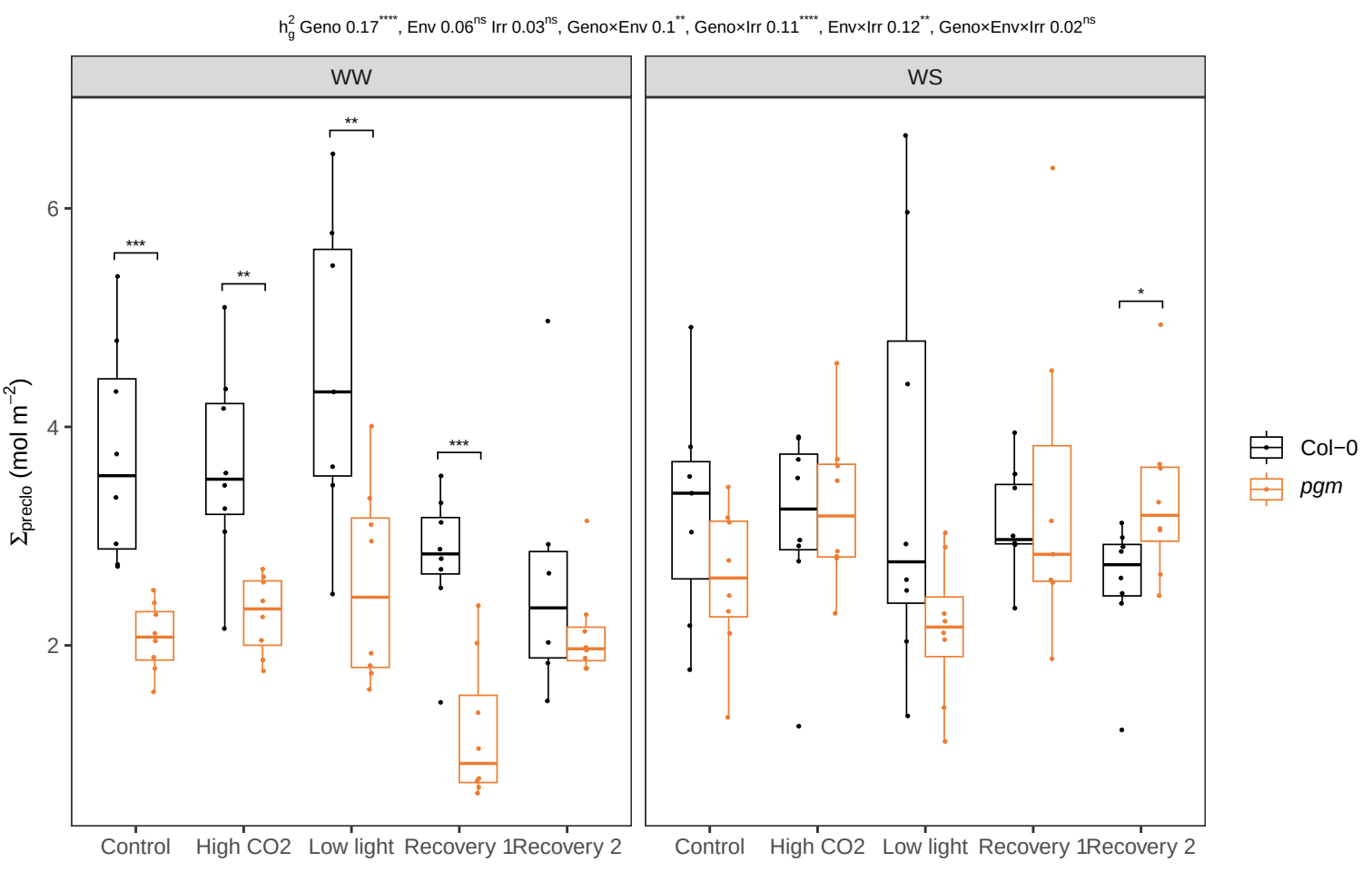

h^2_g Geno 0^{ns}, Env 0.52^{****} Irr 0.1^{***}, Geno×Env 0.04^{ns}, Geno×Irr 0^{ns}, Env×Irr 0.02^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
$A_{rapid\ clo}$ (mmol m^{-2} s^{-1})
0.8
0.6
0.4
0.2
*
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

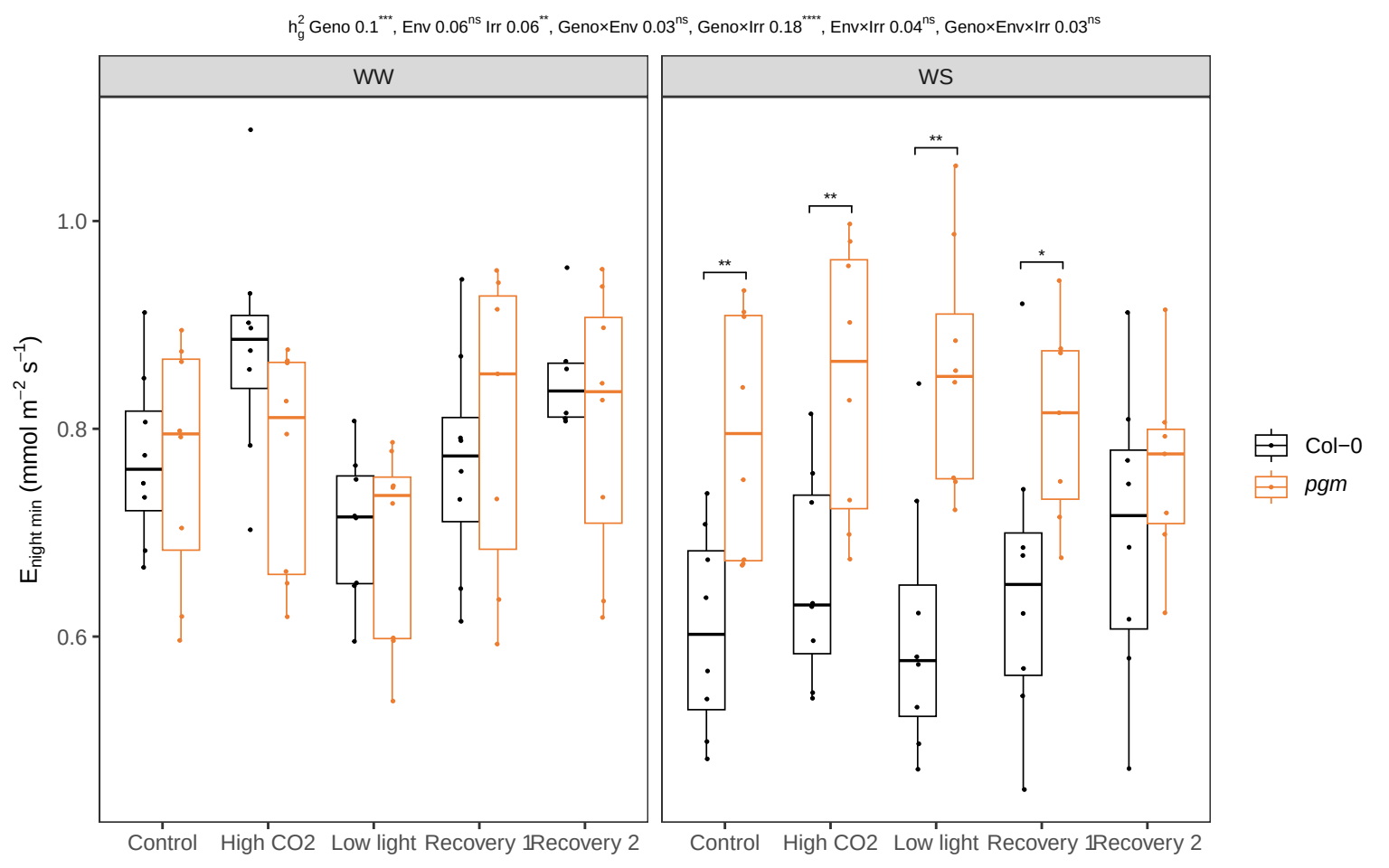

h^2_g Geno 0.12****, Env 0.35**** Irr 0.01^{ns}, Geno×Env 0^{ns}, Geno×Irr 0.15****, Env×Irr 0.03^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
$E_{day\ max}$ (mmol m^{-2} s^{-1})
2.0
1.6
1.2
*
**
**
*
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

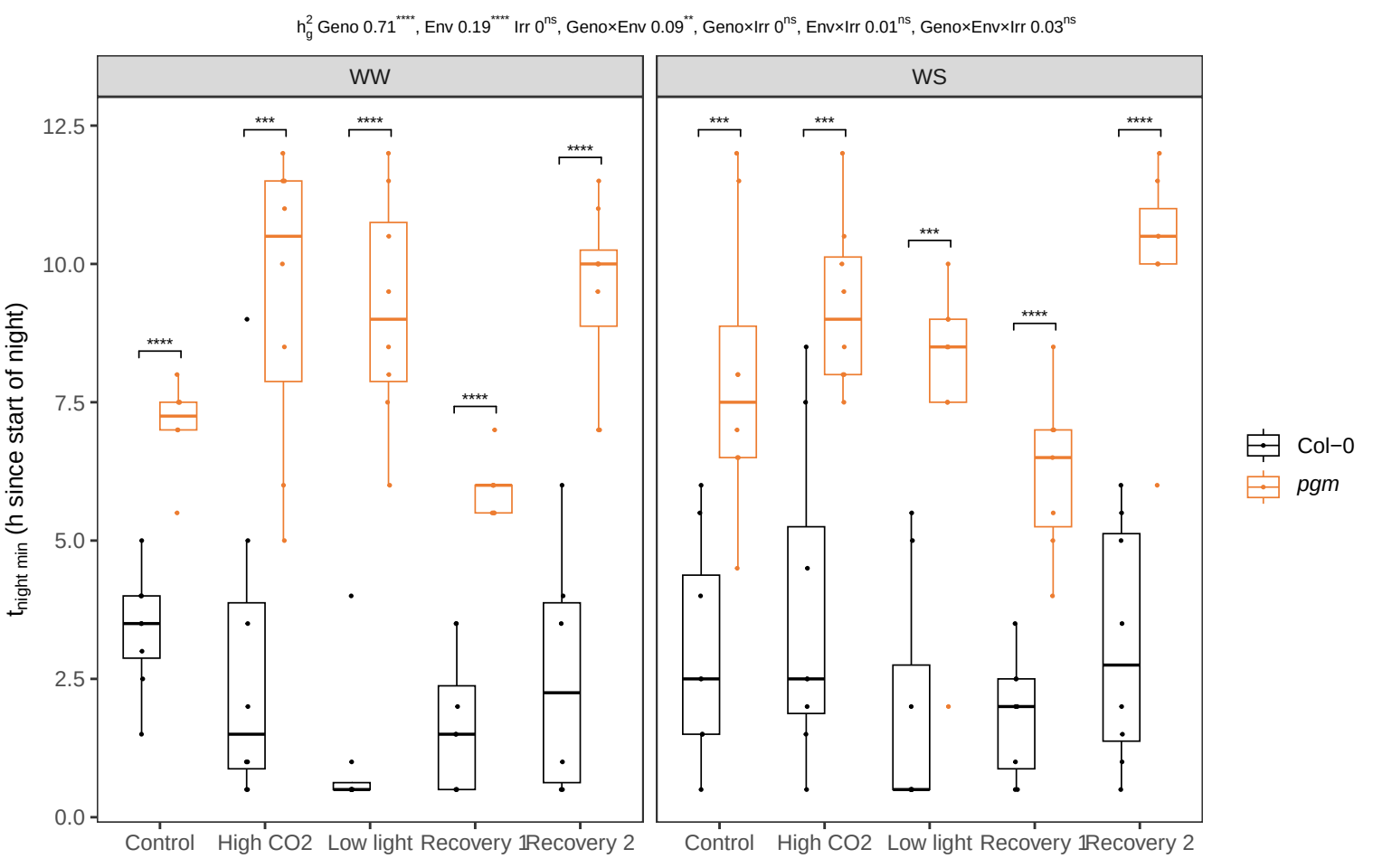

h^2_g Geno 0.42****, Env 0.3**** Irr 0.01^{ns}, Geno×Env 0.15***, Geno×Irr 0.04*, Env×Irr 0.14***, Geno×Env×Irr 0^{ns}
WW
WS
$t_{day\ max}$ (h since start of day)
8
6
4
2
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

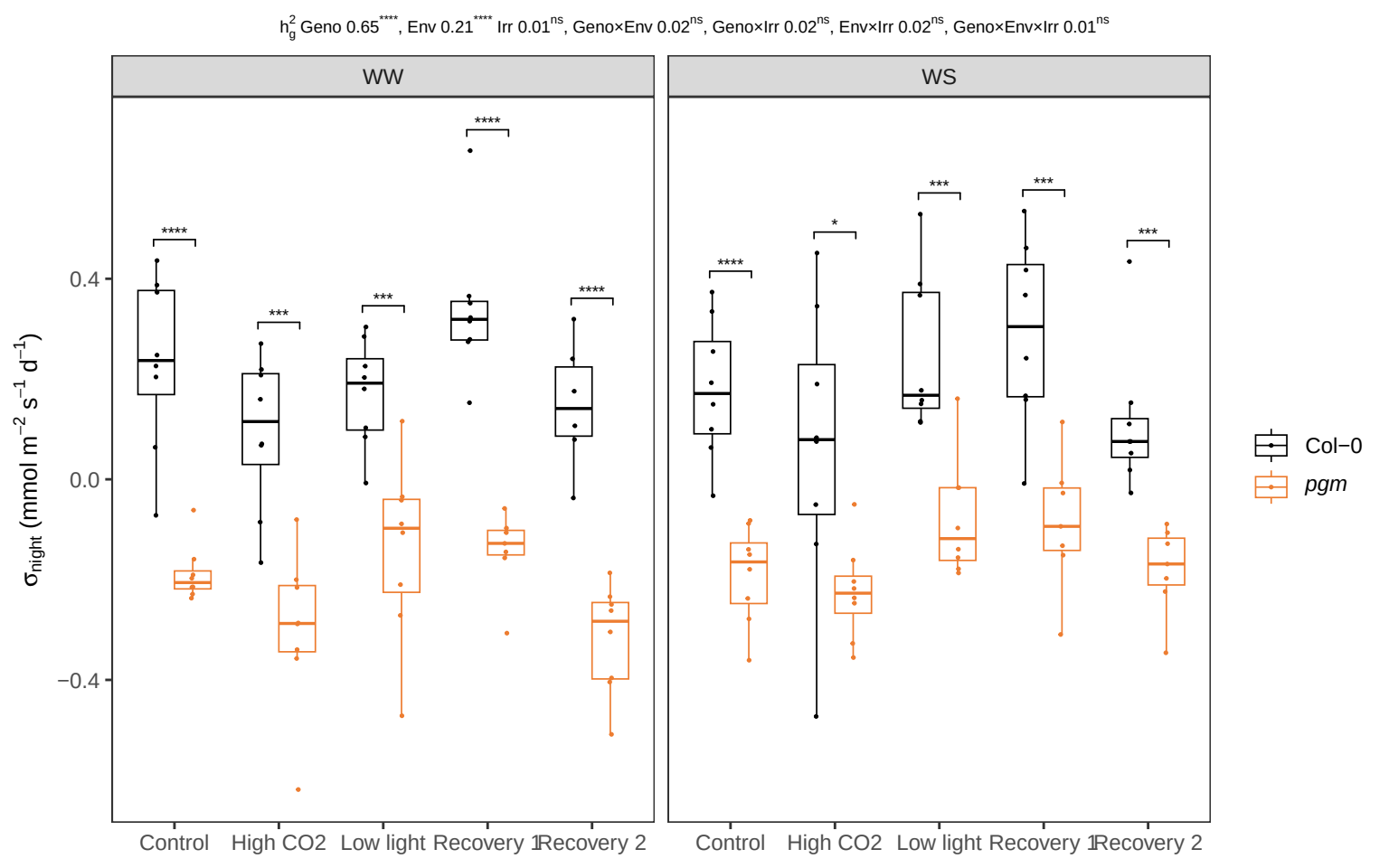

h^2_g Geno 0.47****, Env 0.39**** Irr 0^{ns}, Geno×Env 0.11**, Geno×Irr 0.06**, Env×Irr 0.12**, Geno×Env×Irr 0.02^{ns}
WW
WS
σ_{day} (mmol m^{-2} s^{-1} d^{-1})
1.0
0.5
0.0
−0.5
****
**
**
***
**
****
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

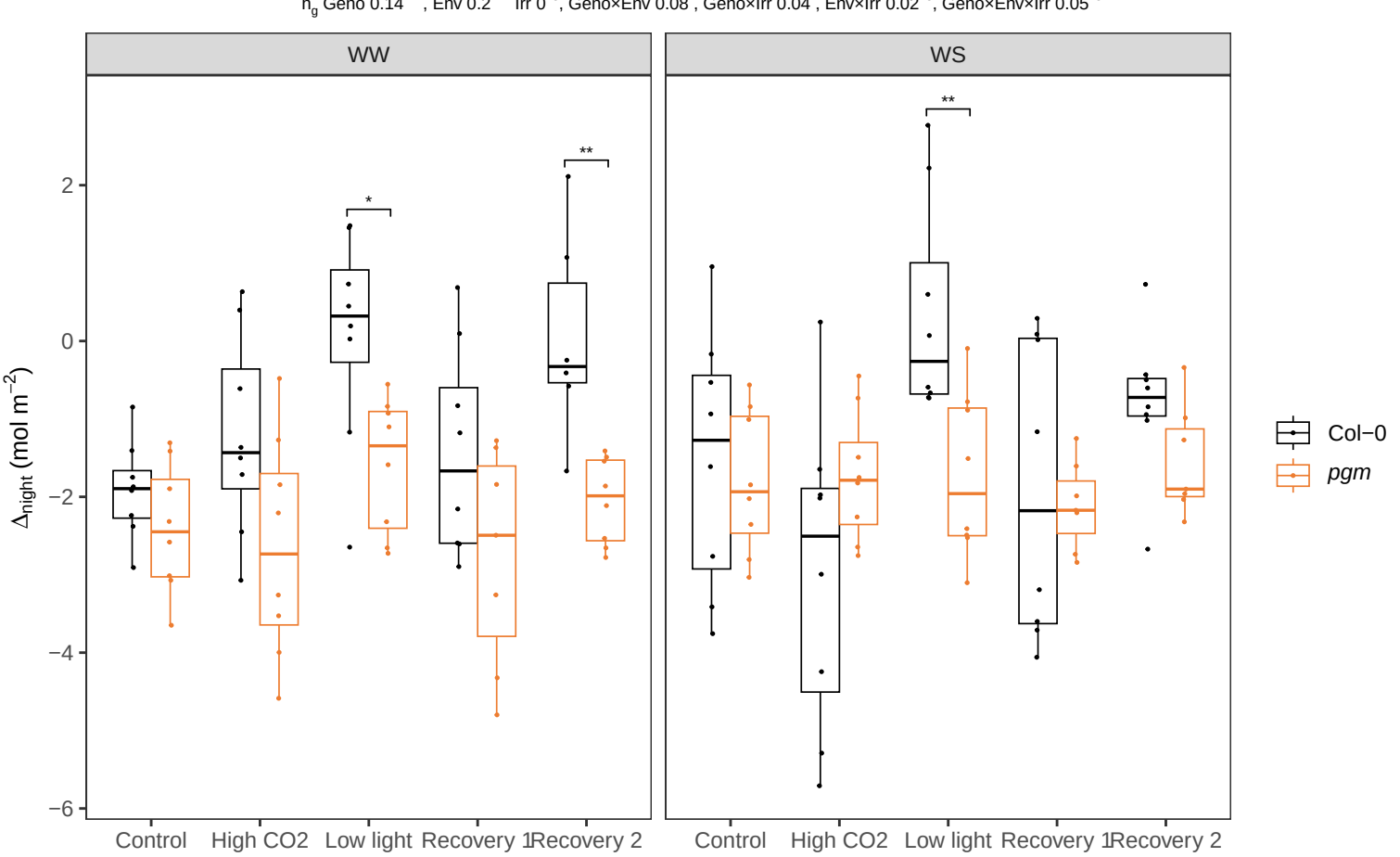

h^2_g Geno 0.34****, Env 0.45**** Irr 0^{ns}, Geno×Env 0.07^{ns}, Geno×Irr 0.01^{ns}, Env×Irr 0.05^{ns}, Geno×Env×Irr 0.02^{ns}
WW
WS
20
10
0
Δ_{day} (mol m^{-2})
**
**
*
***
**
*
*
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

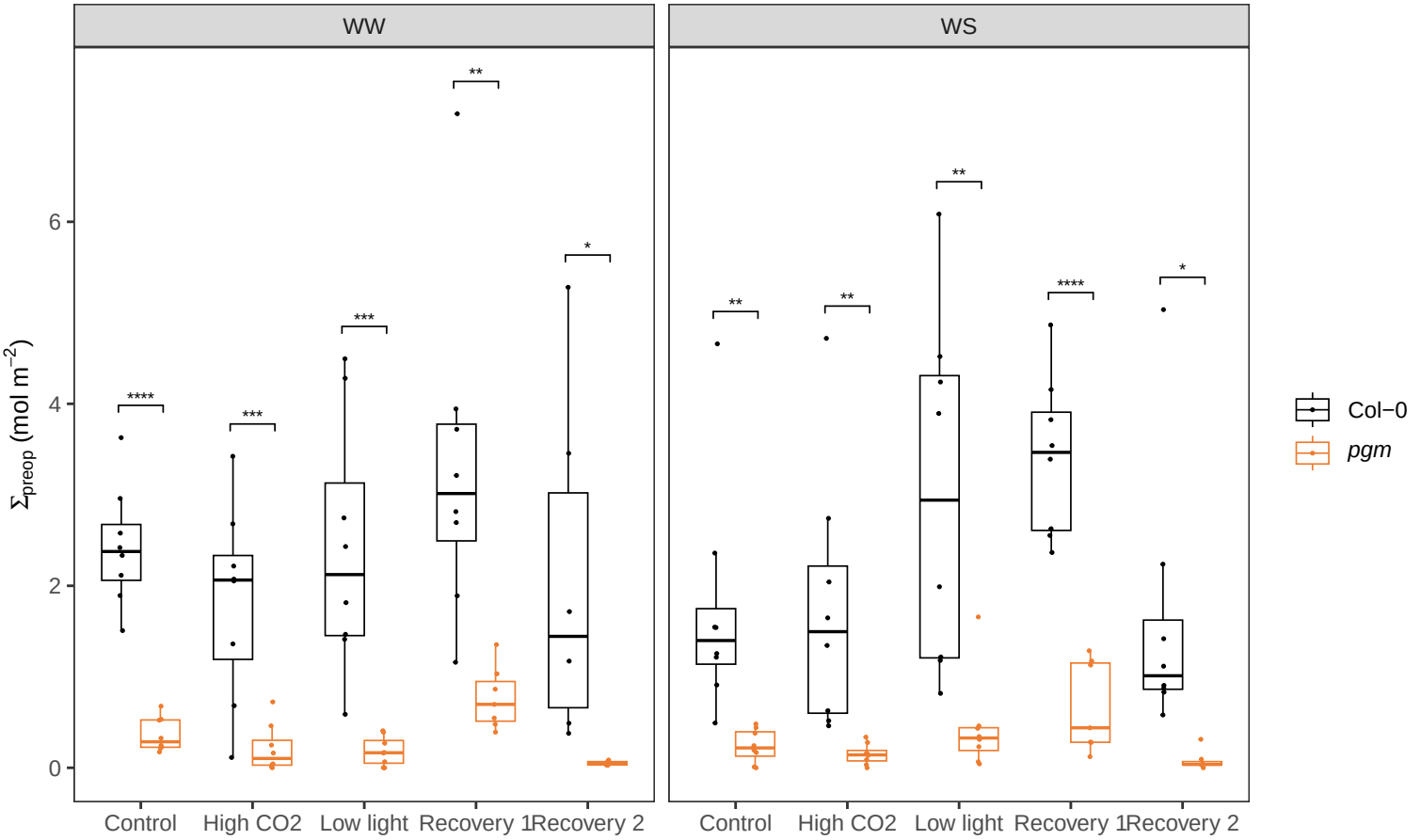

h^2_g Geno 0.17****, Env 0.06^{ns} Irr 0.03^{ns}, Geno×Env 0.1**, Geno×Irr 0.11****, Env×Irr 0.12**, Geno×Env×Irr 0.02^{ns}
WW
WS
Σ_{precio} (mol m^{-2})
6
4
2
***
**
**
***
*
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

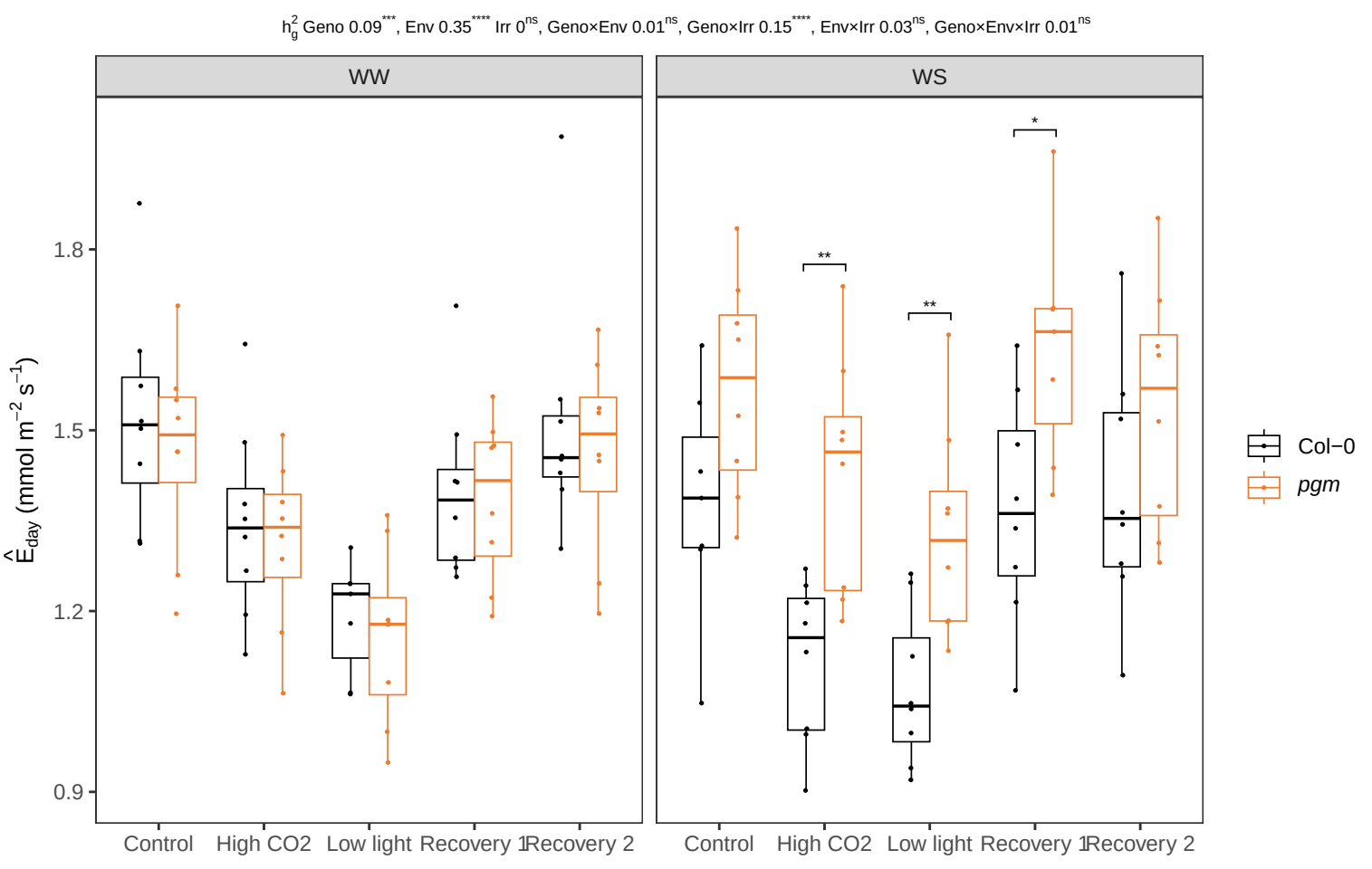

h^2_g Geno 0.1***, Env 0.06^{ns} Irr 0.06**, Geno×Env 0.03^{ns}, Geno×Irr 0.18****, Env×Irr 0.04^{ns}, Geno×Env×Irr 0.03^{ns}
WW
WS
$E_{night\ min}$ (mmol m^{-2} s^{-1})
1.0
0.8
0.6
Control
High CO2
Low light
Recovery 1
Recovery 2
**
**
**
*
Col−0
pgm

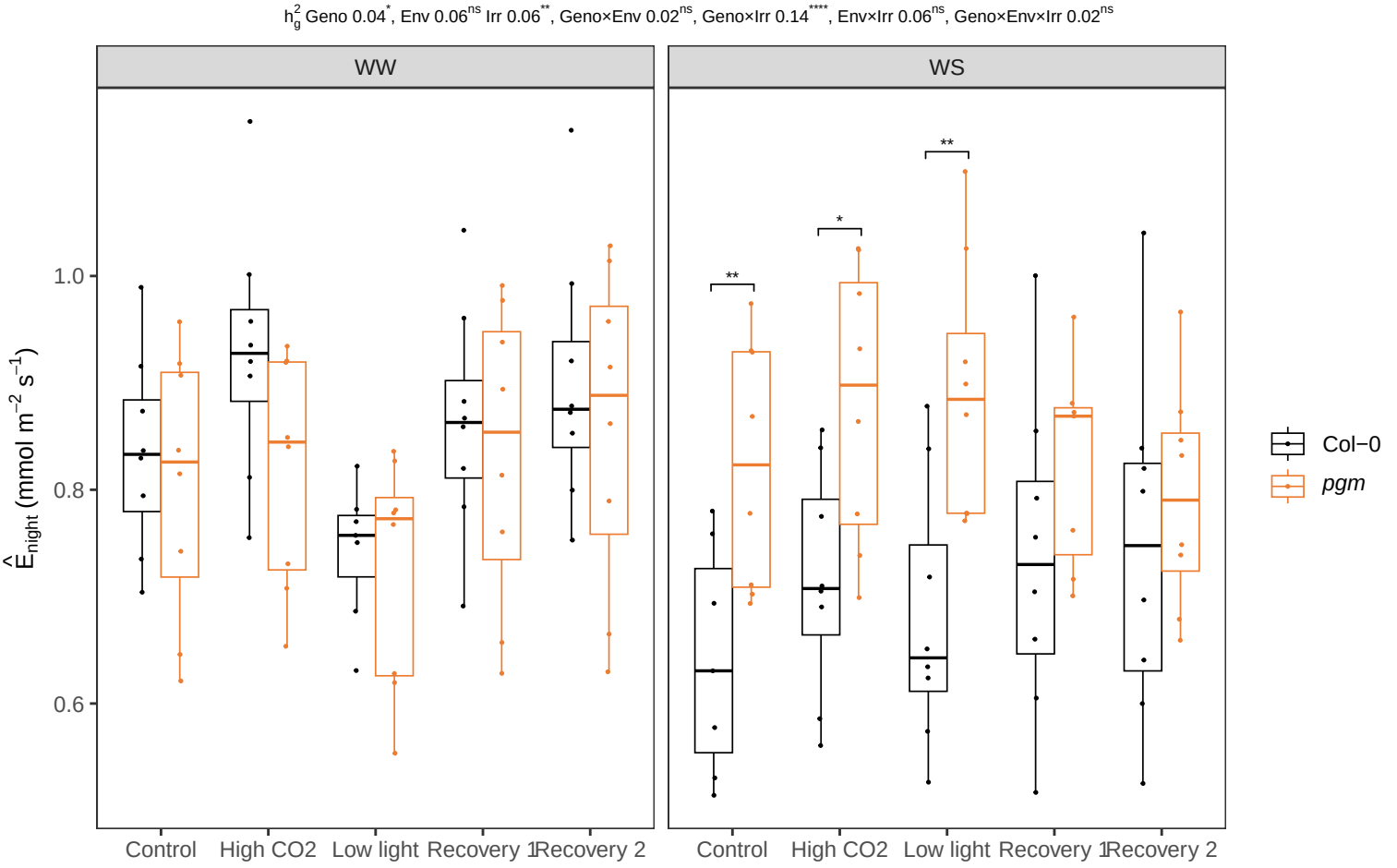

h^2_g Geno 0.71****, Env 0.19**** Irr 0^{ns}, Geno×Env 0.09**, Geno×Irr 0^{ns}, Env×Irr 0.01^{ns}, Geno×Env×Irr 0.03^{ns}
WW
WS
$t_{night\ min}$ (h since start of night)
12.5
10.0
7.5
5.0
2.5
0.0
***
****
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

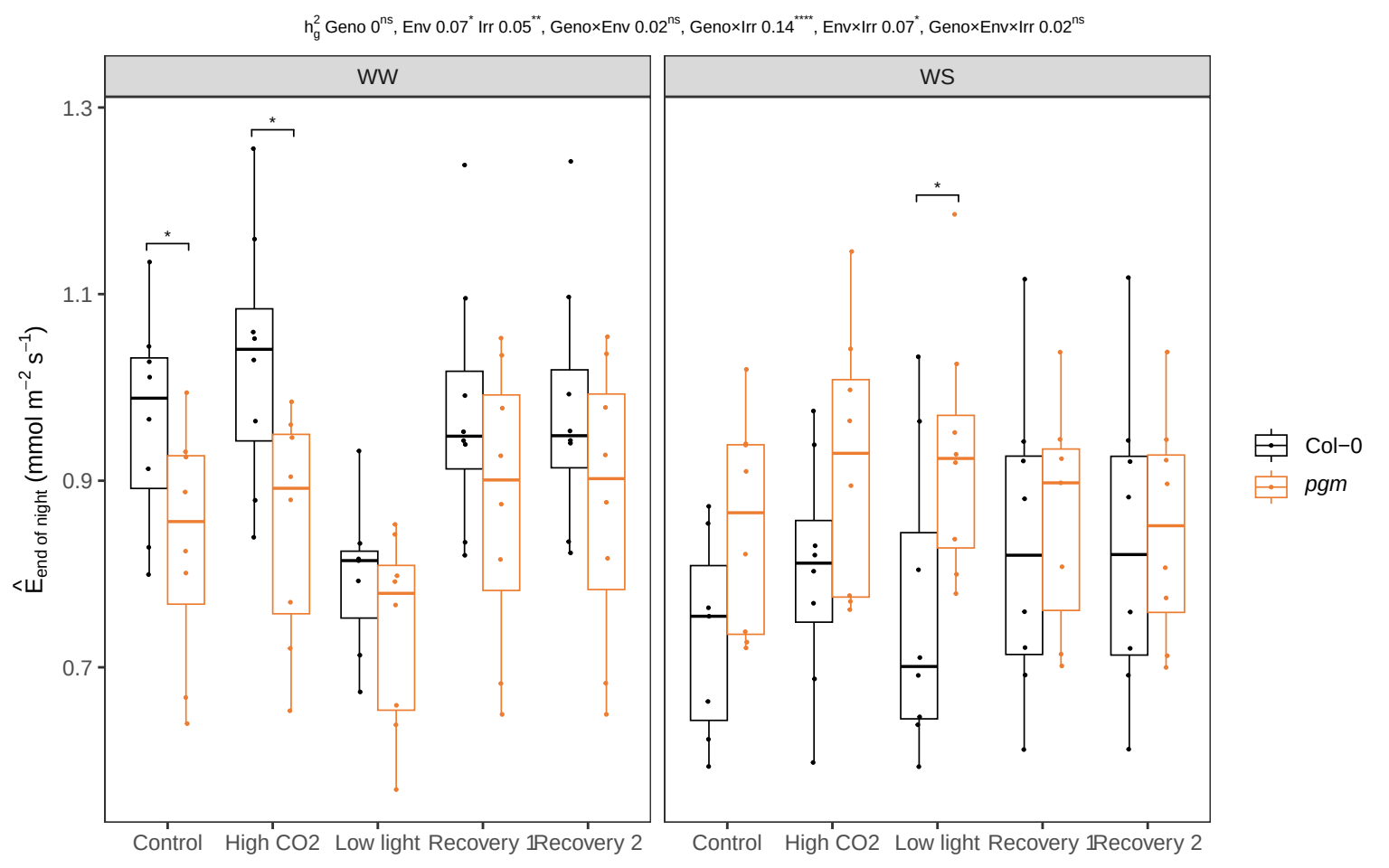

h^2_g Geno 0.65****, Env 0.21**** Irr 0.01^{ns}, Geno×Env 0.02^{ns}, Geno×Irr 0.02^{ns}, Env×Irr 0.02^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
σ_{night} (mmol m^{-2} s^{-1} d^{-1})
0.4
0.0
−0.4
****
***
***
****
****
*
***
***
***
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

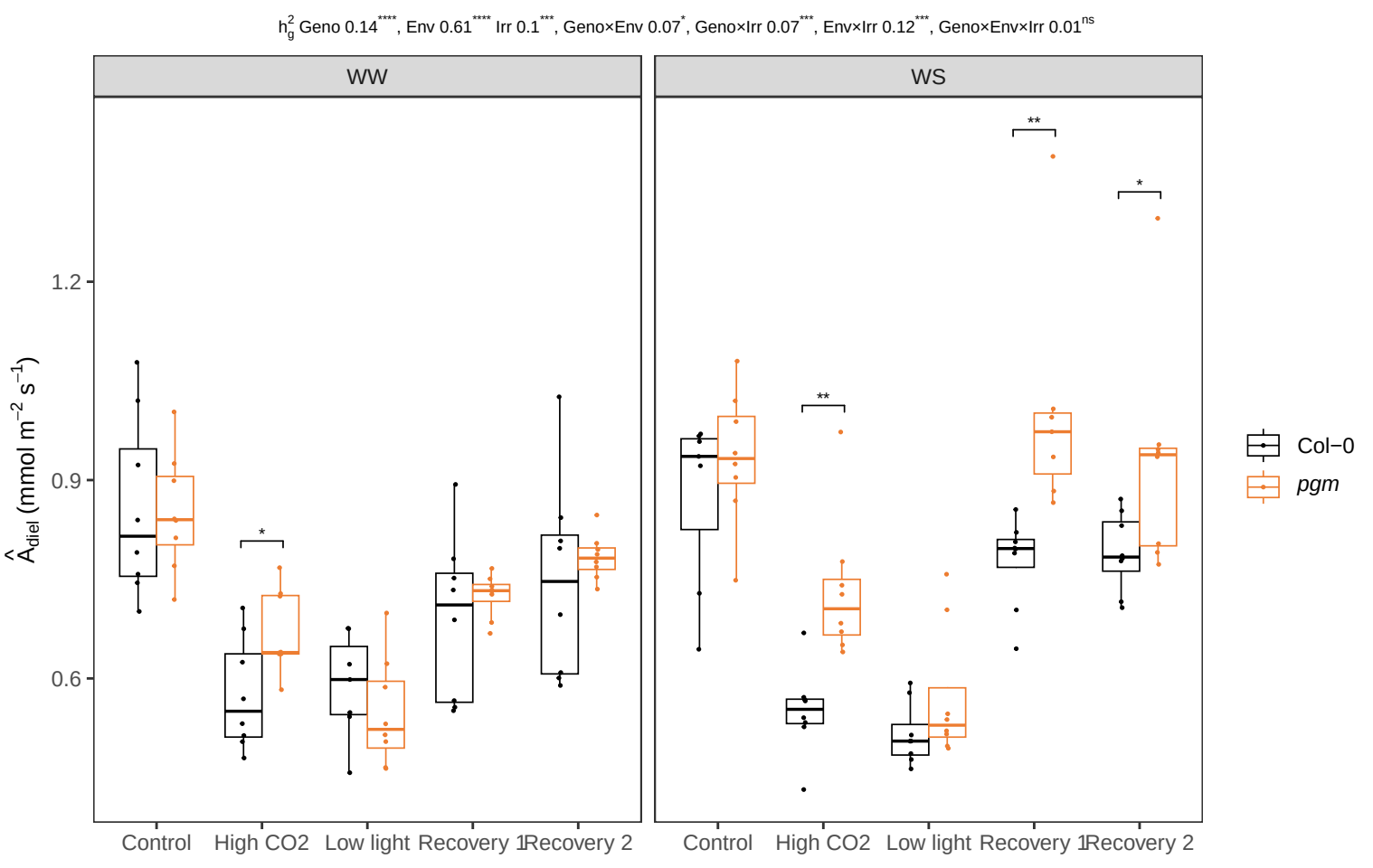

h^2_g Geno 0.14****, Env 0.2**** Irr 0^{ns}, Geno×Env 0.08*, Geno×Irr 0.04*, Env×Irr 0.02^{ns}, Geno×Env×Irr 0.05^{ns}
WW
WS
Δ_{night} (mol m^{-2})
2
0
−2
−4
−6
*
**
**
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

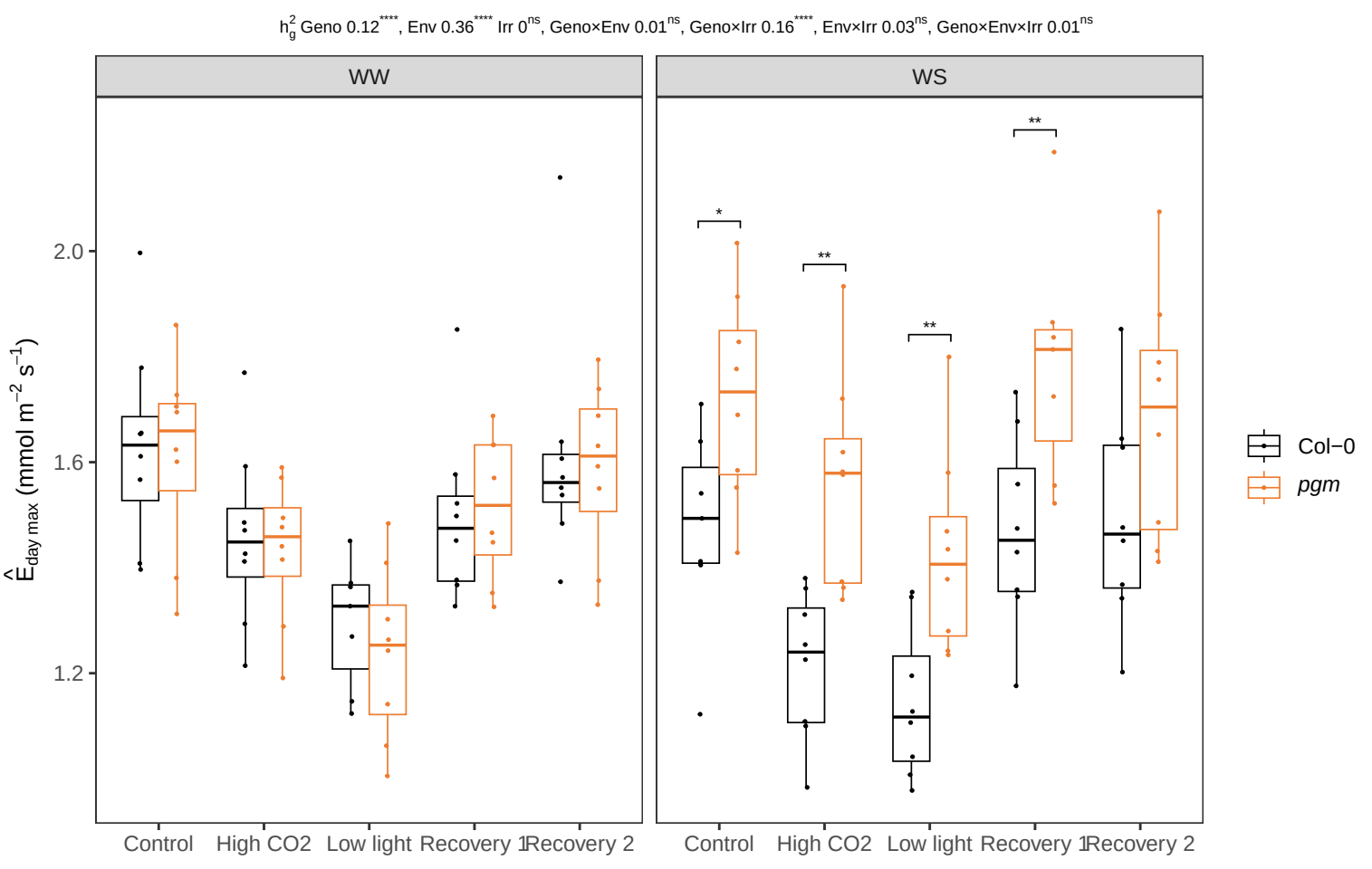

h^2_g Geno 0.53****, Env 0.14*** Irr 0^{ns}, Geno×Env 0.04^{ns}, Geno×Irr 0^{ns}, Env×Irr 0.02^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
Σ_{preop} (mol m^{-2})
0
2
4
6
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

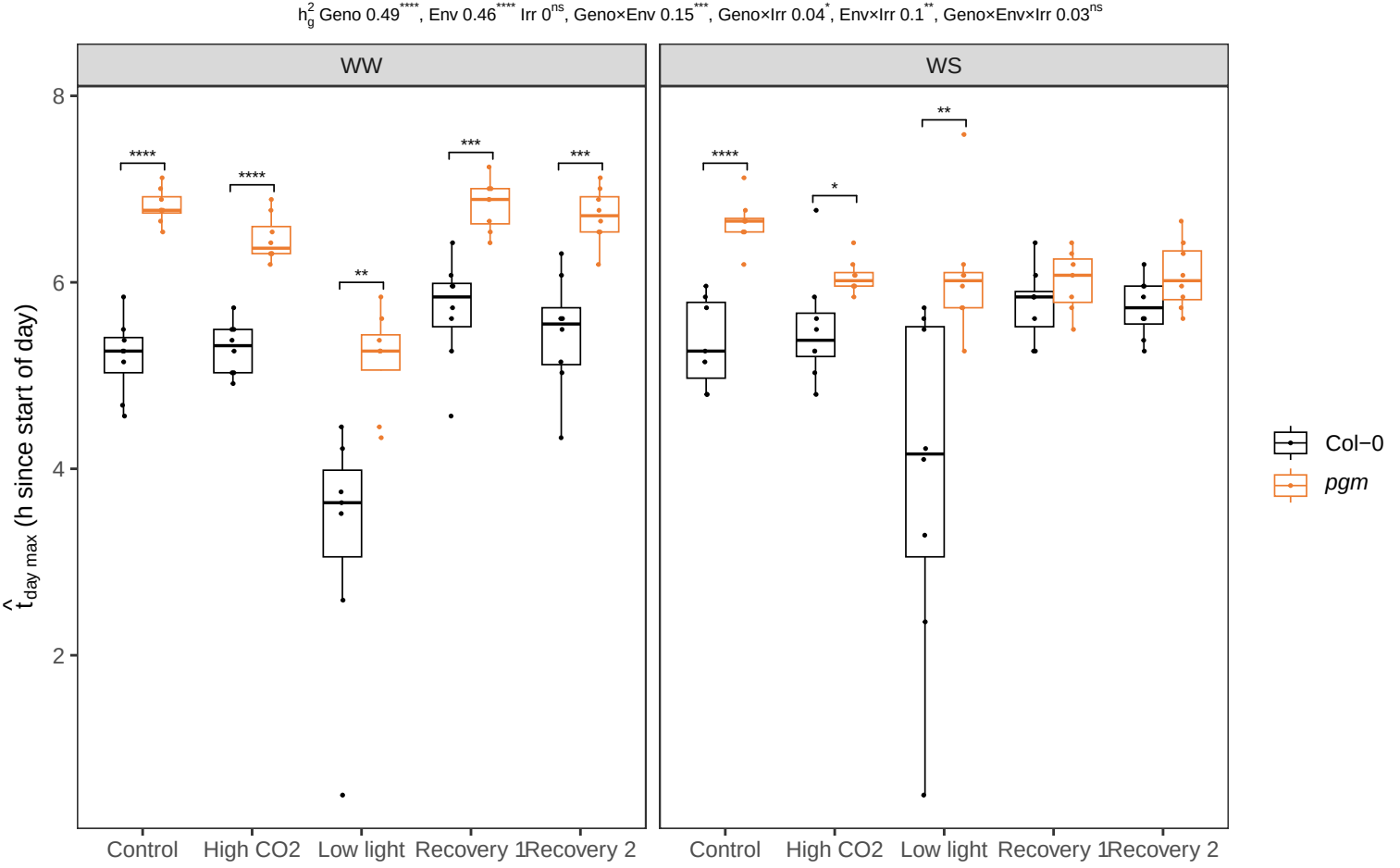

h_g^2 Geno 0.09***, Env 0.35**** Irr 0^{ns}, Geno×Env 0.01^{ns}, Geno×Irr 0.15****, Env×Irr 0.03^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
$\hat{E}_{day}$ (mmol m^{-2} s^{-1})
1.8
1.5
1.2
0.9
**
**
*
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

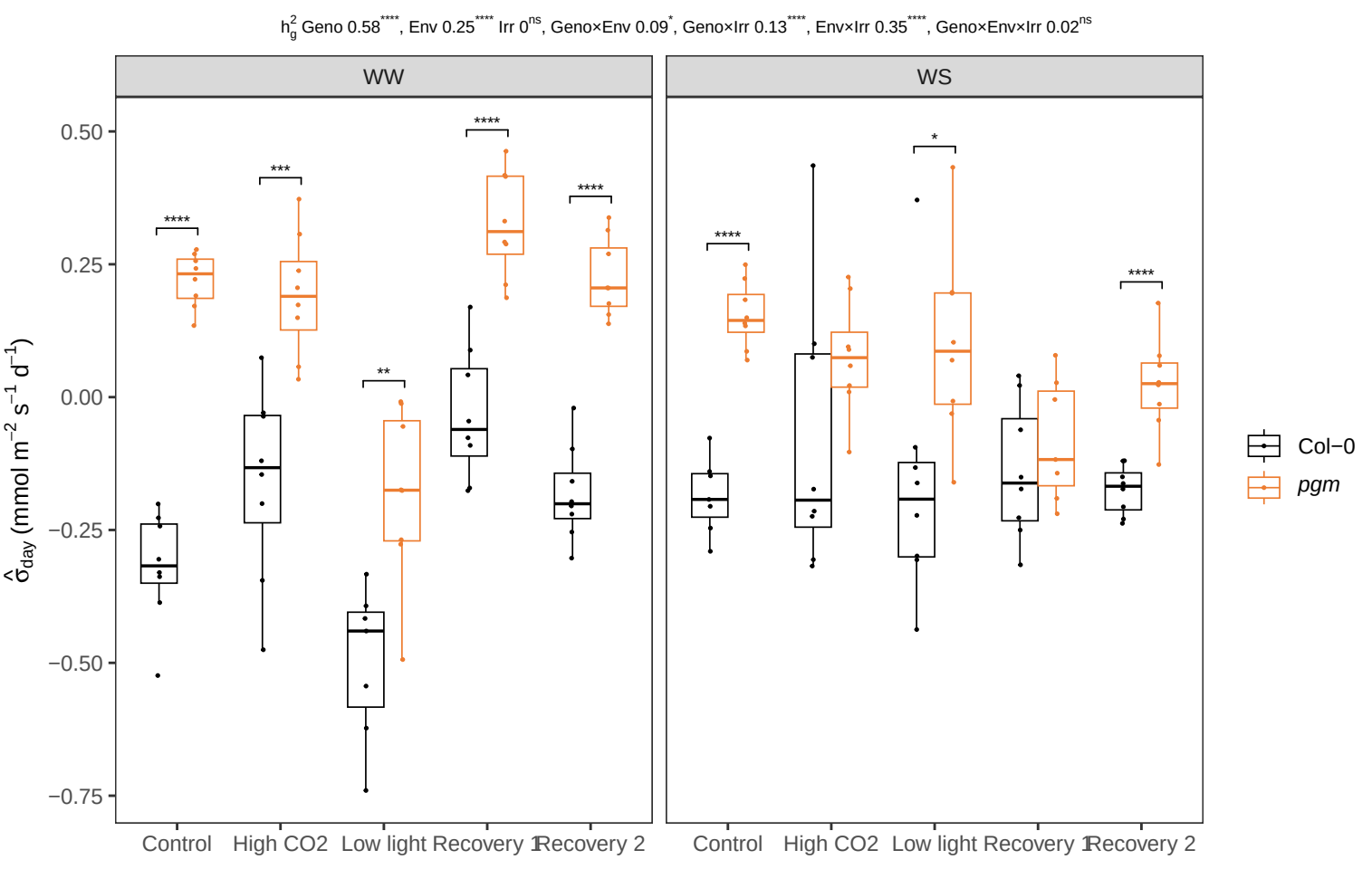

h^2_g Geno 0.04*, Env 0.06ns Irr 0.06**, Geno×Env 0.02ns, Geno×Irr 0.14****, Env×Irr 0.06ns, Geno×Env×Irr 0.02ns
WW
WS
$\hat{E}_{night}$ (mmol m^{-2} s^{-1})
1.0
0.8
0.6
**
*
**
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

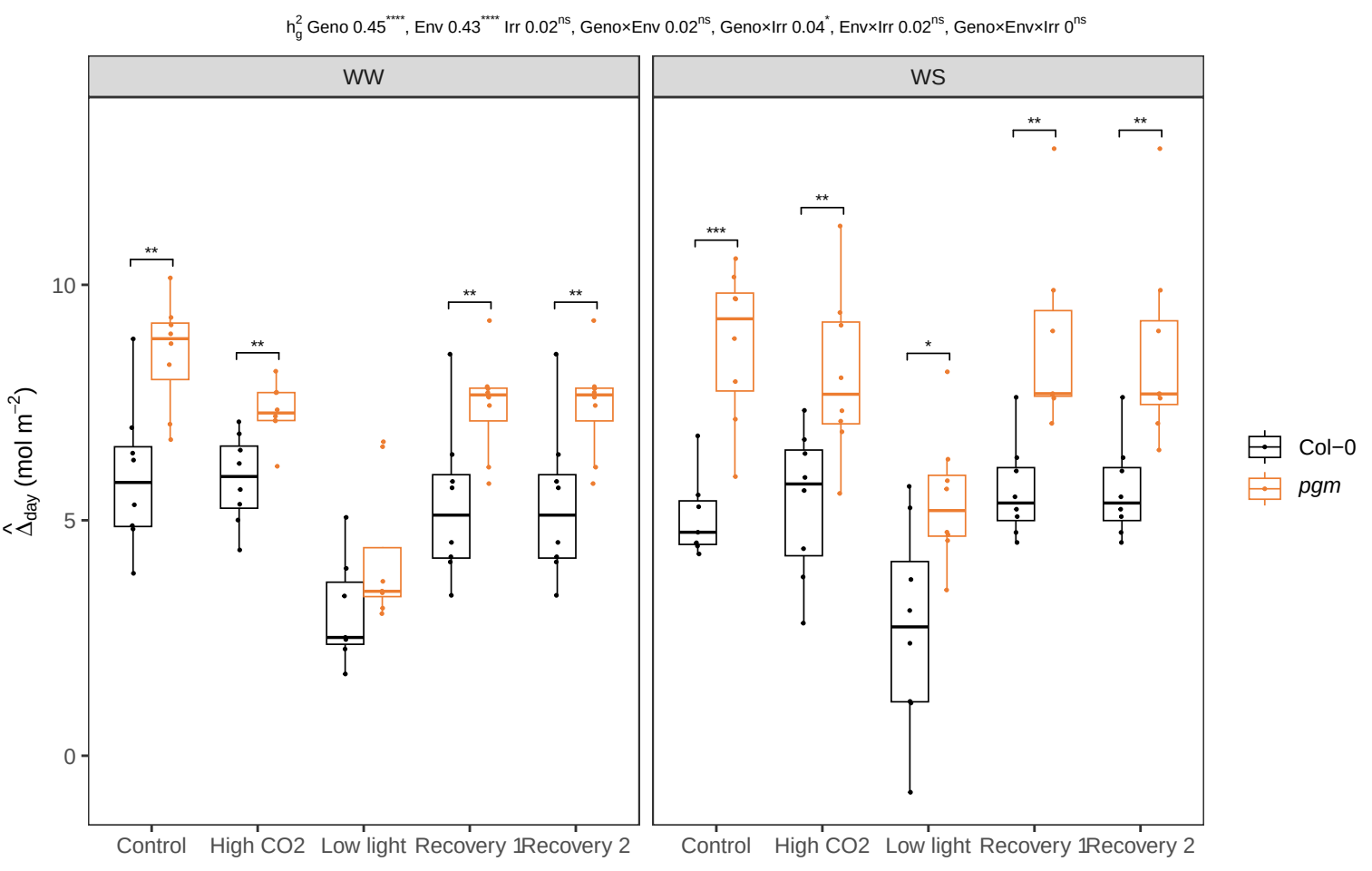

h^2_g Geno 0^{ns}, Env 0.07^{*} Irr 0.05^{**}, Geno×Env 0.02^{ns}, Geno×Irr 0.14^{****}, Env×Irr 0.07^{*}, Geno×Env×Irr 0.02^{ns}
WW
WS
1.3
1.1
0.9
0.7
$\hat{E}_{\text{end of night}}$ (mmol m^{-2} s^{-1})
*
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

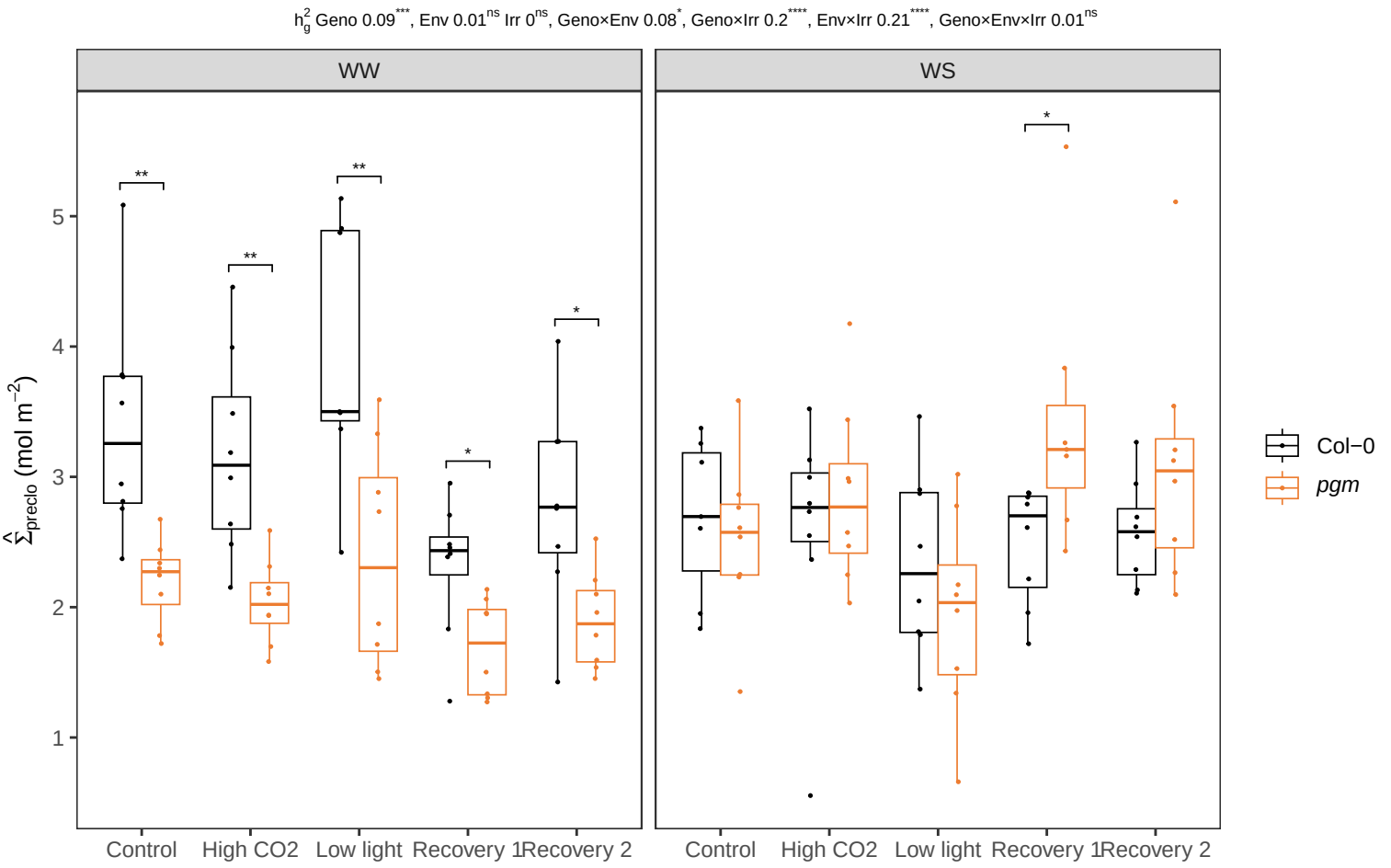

h^2_g Geno 0.14****, Env 0.61**** Irr 0.1***, Geno×Env 0.07*, Geno×Irr 0.07***, Env×Irr 0.12***, Geno×Env×Irr 0.01^{ns}
WW
WS
$\hat{A}_{diel}$ (mmol m^{-2} s^{-1})
1.2
0.9
0.6
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm
*
**
**
*

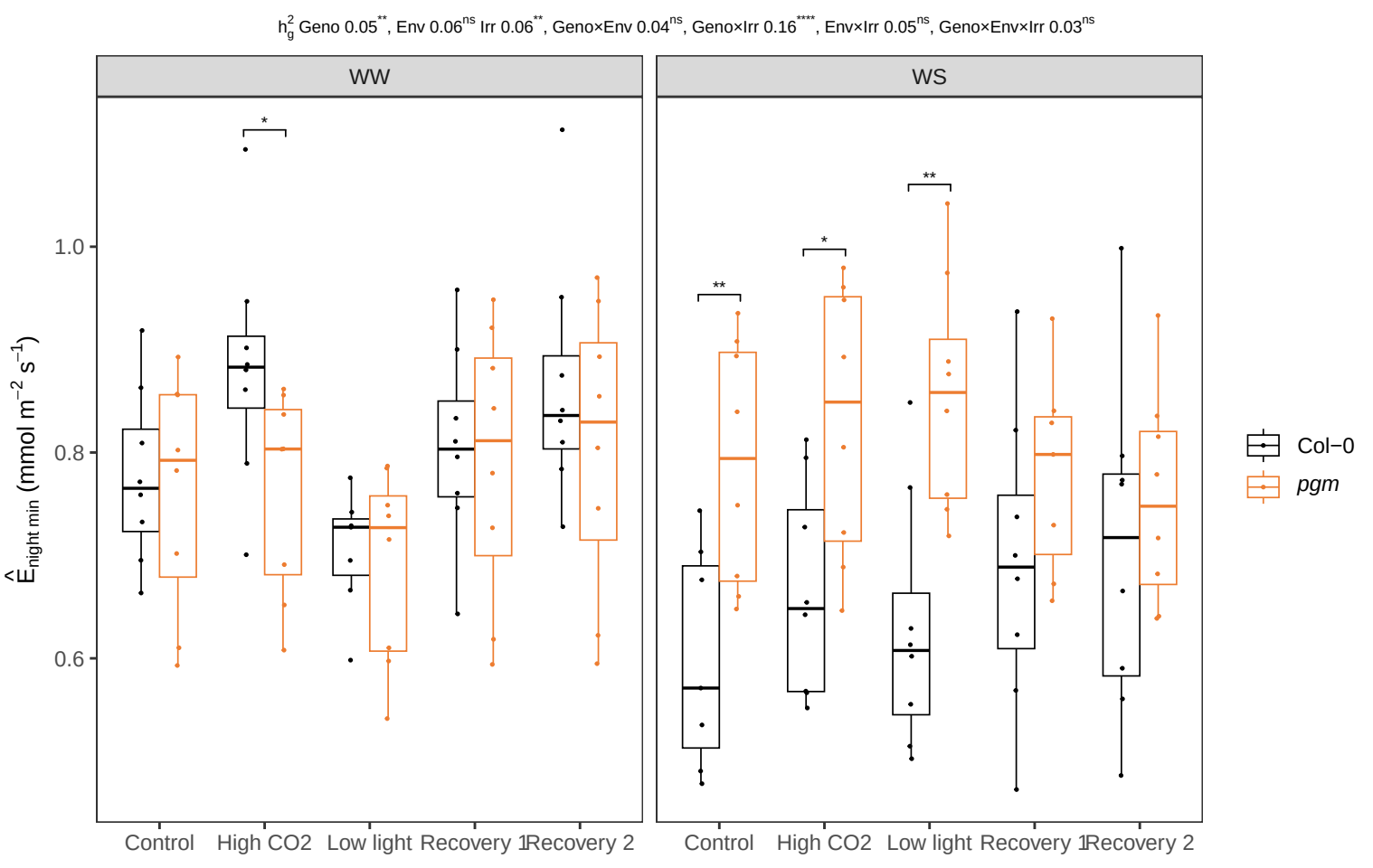

h^2_g Geno 0.12****, Env 0.36**** Irr 0^{ns}, Geno×Env 0.01^{ns}, Geno×Irr 0.16****, Env×Irr 0.03^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
$\hat{E}_{day\ max}$ (mmol m^{-2} s^{-1})
2.0
1.6
1.2
*
**
**
**
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

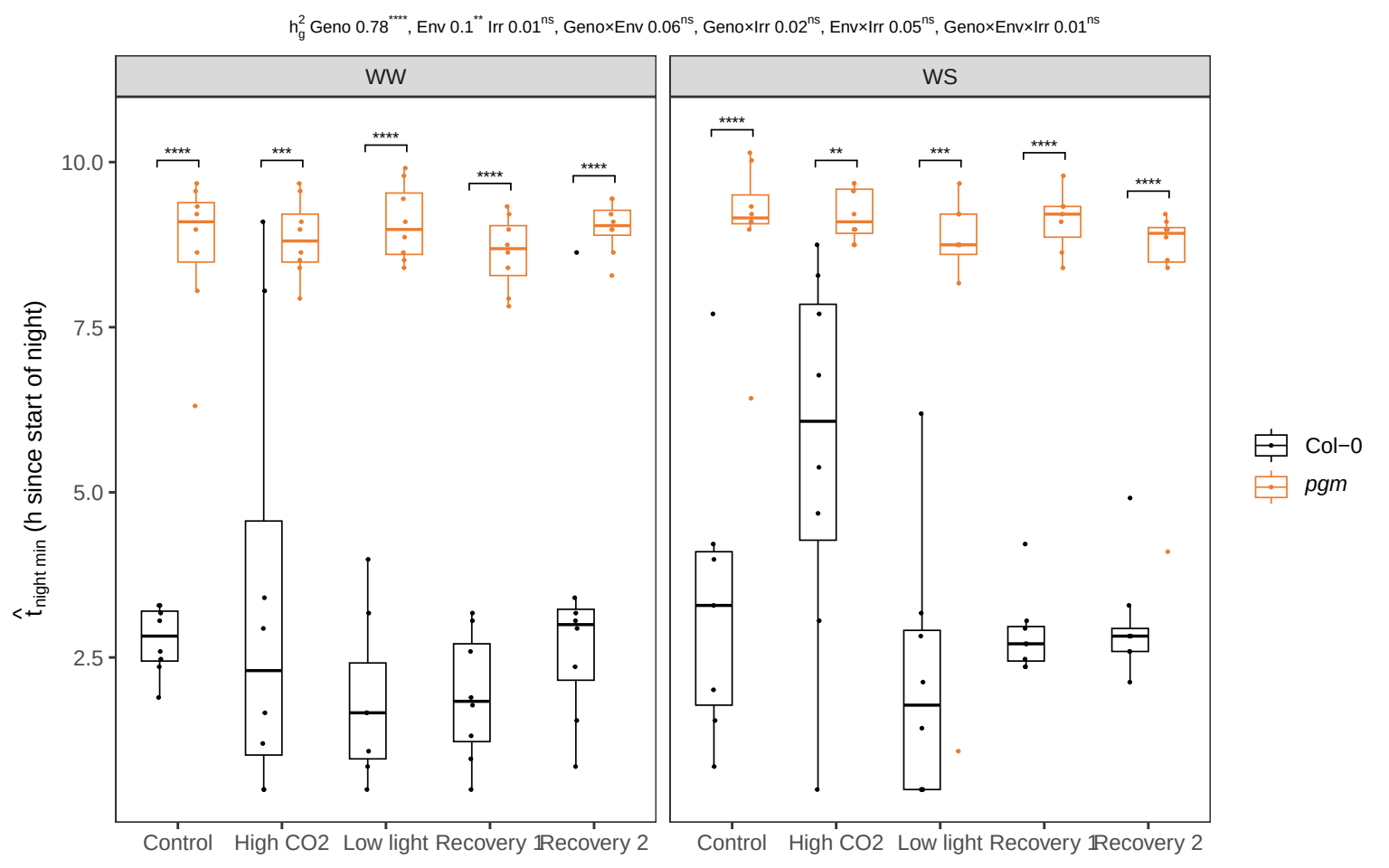

h^2_g Geno 0.49****, Env 0.46**** Irr 0^{ns}, Geno×Env 0.15***, Geno×Irr 0.04*, Env×Irr 0.1**, Geno×Env×Irr 0.03^{ns}
WW
WS
$\hat{t}_{day\ max}$ (h since start of day)
8
6
4
2
****
****
**
***
***
****
*
**
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

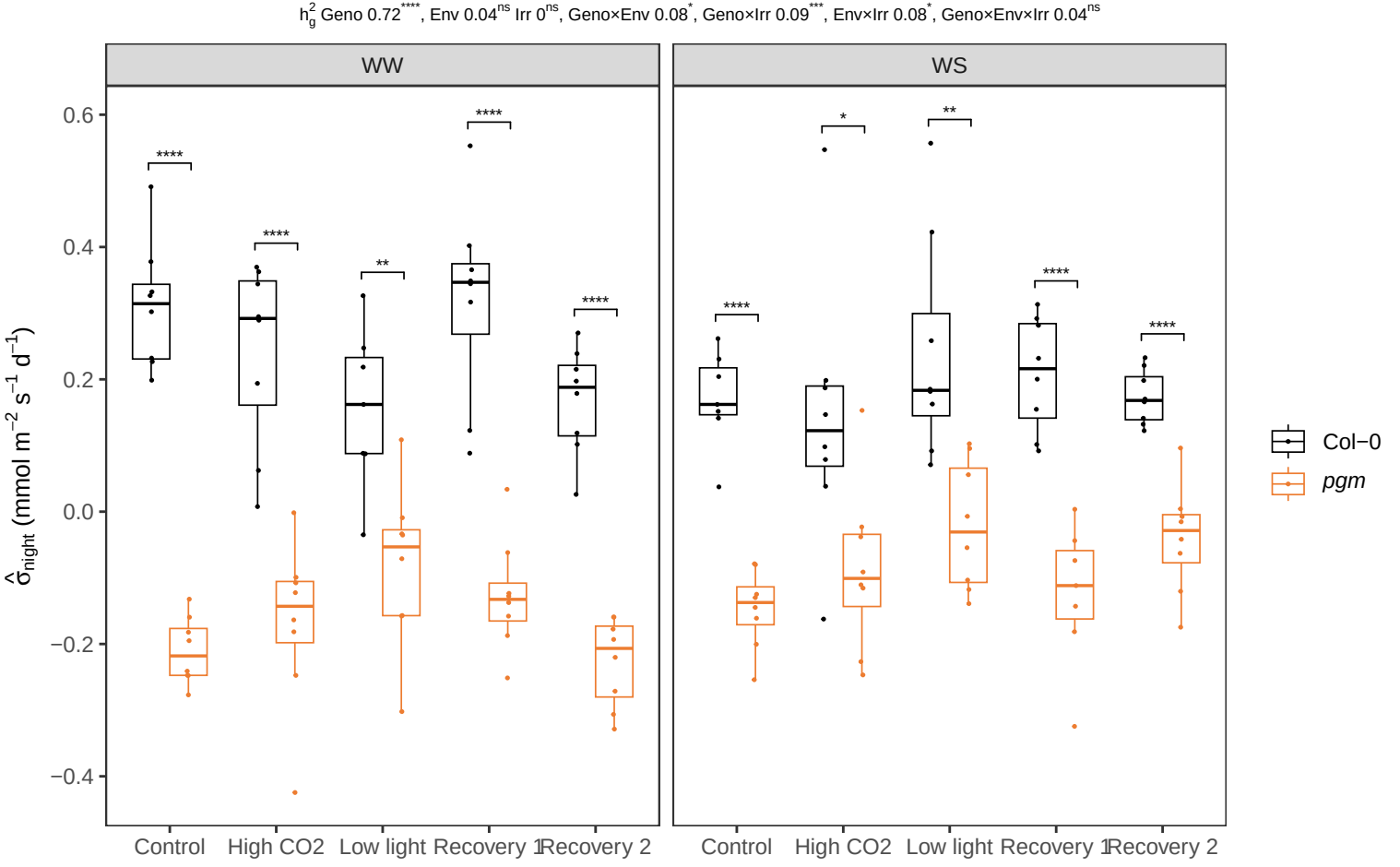

h_g^2 Geno 0.58****, Env 0.25**** Irr 0^{ns}, Geno×Env 0.09*, Geno×Irr 0.13****, Env×Irr 0.35****, Geno×Env×Irr 0.02^{ns}
WW
WS
$\hat{\sigma}_{day}$ (mmol m^{-2} s^{-1} d^{-1})
0.50
0.25
0.00
−0.25
−0.50
−0.75
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

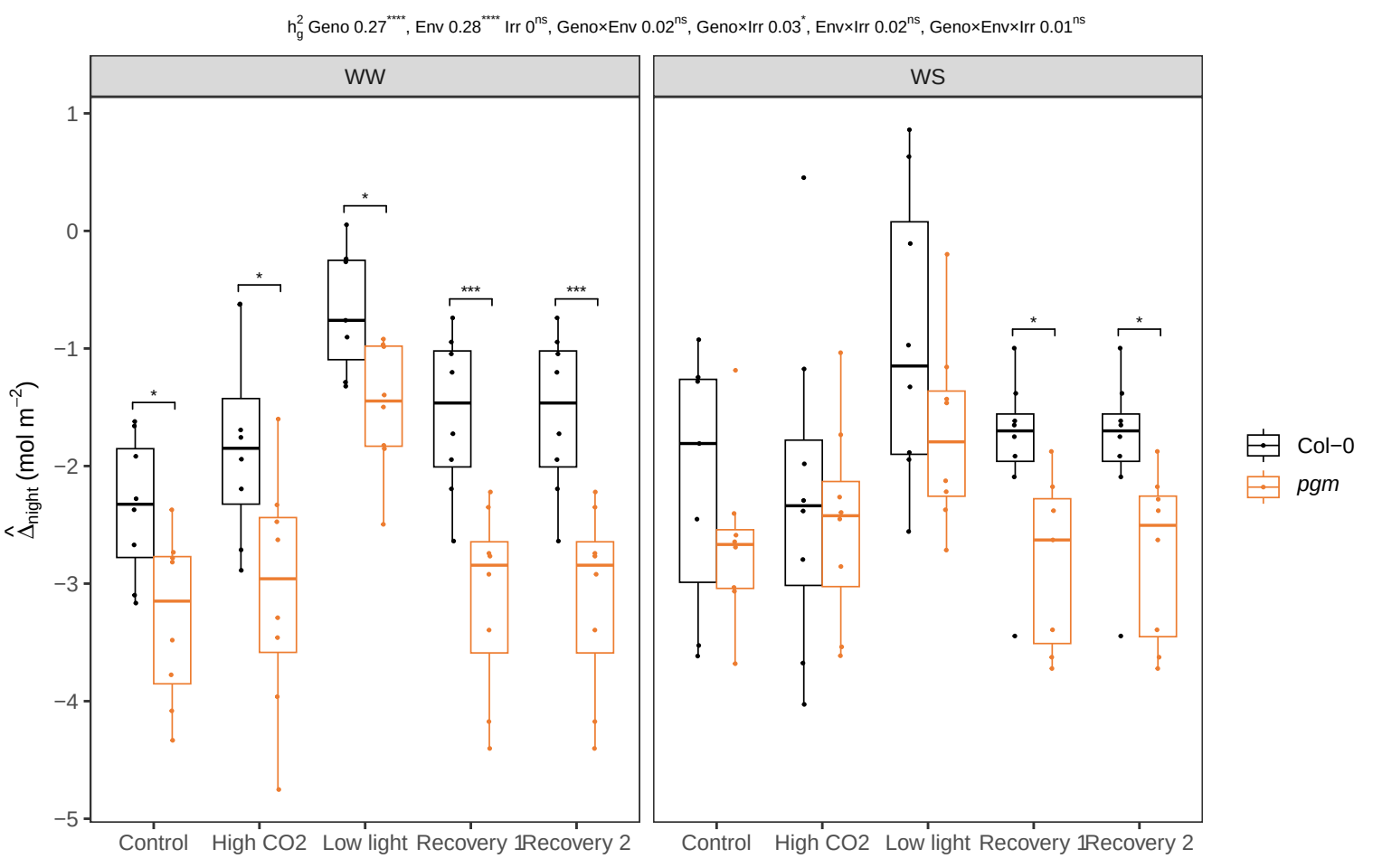

h^2_g Geno 0.45****, Env 0.43**** Irr 0.02^{ns}, Geno×Env 0.02^{ns}, Geno×Irr 0.04*, Env×Irr 0.02^{ns}, Geno×Env×Irr 0^{ns}
WW
WS
$\hat{\Delta}_{day}$ (mol m^{-2})
10
5
0
**
**
**
**
***
**
*
**
**
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

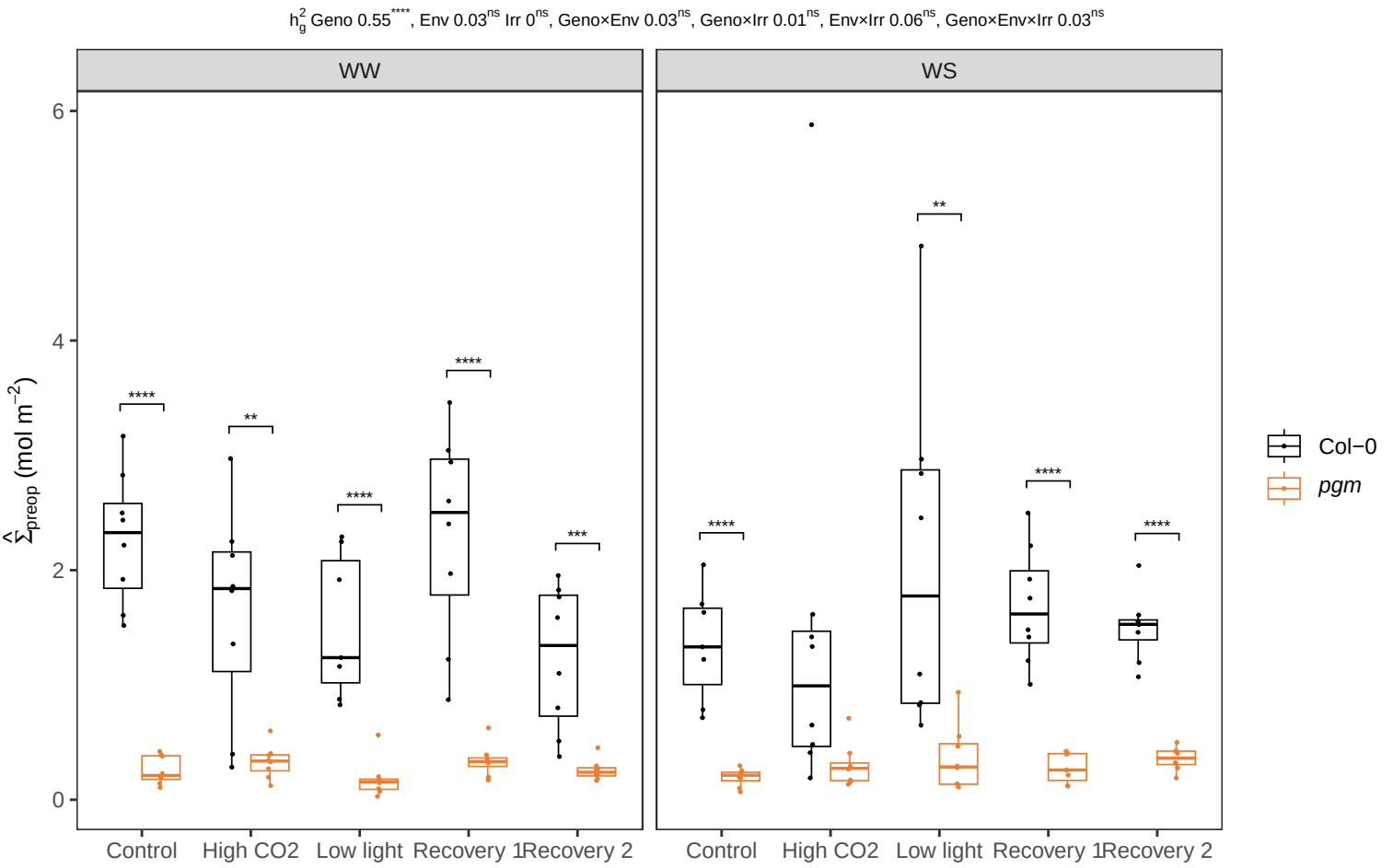

h_g^2 Geno 0.09***, Env 0.01^{ns} Irr 0^{ns}, Geno×Env 0.08*, Geno×Irr 0.2****, Env×Irr 0.21****, Geno×Env×Irr 0.01^{ns}
WW
WS
$\hat{\Sigma}_{precio}$ (mol m^{-2})
1
2
3
4
5
**
**
**
*
*
*
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

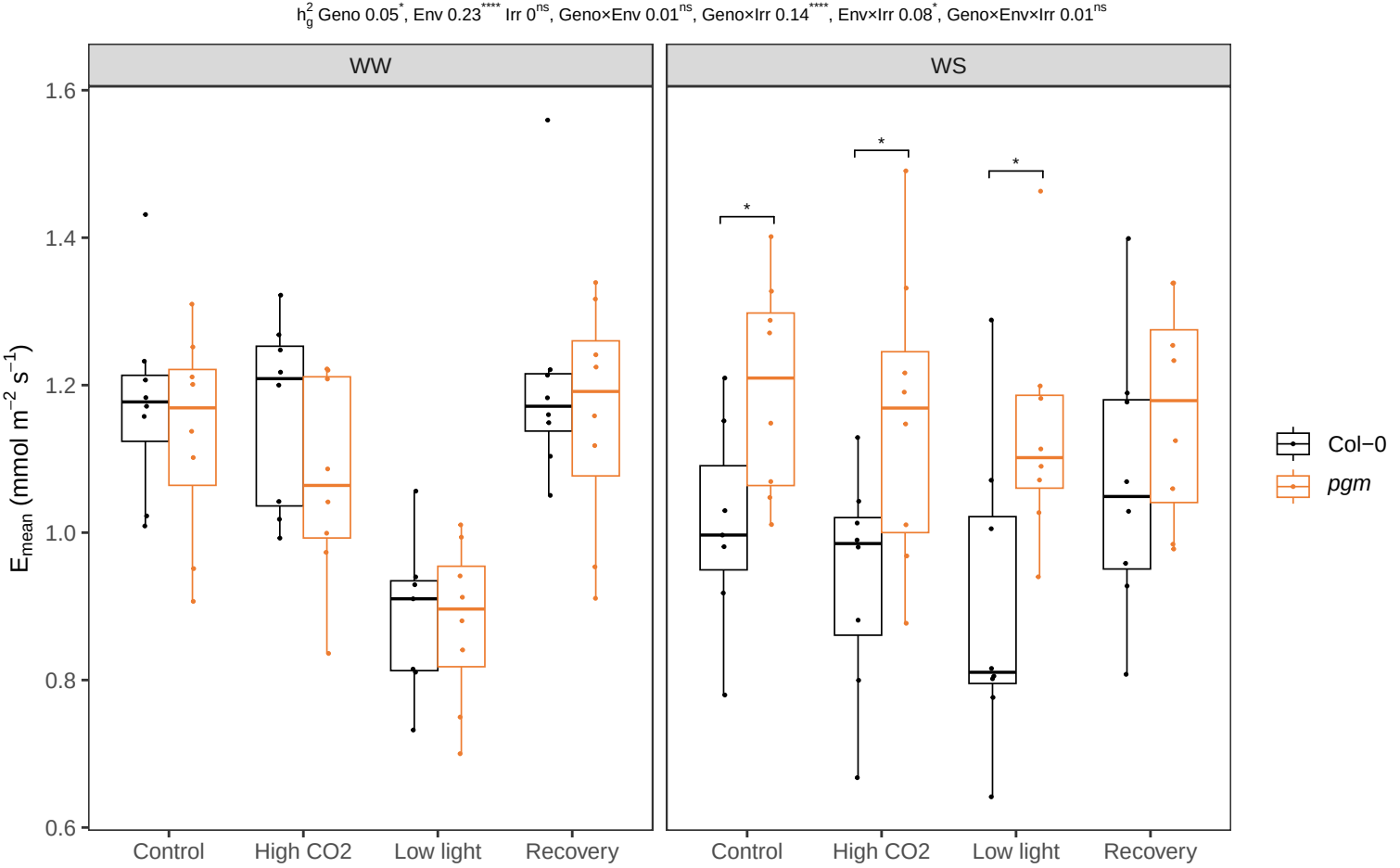

h^2_g Geno 0.05**, Env 0.06ns Irr 0.06**, Geno×Env 0.04ns, Geno×Irr 0.16****, Env×Irr 0.05ns, Geno×Env×Irr 0.03ns
WW
WS
$\hat{E}_{night\ min}$ (mmol m^{-2} s^{-1})
1.0
0.8
0.6
*
**
*
**
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

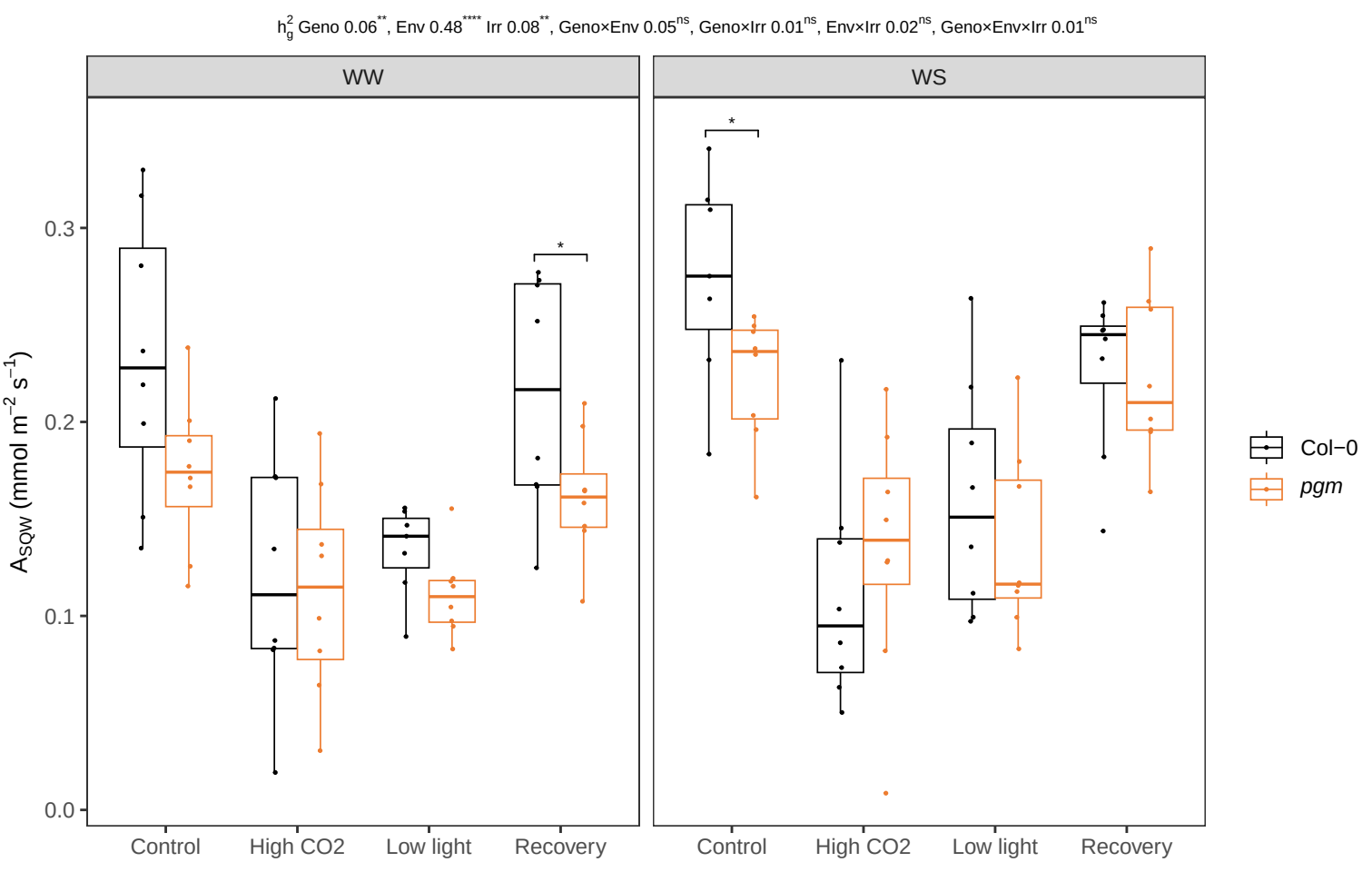

h_g^2 Geno 0.78****, Env 0.1** Irr 0.01^{ns}, Geno×Env 0.06^{ns}, Geno×Irr 0.02^{ns}, Env×Irr 0.05^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
$\hat{t}_{night\ min}$ (h since start of night)
10.0
7.5
5.0
2.5
****
***
****
****
****
****
**
***
****
****
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

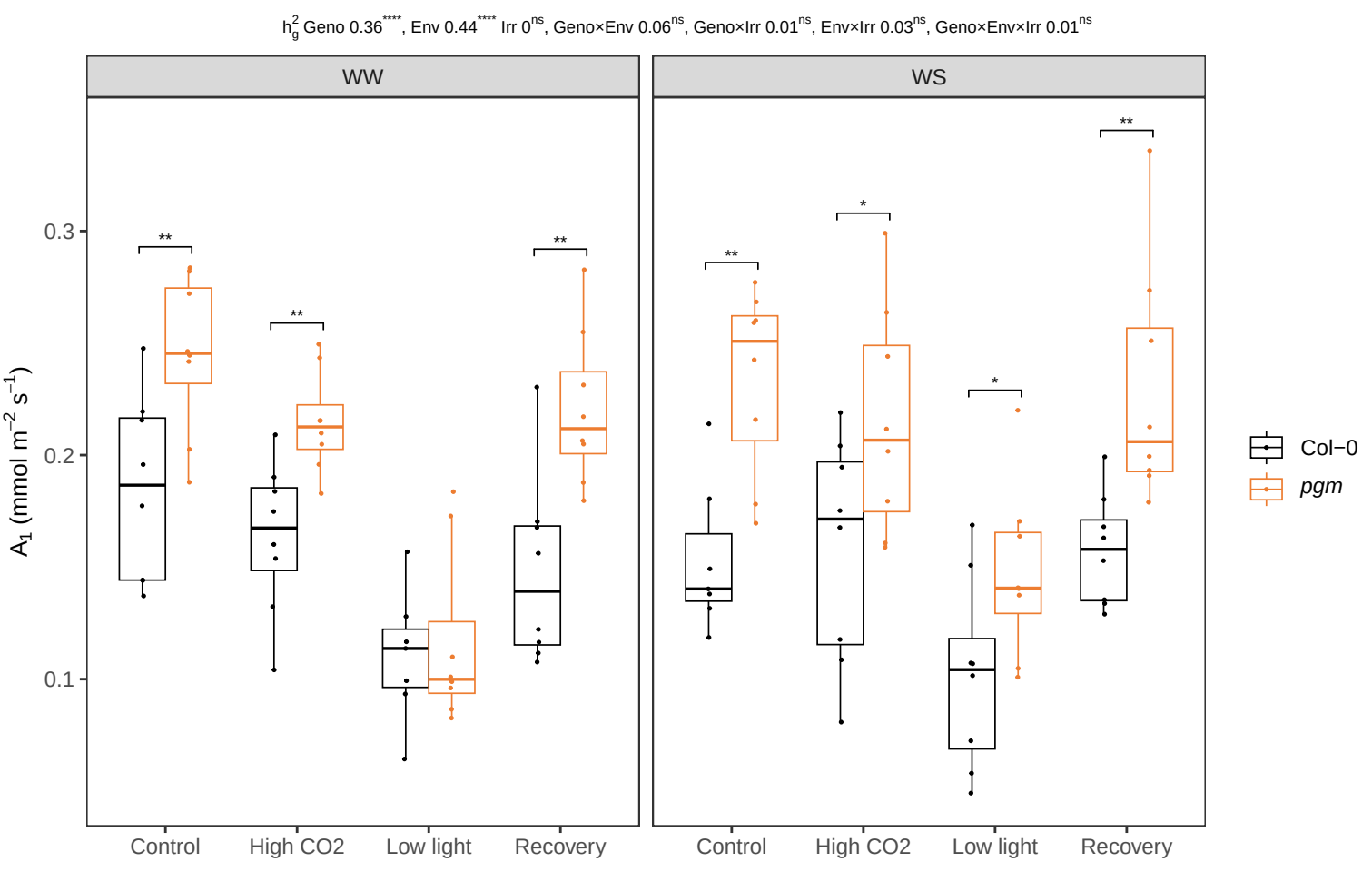

h^2_g Geno 0.72****, Env 0.04^{ns} Irr 0^{ns}, Geno×Env 0.08*, Geno×Irr 0.09***, Env×Irr 0.08*, Geno×Env×Irr 0.04^{ns}
WW
WS
$\hat{\sigma}_{night}$ (mmol m^{-2} s^{-1} d^{-1})
0.6
0.4
0.2
0.0
−0.2
−0.4
****
****
**
****
****
*
**
****
****
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

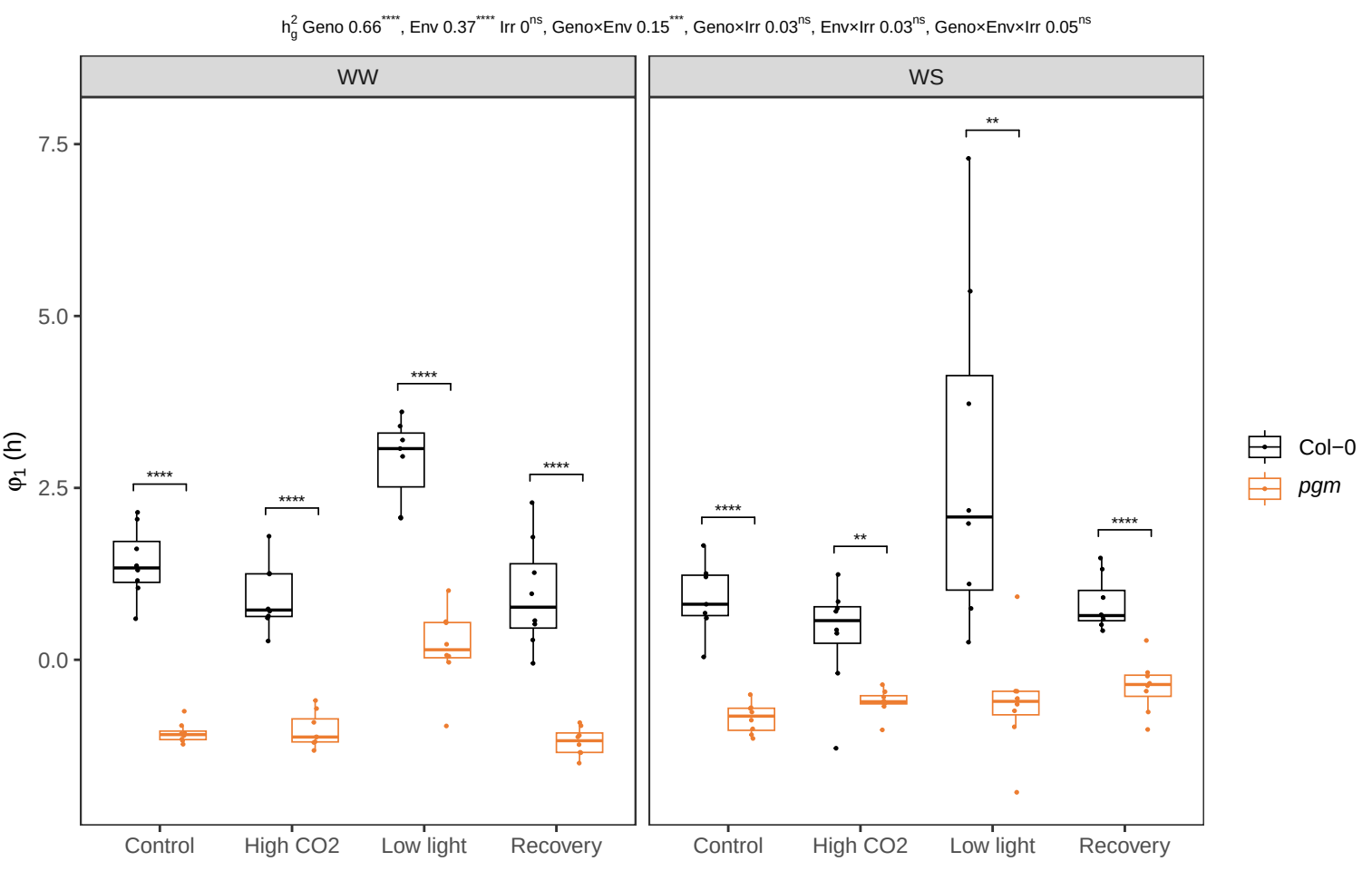

h^2_g Geno 0.27****, Env 0.28**** Irr 0^{ns}, Geno×Env 0.02^{ns}, Geno×Irr 0.03*, Env×Irr 0.02^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
$\hat{\Delta}_{night}$ (mol m^{-2})
1
0
−1
−2
−3
−4
−5
*
*
*
***
***
*
*
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

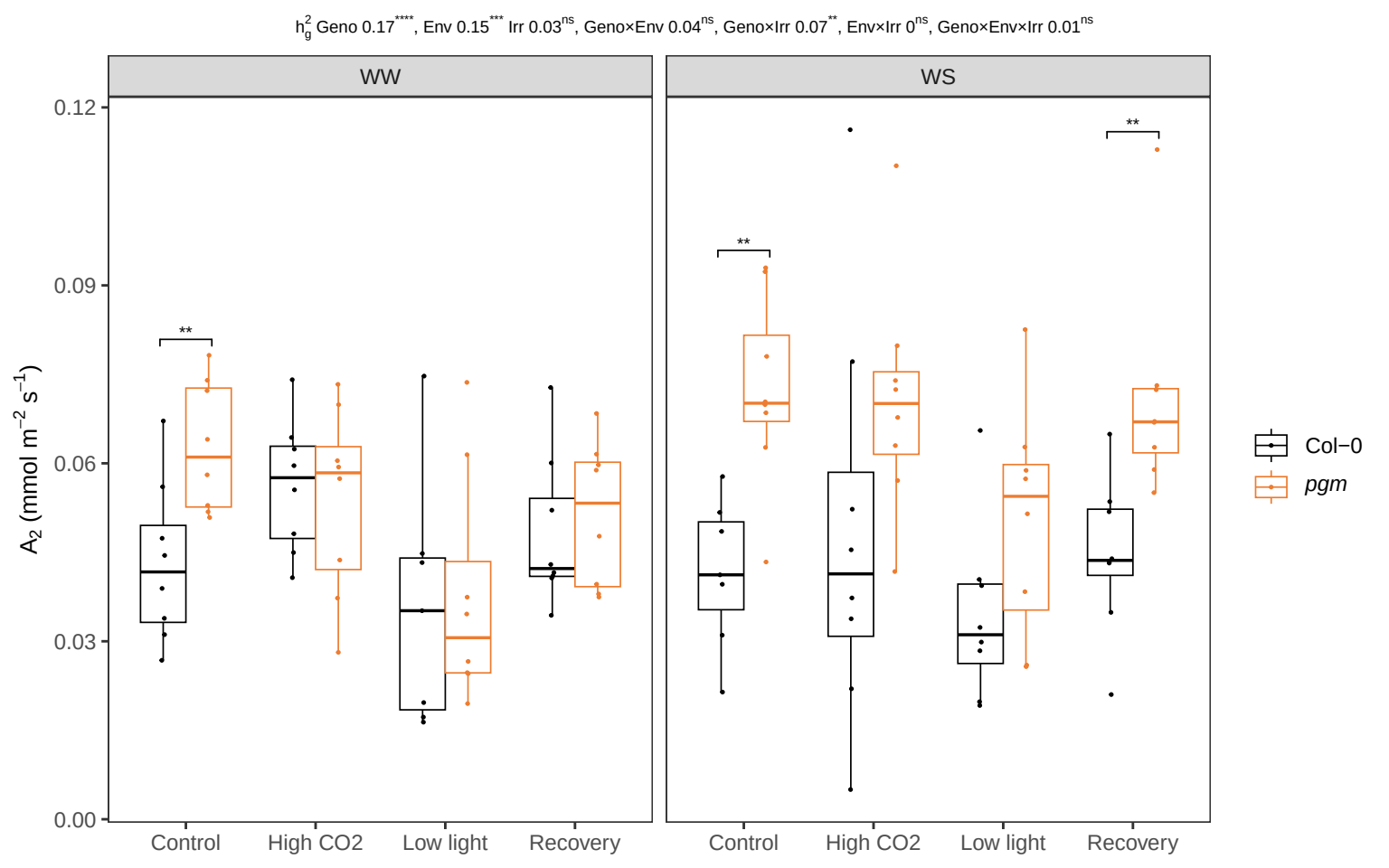

h^2_g Geno 0.55****, Env 0.03^{ns} Irr 0^{ns}, Geno×Env 0.03^{ns}, Geno×Irr 0.01^{ns}, Env×Irr 0.06^{ns}, Geno×Env×Irr 0.03^{ns}
WW
WS
$\hat{\Sigma}_{preop}$ (mol m^{-2})
0
2
4
6
****
**
****
****
***
**
****
****
Control
High CO2
Low light
Recovery 1
Recovery 2
Col−0
pgm

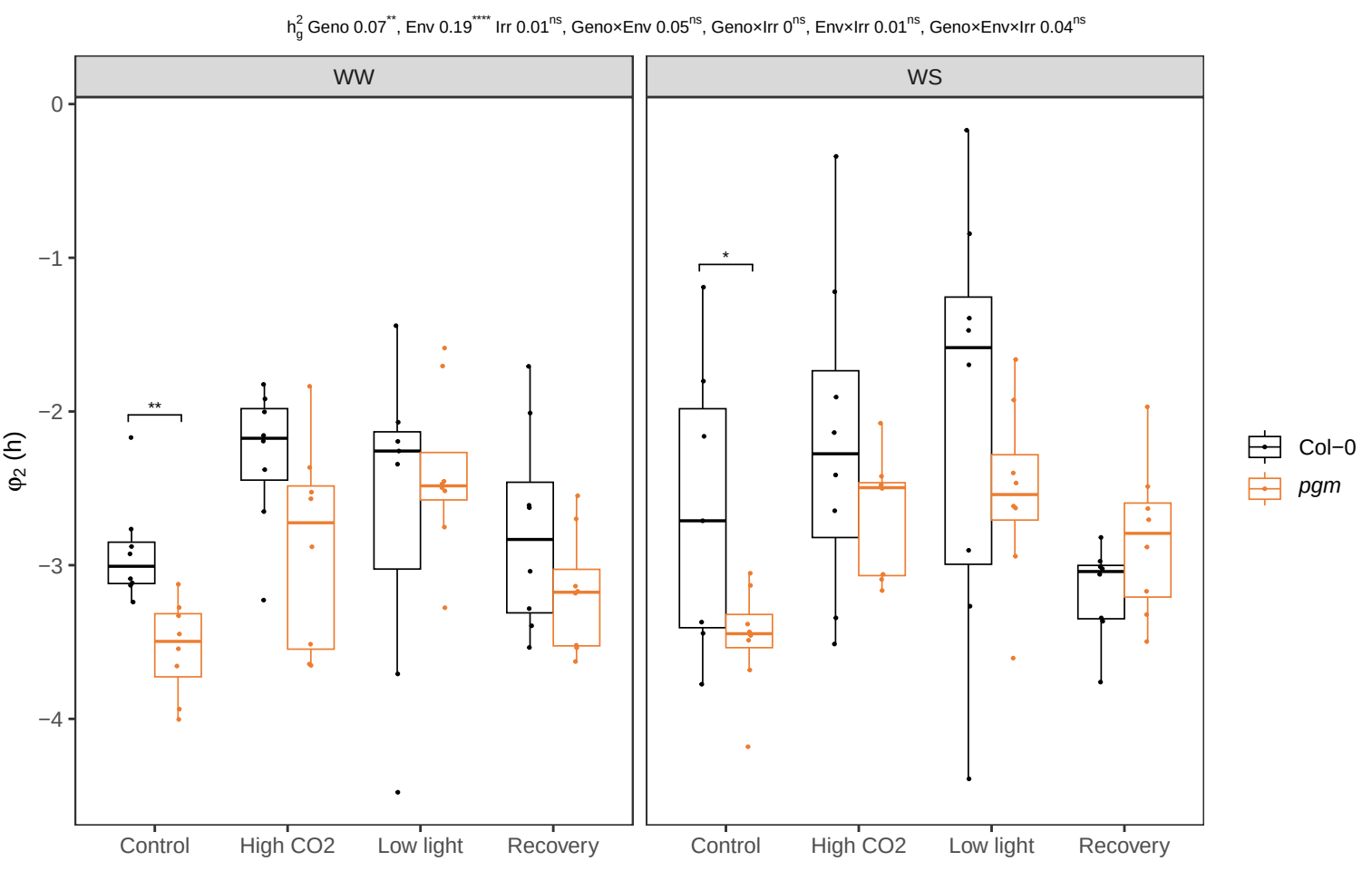

h^2_g Geno 0.05*, Env 0.23**** Irr 0ns, Geno×Env 0.01ns, Geno×Irr 0.14****, Env×Irr 0.08*, Geno×Env×Irr 0.01ns
WW
WS
E_{mean} (mmol m^{-2} s^{-1})
1.6
1.4
1.2
1.0
0.8
0.6
Control
High CO2
Low light
Recovery
*
Col−0
pgm

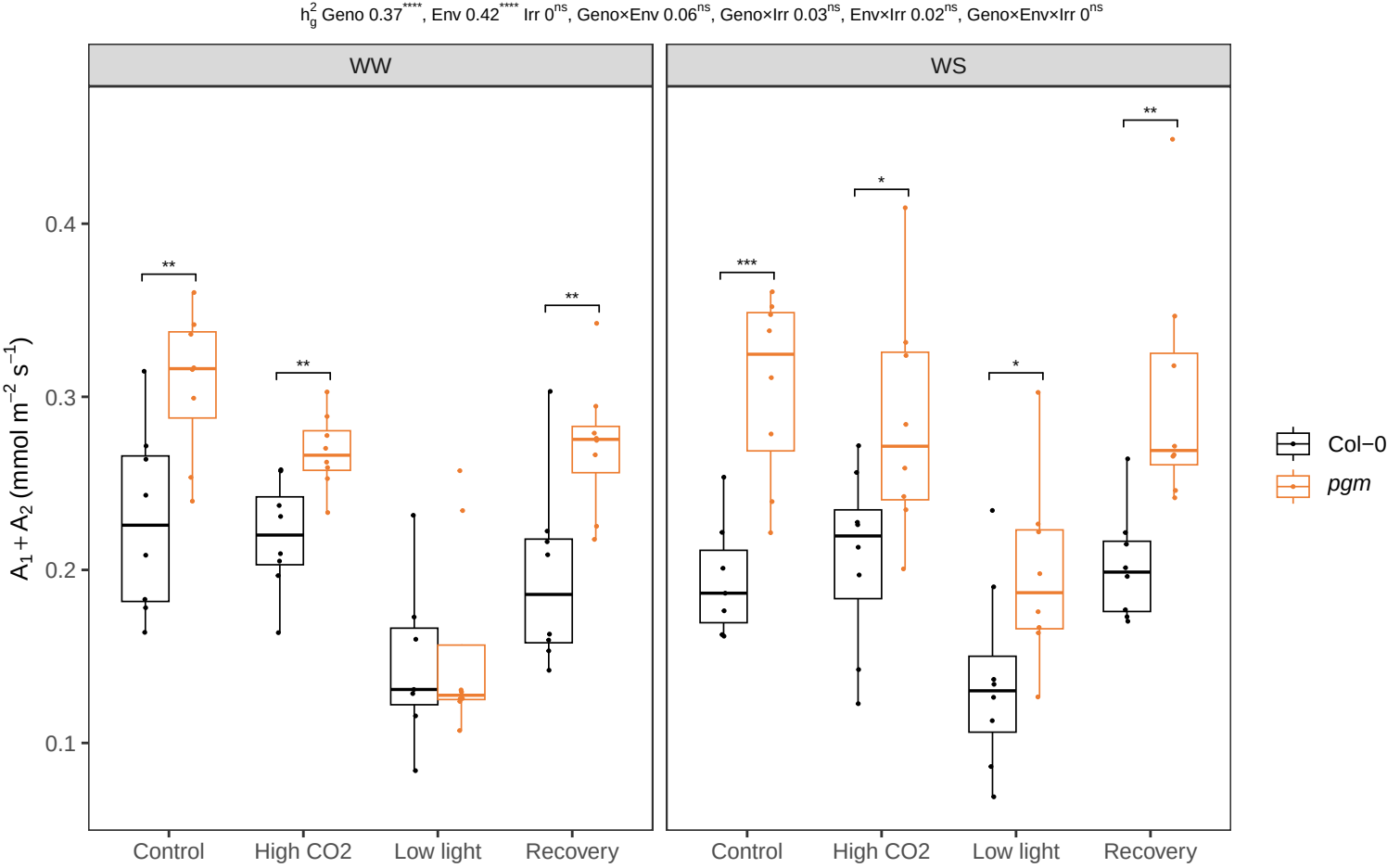

h^2_g Geno 0.06**, Env 0.48**** Irr 0.08**, Geno×Env 0.05ns, Geno×Irr 0.01ns, Env×Irr 0.02ns, Geno×Env×Irr 0.01ns
WW
WS
A_{SQW} (mmol m^{-2} s^{-1})
0.0
0.1
0.2
0.3
*
*
Control
High CO2
Low light
Recovery
Control
High CO2
Low light
Recovery
Col−0
pgm

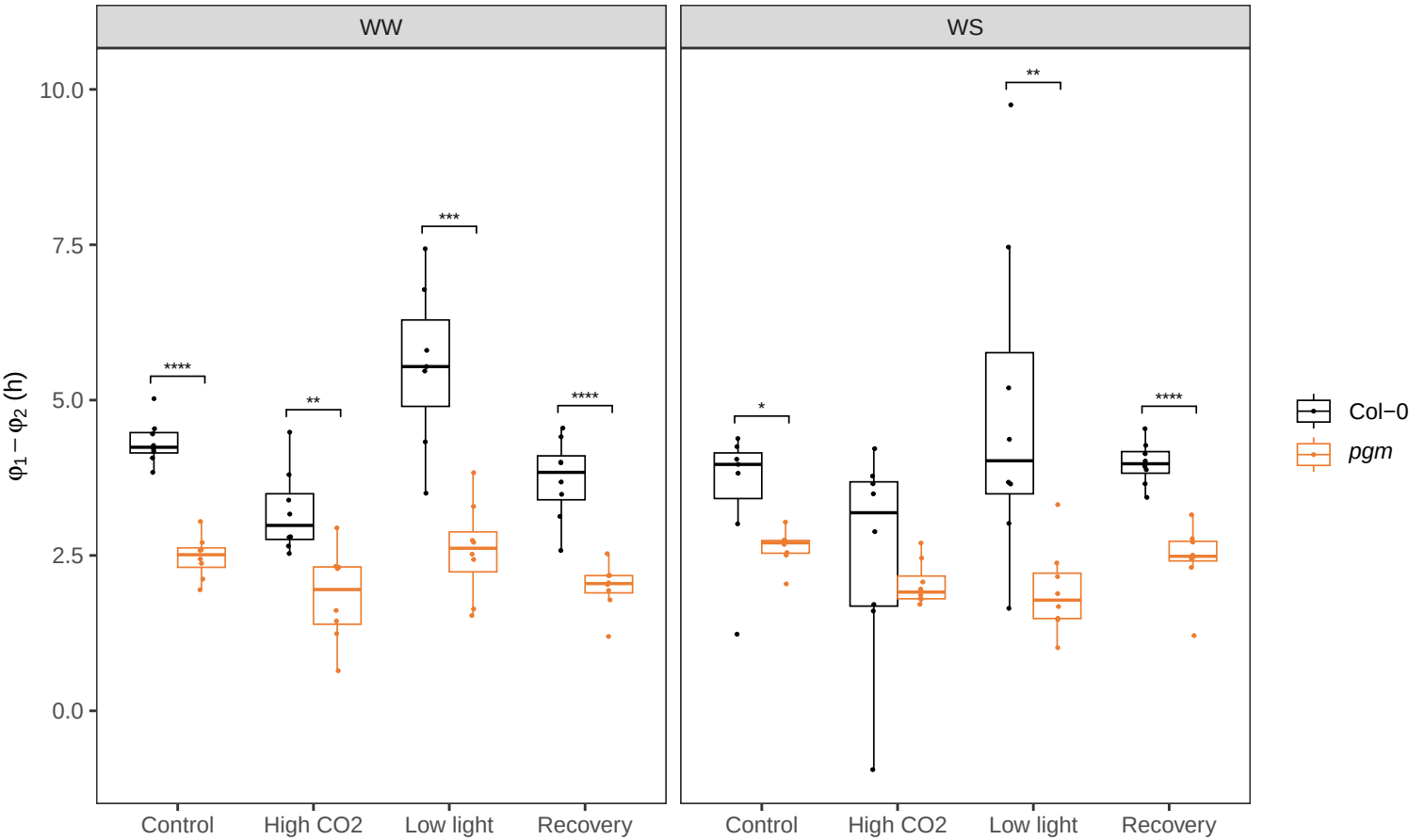

h_g^2 Geno 0.36****, Env 0.44**** Irr 0^{ns}, Geno×Env 0.06^{ns}, Geno×Irr 0.01^{ns}, Env×Irr 0.03^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
A_1 (mmol m^{-2} s^{-1})
0.3
0.2
0.1
**
*
Control
High CO2
Low light
Recovery
Col−0
pgm

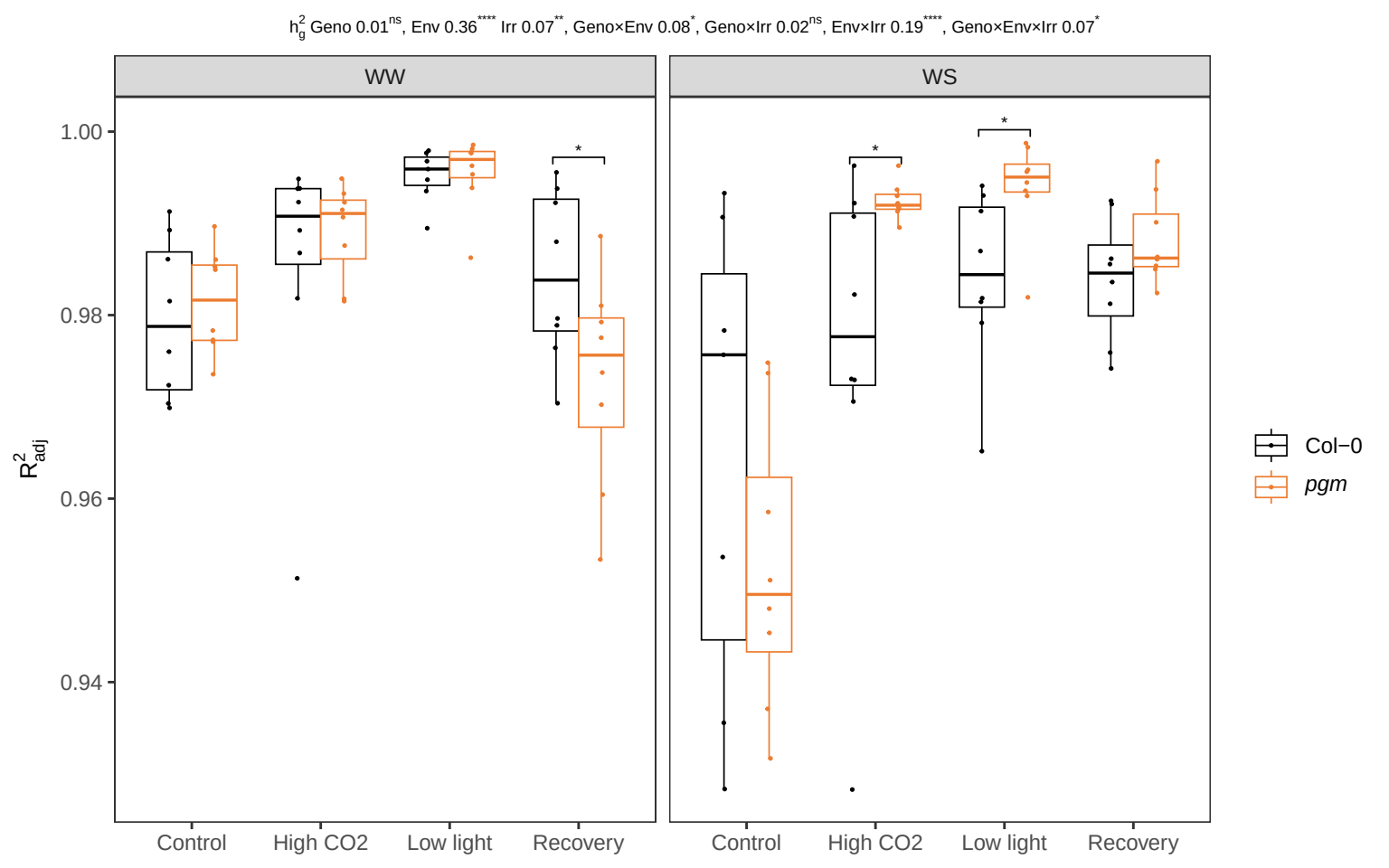

h_g^2 Geno 0.66****, Env 0.37**** Irr 0^{ns}, Geno×Env 0.15***, Geno×Irr 0.03^{ns}, Env×Irr 0.03^{ns}, Geno×Env×Irr 0.05^{ns}
WW
WS
φ_1 (h)
7.5
5.0
2.5
0.0
****
**
Control
High CO2
Low light
Recovery
Col−0
pgm

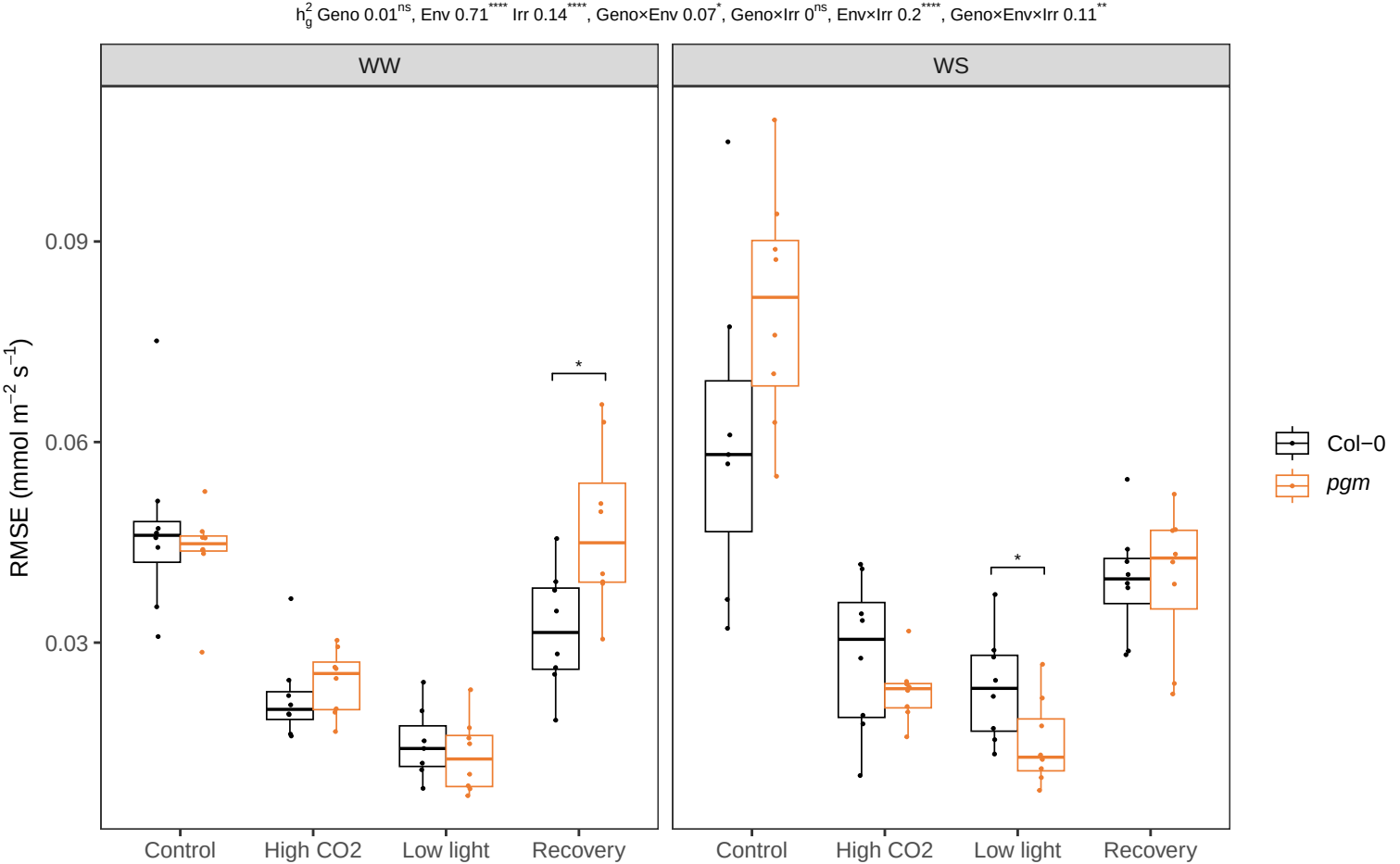

h^2_g Geno 0.17****, Env 0.15*** Irr 0.03^{ns}, Geno×Env 0.04^{ns}, Geno×Irr 0.07**, Env×Irr 0^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
A_2 (mmol m^{-2} s^{-1})
0.12
0.09
0.06
0.03
0.00
**
**
**
Control
High CO2
Low light
Recovery
Control
High CO2
Low light
Recovery
Col−0
pgm

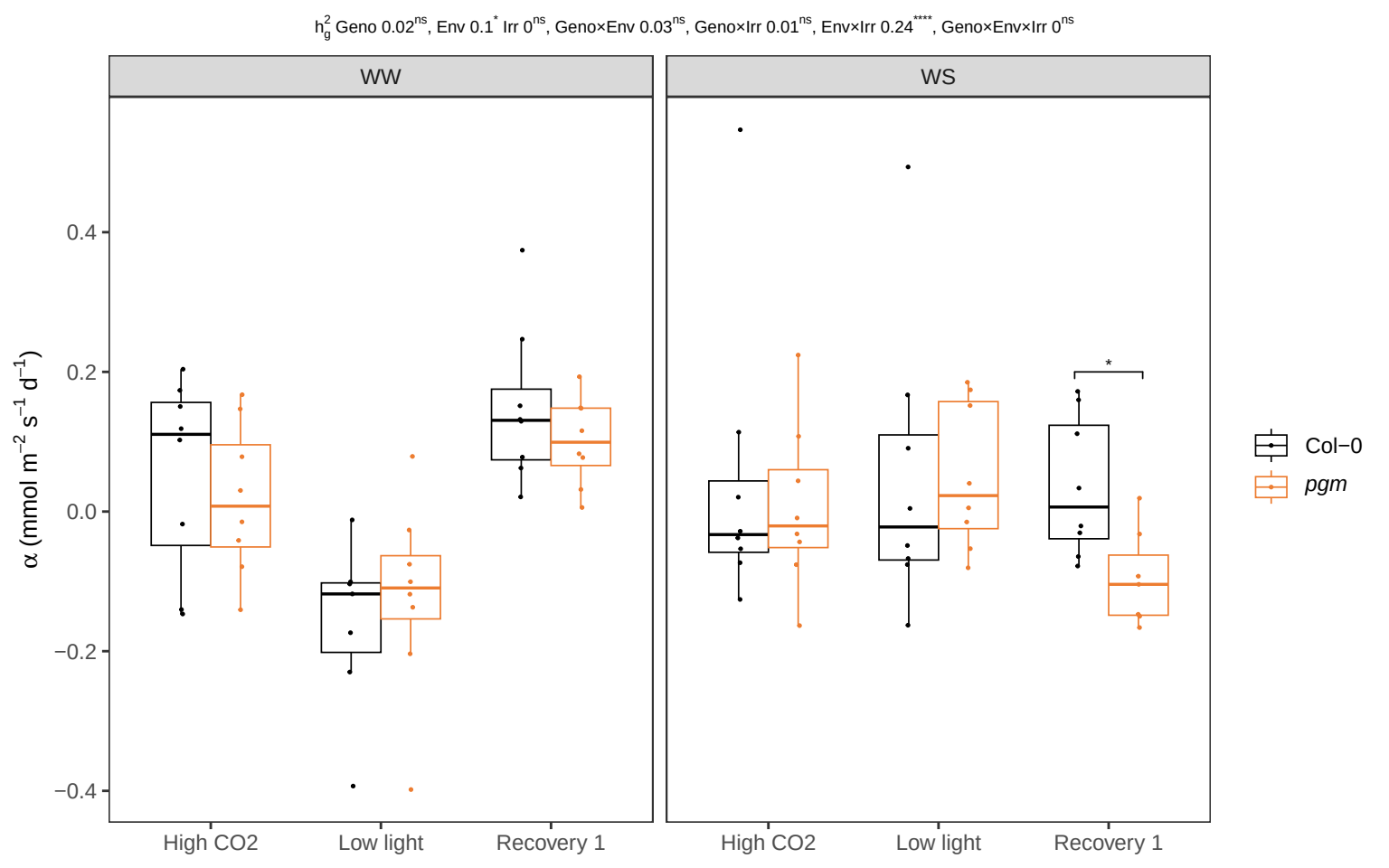

h_g^2 Geno 0.07**, Env 0.19**** Irr 0.01^{ns}, Geno×Env 0.05^{ns}, Geno×Irr 0^{ns}, Env×Irr 0.01^{ns}, Geno×Env×Irr 0.04^{ns}
WW
WS
0
−1
−2
−3
−4
φ2 (h)
**
*
Control
High CO2
Low light
Recovery
Col−0
pgm

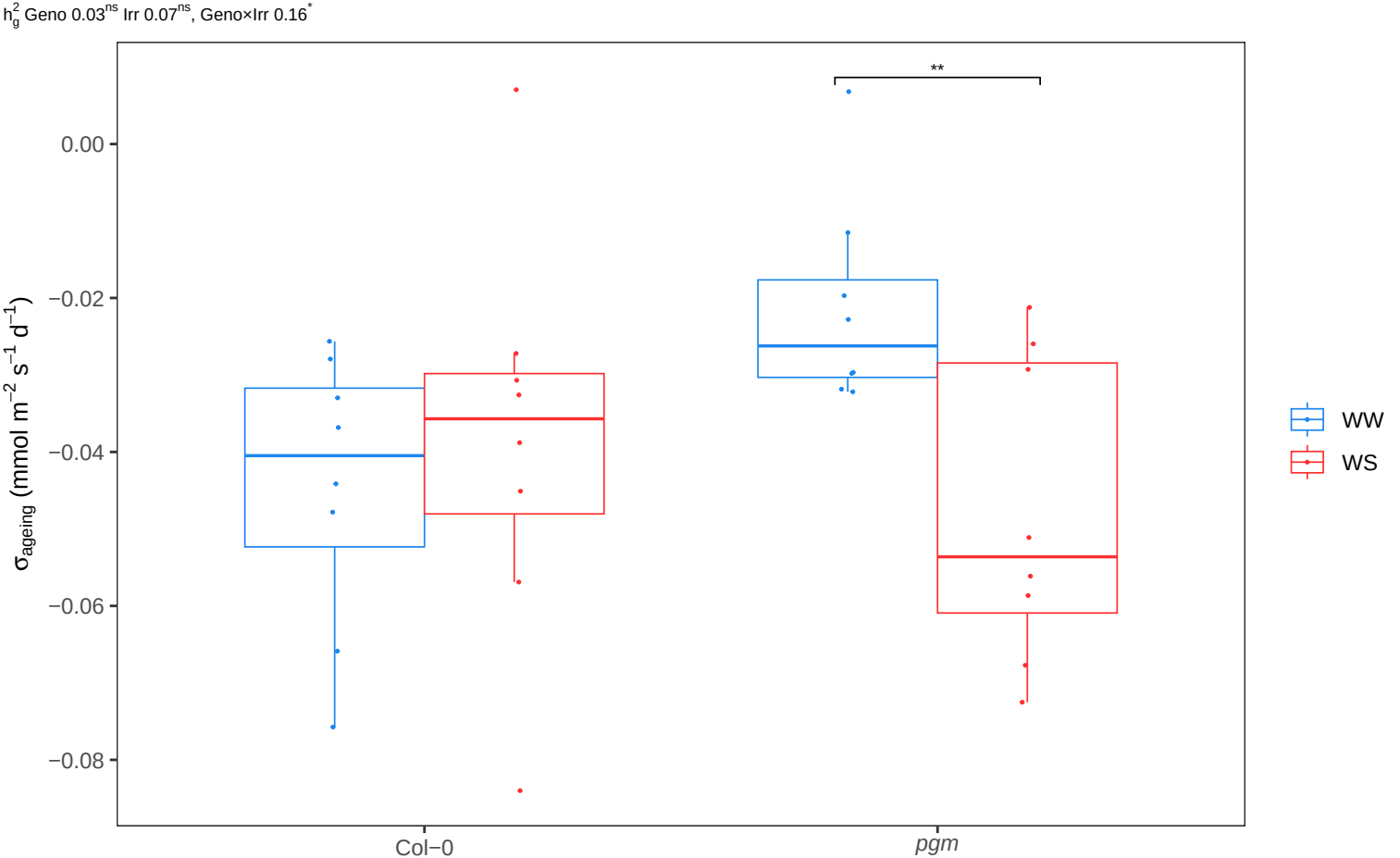

h^2_g Geno 0.37****, Env 0.42**** Irr 0^{ns}, Geno×Env 0.06^{ns}, Geno×Irr 0.03^{ns}, Env×Irr 0.02^{ns}, Geno×Env×Irr 0^{ns}
WW
WS
$A_1 + A_2$ (mmol m^{-2} s^{-1})
0.4
0.3
0.2
0.1
**
**
**
***
*
*
**
Control
High CO2
Low light
Recovery
Control
High CO2
Low light
Recovery
Col−0
pgm


h_g^2 Geno 0.46****, Env 0.2**** Irr 0.01^{ns}, Geno×Env 0.14***, Geno×Irr 0.02^{ns}, Env×Irr 0.04^{ns}, Geno×Env×Irr 0.01^{ns}
WW
WS
$\varphi_1 - \varphi_2$ (h)
10.0
7.5
5.0
2.5
0.0
****
**
***
****
*
**
****
Control
High CO2
Low light
Recovery
Col−0
pgm


h^2_g Geno 0.01^{ns}, Env 0.36**** Irr 0.07**, Geno×Env 0.08*, Geno×Irr 0.02^{ns}, Env×Irr 0.19****, Geno×Env×Irr 0.07*
WW
WS
1.00
0.98
0.96
0.94
R^2_{adj}
Control
High CO2
Low light
Recovery
Col−0
pgm


h^2_g Geno 0.01^{ns}, Env 0.71**** Irr 0.14****, Geno×Env 0.07*, Geno×Irr 0^{ns}, Env×Irr 0.2****, Geno×Env×Irr 0.11**
WW
WS
RMSE (mmol m^{-2} s^{-1})
0.09
0.06
0.03
*
*
Control
High CO2
Low light
Recovery
Control
High CO2
Low light
Recovery
Col−0
pgm


h^2_g Geno 0.02^{ns}, Env 0.1* Irr 0^{ns}, Geno×Env 0.03^{ns}, Geno×Irr 0.01^{ns}, Env×Irr 0.24****, Geno×Env×Irr 0^{ns}
WW
WS
α (mmol m^{-2} s^{-1} d^{-1})
0.4
0.2
0.0
−0.2
−0.4
*
High CO2
Low light
Recovery 1
High CO2
Low light
Recovery 1
Col−0
pgm


h^2_g Geno 0.03^{ns} Irr 0.07^{ns}, Geno×Irr 0.16*
**
0.00
−0.02
−0.04
−0.06
−0.08
σ_{ageing} (mmol m^{-2} s^{-1} d^{-1})
Col−0
pgm
WW
WS