**Supporting Information**

# Sex-related differences in lipid peroxidation and photoprotection in *Pistacia lentiscus*

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**Table S1** Climatological conditions at midday (photosynthetically-active photon flux density [PPFD], air temperature [$T_{air}$] and relative humidity [RH]) during the measurements of Experiment 1.

| Season | Date | PPFD ($\mu mol\ m^{-2}\ s^{-1}$) | $T_{air}$ (ºC) | RH (%) |
|---|---|---|---|---|
| Spring | 28 March | 1442 | 23.0 | 25 |
| Summer | 18 July | 1940 | 32.0 | 38 |
| Autumn | 29 October | 1152 | 14.5 | 36 |
| Winter | 24 January | 876 | 10.0 | 52 |

**Fig. S1** Seasonal variations in climatological conditions (monthly average air temperature [Tair], monthly average relative humidity and monthly precipitation) from March 2012 to February 2013.

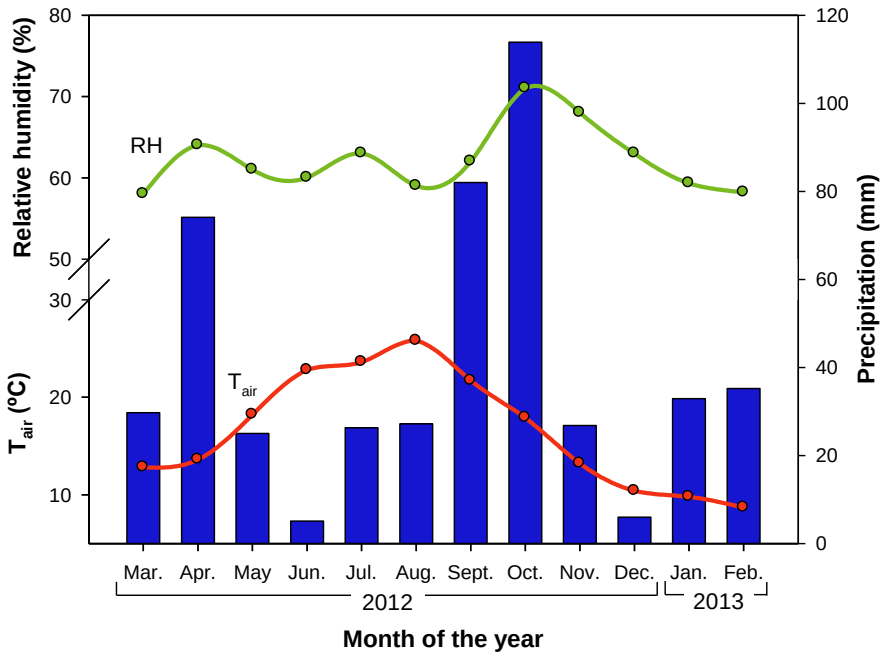

**Fig. S2** Sex-related differences in the seasonal variations in the relative leaf water content (RWC), maximum efficiency of PSII photochemistry ($F_v/F_m$ ratio), and levels of chlorophyll (Chl) a+b and malondialdehyde (MDA) in *P. lentiscus*. Data represent the mean ± SE of n=6 individuals. Significant differences between groups were tested by two-way factorial analyses of variance (ANOVA) with time and plant sex as factors. An asterisk indicates significant differences between males and females at a given time point (Student's t-test, $P<0.05$). NS, not significant.

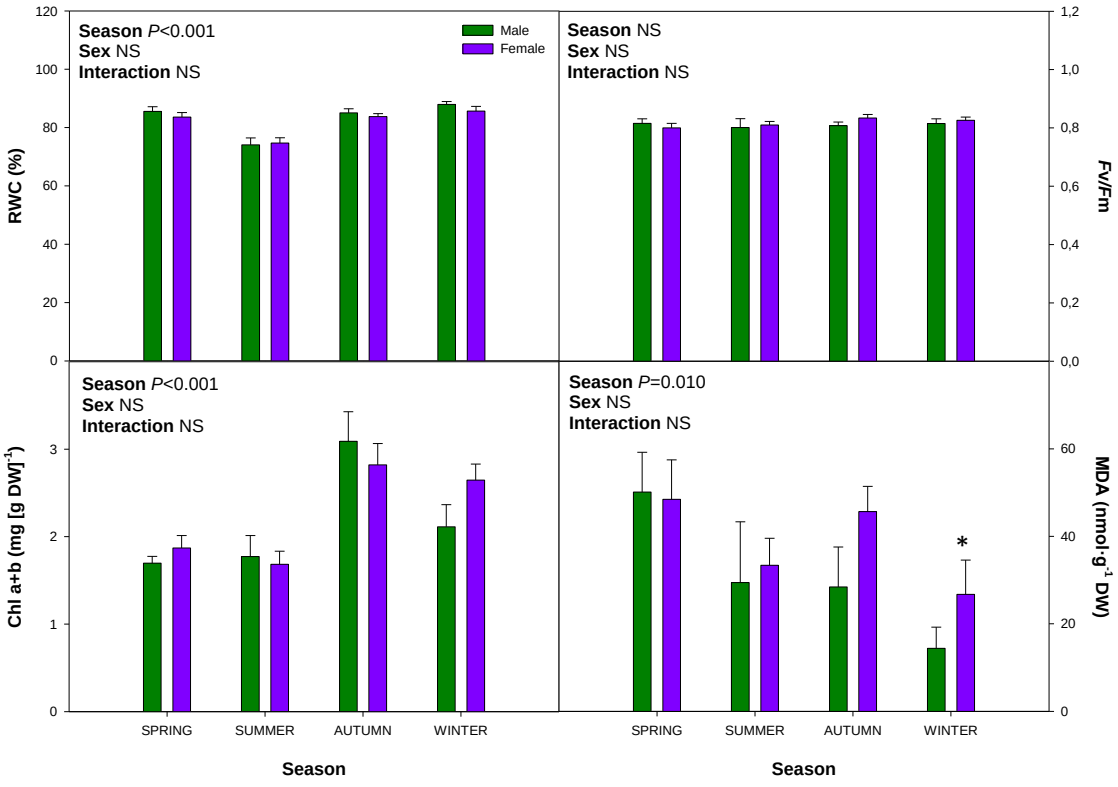

**Fig. S3** Sex-related differences in the seasonal variations in levels of total anthocyanins (Ant), carotenoids (Car) and α-tocopherol (α-Toc), expressed per g of dry weight (DW) and per unit of chlorophyll (Chl) a+b in *P. lentiscus*. Data represent the mean ± SE of n=6 individuals. Significant differences between groups were tested by two-way factorial analyses of variance (ANOVA) with time and plant sex as factors. An asterisk indicates significant differences between males and females at a given time point (Student's t-test, $P<0.05$). NS, not significant.

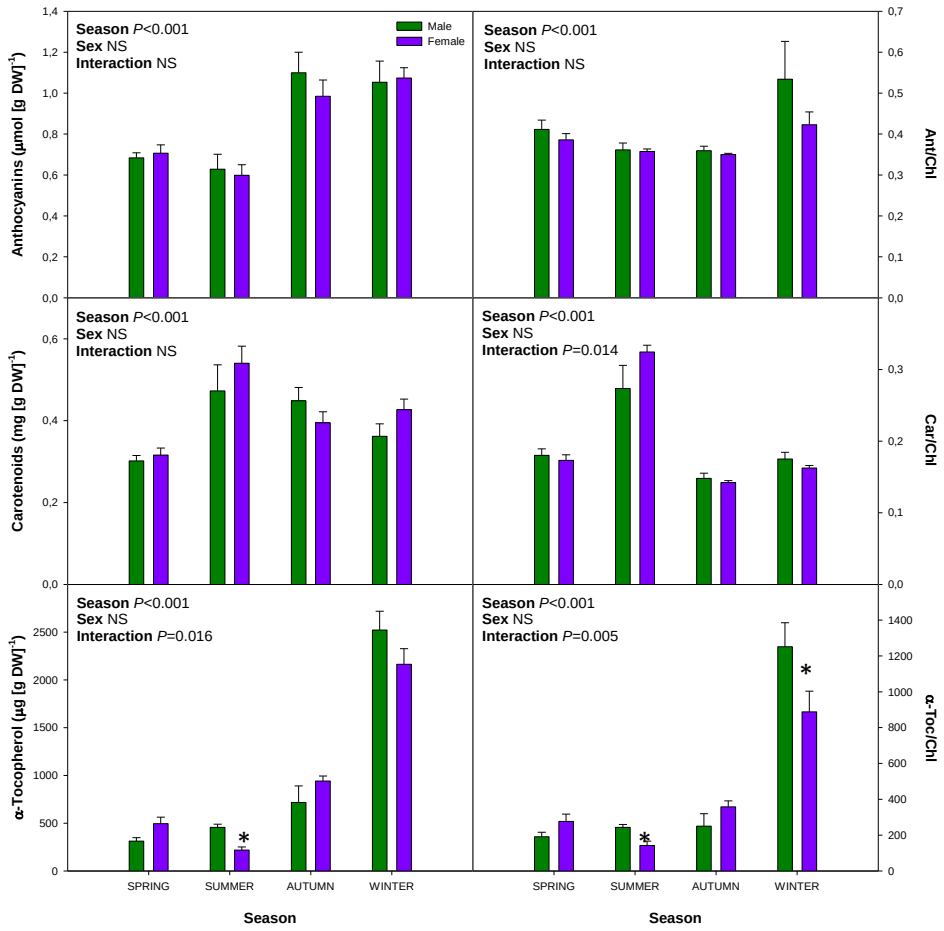

**Fig. S4** Sex-related differences during winter in the relative leaf water content (RWC) of *P. lentiscus*. Data represent the mean ± SE of n=6 individuals. Significant differences between groups were tested by two-way factorial analyses of variance (ANOVA) with time and plant sex (females *vs.* males), shoot (reproductive -R- *vs.* non-reproductive –NR-) or fruit (shoots with and without fruits) as factors. NS, not significant.

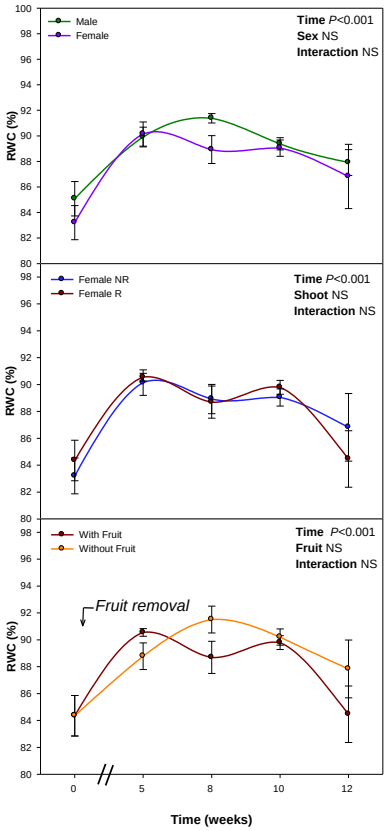

**Fig. S5** Sex-related variations during winter in the levels of total anthocyanins (Ant), carotenoids (Car) and α-tocopherol (α-Toc),expressed per unit of chlorophyll (Chl) in *P. lentiscus*. Data represent the mean ± SE of n=6 individuals. Significant differences between groups were tested by two-way factorial analyses of variance (ANOVA) with time and plant sex (females *vs.* males), shoot (reproductive -R- *vs.* non-reproductive –NR-) or fruit (shoots with and without fruits) as factors. NS, not significant.

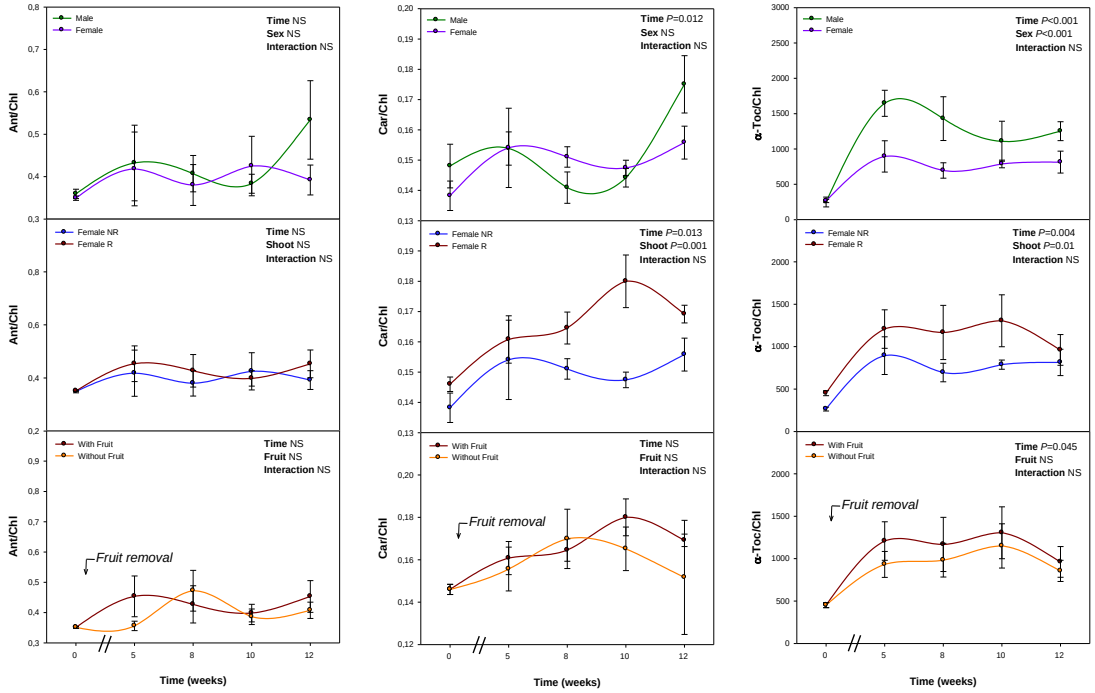

**Fig. S6** Sex-related differences in the diurnal variations in levels of total anthocyanins (Ant), carotenoids (Car) and α-tocopherol (α-Toc) in *P. lentiscus* during winter (25 January). Data represent the mean ± SE of n=6 individuals. Significant differences between groups were tested by two-way factorial analyses of variance (ANOVA) with time and plant sex (females *vs.* males), shoot (reproductive -R- *vs.* non-reproductive – NR-) or fruit (shoots with and without fruits) as factors. An asterisk indicates significant differences between males and females, R and NR shoots, or shoots with and without fruits at a given time point (Student's t-test, $P<0.05$). NS, not significant.

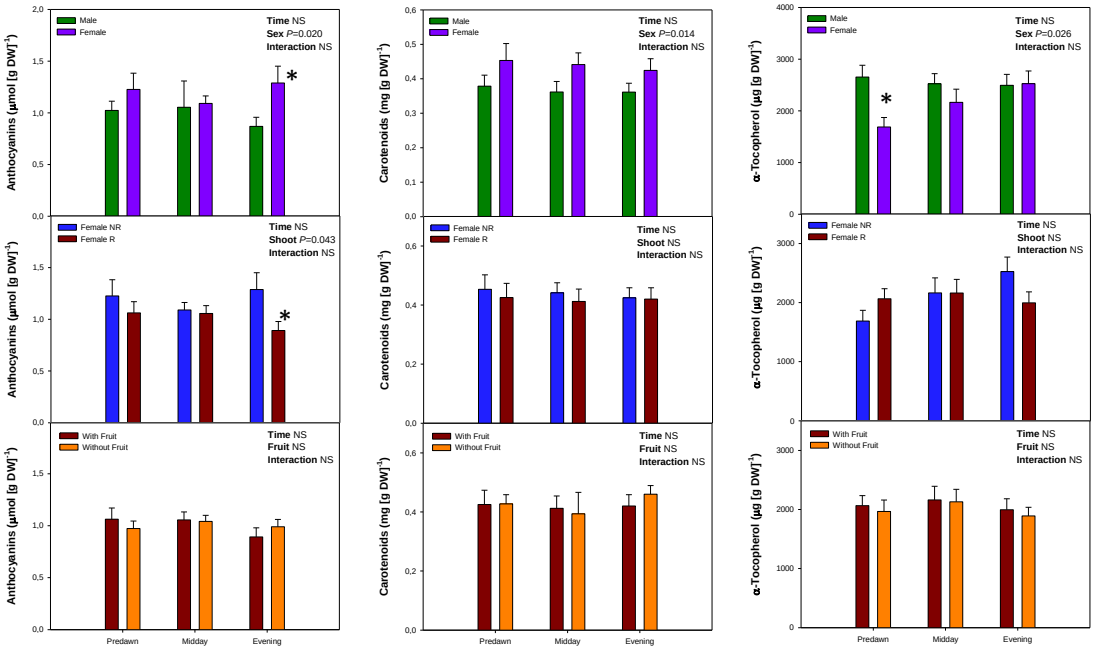

**Fig. S7** Sex-related differences in the diurnal variations in levels of total anthocyanins (Ant), carotenoids (Car) and α-tocopherol (α-Toc) expressed per unit of chlorophyll (Chl) in *P. lentiscus* during winter (25 January). Data represent the mean ± SE of n=6 individuals. Significant differences between groups were tested by two-way factorial analyses of variance (ANOVA) with time and plant sex (females *vs.* males), shoot (reproductive -R- *vs.* non-reproductive –NR-) or fruit (shoots with or without fruits) as factors. An asterisk indicates significant differences between males and females, R and NR shoots, or shoots with and without fruits at a given time point (Student's t-test, $P<0.05$). NS, not significant.

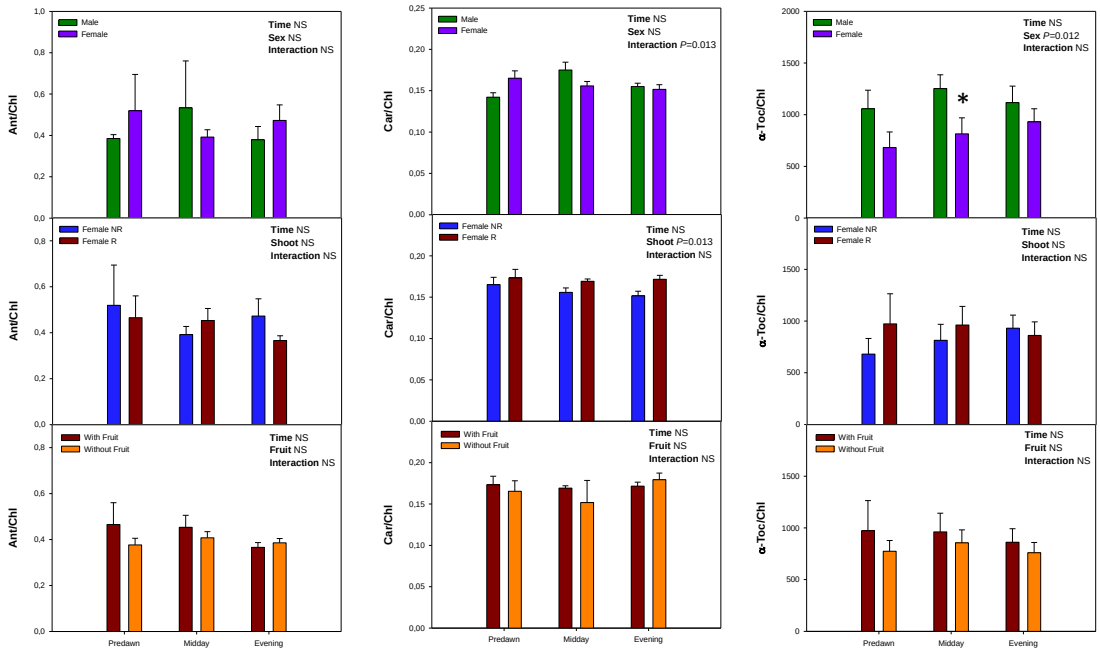

**Fig. S8** Sex-related differences in the diurnal variations in levels zeatin (Z), zeatin riboside (ZR) and 2-isopentenyladenine (2iP) in *P. lentiscus* during winter (25 January). Data represent the mean ± SE of n=6 individuals. Significant differences between groups were tested by two-way factorial analyses of variance (ANOVA) with time and plant sex (females *vs.* males), shoot (reproductive -R- *vs.* non-reproductive –NR-) or fruit (shoots with or without fruits) as factors. An asterisk indicates significant differences between males and females at a given time point (Student's t-test, $P<0.05$). NS, not significant.

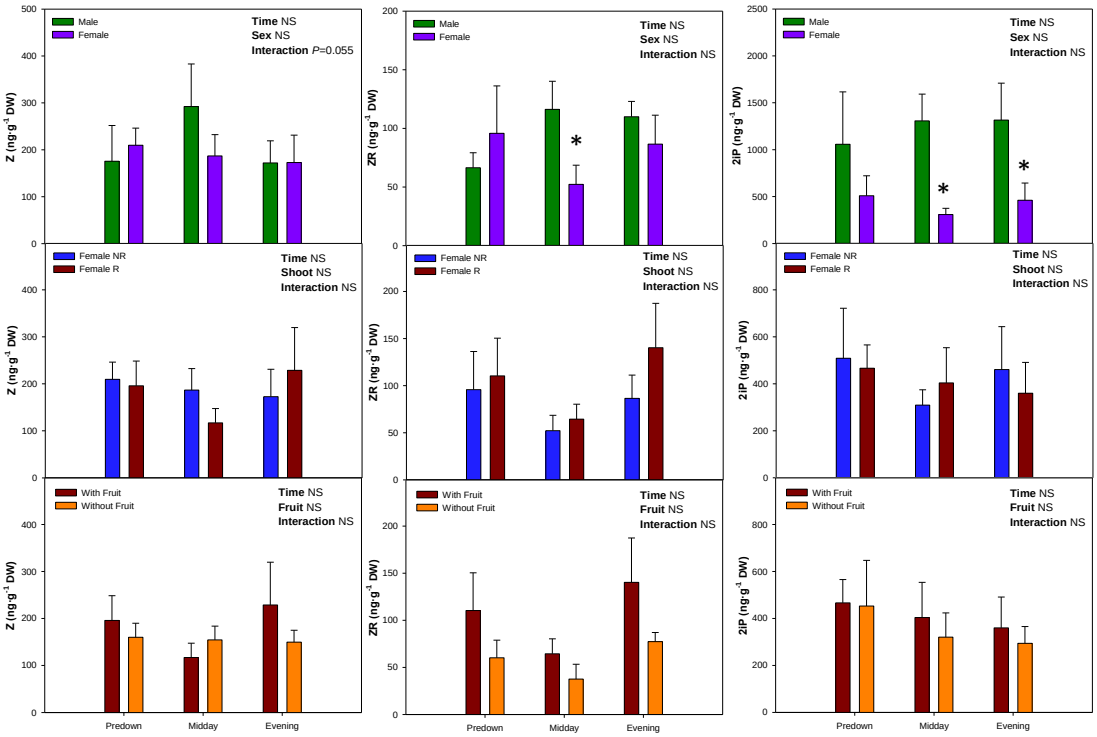

**Fig. S9** Sex-related differences during winter in the instantaneous water use efficiency (WUE) response curves to photosynthetically-active photon flux density (PPFD) in *P. lentiscus*. Data represent the mean ± SE of n=6 individuals. Significant differences between groups were tested by two-way factorial analyses of variance (ANOVA) with time and plant sex (females *vs.* males), shoot (reproductive -R- *vs.* non-reproductive –NR-) or fruit (shoots with and without fruits) as factors. NS, not significant. Green shading indicates midday sampling PPFD range during winter.