

Supplementary material for

Exploring cold hardiness within a butterfly clade: supercooling ability and polyol profiles in European Satyrinae

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Supplementary Table S1. Measured supercooling points (SCP) of all Satyrinae larvae assayed in this study, with information of survival or death after body fluids freezing.

| Species | treatment | SCP (°C) | Survived the freezing |
|-----------------------------|-----------|----------|-----------------------|
| <i>Coenonympha arcania</i> | Autumn | -19.3 | no |
| <i>Coenonympha arcania</i> | Autumn | -20.0 | no |
| <i>Coenonympha arcania</i> | Autumn | -19.2 | no |
| <i>Coenonympha arcania</i> | Autumn | -17.0 | no |
| <i>Coenonympha arcania</i> | Autumn | -22.8 | no |
| <i>Coenonympha arcania</i> | Autumn | -20.1 | no |
| <i>Coenonympha arcania</i> | Autumn | -20.9 | no |
| <i>Coenonympha arcania</i> | Autumn | -18.6 | no |
| <i>Coenonympha arcania</i> | Autumn | -22.7 | no |
| <i>Coenonympha arcania</i> | Autumn | -19.7 | no |
| <i>Coenonympha arcania</i> | Autumn | -23.6 | no |
| <i>Coenonympha arcania</i> | Autumn | -18.9 | no |
| <i>Coenonympha arcania</i> | Autumn | -19.8 | no |
| <i>Coenonympha arcania</i> | Autumn | -21.9 | no |
| <i>Coenonympha arcania</i> | Autumn | -20.4 | no |
| <i>Coenonympha arcania</i> | Autumn | -20.1 | no |
| <i>Coenonympha gardetta</i> | Autumn | -20.9 | no |
| <i>Coenonympha gardetta</i> | Autumn | -21.7 | no |
| <i>Coenonympha gardetta</i> | Autumn | -19.8 | no |
| <i>Coenonympha gardetta</i> | Autumn | -22.2 | no |
| <i>Coenonympha gardetta</i> | Autumn | -21.9 | no |
| <i>Coenonympha gardetta</i> | Autumn | -23.7 | no |
| <i>Coenonympha gardetta</i> | Autumn | -22.1 | no |
| <i>Coenonympha gardetta</i> | Autumn | -21.9 | no |
| <i>Coenonympha gardetta</i> | Autumn | -23.0 | no |
| <i>Coenonympha gardetta</i> | Autumn | -20.8 | no |
| <i>Coenonympha gardetta</i> | Autumn | -19.3 | no |
| <i>Coenonympha gardetta</i> | Autumn | -23.5 | no |
| <i>Coenonympha gardetta</i> | Autumn | -21.4 | no |
| <i>Coenonympha gardetta</i> | Autumn | -21.7 | no |
| <i>Coenonympha gardetta</i> | Autumn | -21.9 | no |
| <i>Coenonympha gardetta</i> | Autumn | -23.2 | no |
| <i>Maniola jurtina</i> | Autumn | -15.1 | no |
| <i>Maniola jurtina</i> | Autumn | -12.8 | no |
| <i>Maniola jurtina</i> | Autumn | -15.0 | no |
| <i>Maniola jurtina</i> | Autumn | -12.9 | no |

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| <i>Maniola jurtina</i> | Autumn | -7.2 | yes |
| <i>Maniola jurtina</i> | Autumn | -6.4 | yes |
| <i>Maniola jurtina</i> | Autumn | -7.0 | yes |
| <i>Maniola jurtina</i> | Autumn | -13.3 | no |
| <i>Maniola jurtina</i> | Autumn | -5.7 | yes |
| <i>Maniola jurtina</i> | Autumn | -13.2 | no |
| <i>Maniola jurtina</i> | Autumn | -13.4 | no |
| <i>Maniola jurtina</i> | Autumn | -6.8 | yes |
| <i>Maniola jurtina</i> | Autumn | -13.4 | no |
| <i>Maniola jurtina</i> | Autumn | -13.0 | no |
| <i>Maniola jurtina</i> | Autumn | -13.7 | no |
| <i>Maniola jurtina</i> | Autumn | -12.6 | no |
| <i>Melanargia galathea</i> | Autumn | -6.6 | no |
| <i>Melanargia galathea</i> | Autumn | -7.3 | no |
| <i>Melanargia galathea</i> | Autumn | -12.1 | no |
| <i>Melanargia galathea</i> | Autumn | -13.7 | no |
| <i>Melanargia galathea</i> | Autumn | -8.5 | no |
| <i>Melanargia galathea</i> | Autumn | -7.4 | no |
| <i>Melanargia galathea</i> | Autumn | -13.7 | no |
| <i>Melanargia galathea</i> | Autumn | -14.6 | no |
| <i>Melanargia galathea</i> | Autumn | -16.0 | no |
| <i>Melanargia galathea</i> | Autumn | -12.7 | no |
| <i>Melanargia galathea</i> | Autumn | -8.9 | no |
| <i>Melanargia galathea</i> | Autumn | -13.1 | no |
| <i>Melanargia galathea</i> | Autumn | -15.9 | no |
| <i>Melanargia galathea</i> | Autumn | -7.6 | no |
| <i>Melanargia galathea</i> | Autumn | -7.3 | no |
| <i>Melanargia galathea</i> | Autumn | -6.9 | no |
| <i>Aphantopus hyperantus</i> | Autumn | -6.4 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -7.5 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -8.0 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -12.7 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -10.3 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -9.7 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -6.5 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -7.1 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -12.7 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -6.4 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -7.5 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -8.1 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -7.2 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -14.4 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -13.4 | yes |
| <i>Aphantopus hyperantus</i> | Autumn | -5.0 | yes |
| <i>Chazara briseis</i> | Autumn | -21.7 | no |
| <i>Chazara briseis</i> | Autumn | -20.3 | no |
| <i>Chazara briseis</i> | Autumn | -18.0 | no |
| <i>Chazara briseis</i> | Autumn | -25.4 | no |

| | | | |
|----------------------------|--------|-------|-----|
| <i>Chazara briseis</i> | Autumn | -22.2 | no |
| <i>Chazara briseis</i> | Autumn | -19.0 | no |
| <i>Chazara briseis</i> | Autumn | -21.1 | no |
| <i>Chazara briseis</i> | Autumn | -25.0 | no |
| <i>Chazara briseis</i> | Autumn | -22.8 | no |
| <i>Chazara briseis</i> | Autumn | -19.8 | no |
| <i>Chazara briseis</i> | Autumn | -23.3 | no |
| <i>Chazara briseis</i> | Autumn | -20.7 | no |
| <i>Chazara briseis</i> | Autumn | -25.0 | no |
| <i>Chazara briseis</i> | Autumn | -23.4 | no |
| <i>Chazara briseis</i> | Autumn | -18.9 | no |
| <i>Hipparchia semele</i> | Autumn | -8.6 | yes |
| <i>Hipparchia semele</i> | Autumn | -7.9 | yes |
| <i>Hipparchia semele</i> | Autumn | -8.9 | yes |
| <i>Hipparchia semele</i> | Autumn | -13.9 | yes |
| <i>Hipparchia semele</i> | Autumn | -13.9 | yes |
| <i>Hipparchia semele</i> | Autumn | -8.0 | yes |
| <i>Hipparchia semele</i> | Autumn | -7.3 | yes |
| <i>Hipparchia semele</i> | Autumn | -7.0 | yes |
| <i>Hipparchia semele</i> | Autumn | -12.7 | yes |
| <i>Hipparchia semele</i> | Autumn | -6.9 | yes |
| <i>Hipparchia semele</i> | Autumn | -10.0 | yes |
| <i>Hipparchia semele</i> | Autumn | -12.4 | yes |
| <i>Hipparchia semele</i> | Autumn | -9.6 | yes |
| <i>Hipparchia semele</i> | Autumn | -7.0 | yes |
| <i>Hipparchia semele</i> | Autumn | -11.8 | yes |
| <i>Minois dryas</i> | Autumn | -24.6 | no |
| <i>Minois dryas</i> | Autumn | -20.4 | no |
| <i>Minois dryas</i> | Autumn | -26.0 | no |
| <i>Minois dryas</i> | Autumn | -22.7 | no |
| <i>Minois dryas</i> | Autumn | -7.7 | yes |
| <i>Minois dryas</i> | Autumn | -22.5 | no |
| <i>Minois dryas</i> | Autumn | -18.7 | no |
| <i>Minois dryas</i> | Autumn | -27.0 | no |
| <i>Minois dryas</i> | Autumn | -25.3 | no |
| <i>Minois dryas</i> | Autumn | -23.3 | no |
| <i>Minois dryas</i> | Autumn | -7.1 | yes |
| <i>Minois dryas</i> | Autumn | -22.2 | no |
| <i>Minois dryas</i> | Autumn | -23.6 | no |
| <i>Minois dryas</i> | Autumn | -21.3 | no |
| <i>Minois dryas</i> | Autumn | -21.7 | no |
| <i>Coenonympha arcania</i> | Winter | -21.1 | no |
| <i>Coenonympha arcania</i> | Winter | -19.2 | no |
| <i>Coenonympha arcania</i> | Winter | -19.1 | no |
| <i>Coenonympha arcania</i> | Winter | -17.4 | no |
| <i>Coenonympha arcania</i> | Winter | -22.5 | no |
| <i>Coenonympha arcania</i> | Winter | -22.2 | no |
| <i>Coenonympha arcania</i> | Winter | -18.8 | no |

| | | | |
|------------------------------|--------|-------|-----|
| <i>Coenonympha arcania</i> | Winter | -20.1 | no |
| <i>Coenonympha arcania</i> | Winter | -21.9 | no |
| <i>Coenonympha arcania</i> | Winter | -19.7 | no |
| <i>Coenonympha arcania</i> | Winter | -20.6 | no |
| <i>Coenonympha arcania</i> | Winter | -21.7 | no |
| <i>Coenonympha arcania</i> | Winter | -22.6 | no |
| <i>Coenonympha arcania</i> | Winter | -19.4 | no |
| <i>Coenonympha gardetta</i> | Winter | -22.1 | no |
| <i>Coenonympha gardetta</i> | Winter | -23.1 | no |
| <i>Coenonympha gardetta</i> | Winter | -21.2 | no |
| <i>Coenonympha gardetta</i> | Winter | -25.4 | no |
| <i>Coenonympha gardetta</i> | Winter | -17.0 | no |
| <i>Coenonympha gardetta</i> | Winter | -23.4 | no |
| <i>Coenonympha gardetta</i> | Winter | -22.9 | no |
| <i>Coenonympha gardetta</i> | Winter | -15.1 | no |
| <i>Coenonympha gardetta</i> | Winter | -26.6 | no |
| <i>Coenonympha gardetta</i> | Winter | -22.8 | no |
| <i>Coenonympha gardetta</i> | Winter | -24.9 | no |
| <i>Coenonympha gardetta</i> | Winter | -23.5 | no |
| <i>Coenonympha gardetta</i> | Winter | -19.5 | no |
| <i>Coenonympha gardetta</i> | Winter | -25.5 | no |
| <i>Coenonympha gardetta</i> | Winter | -19.0 | no |
| <i>Coenonympha gardetta</i> | Winter | -25.7 | no |
| <i>Melanargia galathea</i> | Winter | -9.0 | no |
| <i>Melanargia galathea</i> | Winter | -8.0 | no |
| <i>Melanargia galathea</i> | Winter | -9.6 | no |
| <i>Melanargia galathea</i> | Winter | -14.9 | no |
| <i>Melanargia galathea</i> | Winter | -13.1 | no |
| <i>Melanargia galathea</i> | Winter | -7.4 | no |
| <i>Melanargia galathea</i> | Winter | -7.6 | no |
| <i>Melanargia galathea</i> | Winter | -15.5 | no |
| <i>Melanargia galathea</i> | Winter | -9.1 | no |
| <i>Melanargia galathea</i> | Winter | -17.6 | no |
| <i>Melanargia galathea</i> | Winter | -8.9 | no |
| <i>Melanargia galathea</i> | Winter | -8.7 | no |
| <i>Melanargia galathea</i> | Winter | -16.6 | no |
| <i>Melanargia galathea</i> | Winter | -12.8 | no |
| <i>Melanargia galathea</i> | Winter | -6.4 | no |
| <i>Melanargia galathea</i> | Winter | -7.4 | no |
| <i>Aphantopus hyperantus</i> | Winter | -8.9 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -7.1 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -9.7 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -13.9 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -7.5 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -8.2 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -7.3 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -15.2 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -8.0 | yes |

| | | | |
|------------------------------|--------|-------|-----|
| <i>Aphantopus hyperantus</i> | Winter | -8.6 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -14.2 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -8.5 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -8.8 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -9.7 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -9.7 | yes |
| <i>Aphantopus hyperantus</i> | Winter | -8.8 | yes |
| <i>Maniola jurtina</i> | Winter | -14.3 | no |
| <i>Maniola jurtina</i> | Winter | -14.8 | no |
| <i>Maniola jurtina</i> | Winter | -19.7 | no |
| <i>Maniola jurtina</i> | Winter | -18.2 | no |
| <i>Maniola jurtina</i> | Winter | -19.1 | no |
| <i>Maniola jurtina</i> | Winter | -18.3 | no |
| <i>Maniola jurtina</i> | Winter | -16.6 | no |
| <i>Maniola jurtina</i> | Winter | -10.7 | no |
| <i>Maniola jurtina</i> | Winter | -16.8 | no |
| <i>Maniola jurtina</i> | Winter | -14.1 | no |
| <i>Maniola jurtina</i> | Winter | -17.3 | no |
| <i>Maniola jurtina</i> | Winter | -19.8 | no |
| <i>Maniola jurtina</i> | Winter | -7.8 | yes |
| <i>Maniola jurtina</i> | Winter | -15.0 | no |
| <i>Maniola jurtina</i> | Winter | -11.1 | no |
| <i>Maniola jurtina</i> | Winter | -20.5 | no |
| <i>Hipparchia semele</i> | Winter | -9.2 | yes |
| <i>Hipparchia semele</i> | Winter | -9.6 | yes |
| <i>Hipparchia semele</i> | Winter | -8.3 | yes |
| <i>Hipparchia semele</i> | Winter | -10.4 | yes |
| <i>Hipparchia semele</i> | Winter | -9.2 | yes |
| <i>Hipparchia semele</i> | Winter | -10.3 | yes |
| <i>Hipparchia semele</i> | Winter | -10.5 | yes |
| <i>Hipparchia semele</i> | Winter | -12.0 | yes |
| <i>Hipparchia semele</i> | Winter | -7.8 | yes |
| <i>Hipparchia semele</i> | Winter | -10.0 | yes |
| <i>Chazara briseis</i> | Winter | -19.1 | no |
| <i>Chazara briseis</i> | Winter | -25.7 | no |
| <i>Chazara briseis</i> | Winter | -16.4 | no |
| <i>Chazara briseis</i> | Winter | -10.9 | no |
| <i>Chazara briseis</i> | Winter | -8.3 | yes |
| <i>Chazara briseis</i> | Winter | -9.1 | yes |
| <i>Chazara briseis</i> | Winter | -22.5 | no |
| <i>Chazara briseis</i> | Winter | -21.1 | no |
| <i>Chazara briseis</i> | Winter | -13.8 | no |
| <i>Chazara briseis</i> | Winter | -24.8 | no |
| <i>Minois dryas</i> | Winter | -23.1 | no |
| <i>Minois dryas</i> | Winter | -23.5 | no |
| <i>Minois dryas</i> | Winter | -19.5 | no |
| <i>Minois dryas</i> | Winter | -12.3 | no |
| <i>Minois dryas</i> | Winter | -18.8 | no |

| | | | |
|---------------------------|--------|-------|-----|
| <i>Minois dryas</i> | Winter | -26.5 | no |
| <i>Minois dryas</i> | Winter | -21.4 | no |
| <i>Minois dryas</i> | Winter | -18.5 | no |
| <i>Erebia medusa</i> 2012 | Autumn | -16.5 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -15 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -22 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -15 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -21 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -17 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -18 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -14 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -17 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -15.5 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -18 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -16.5 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -18.5 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -13 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -17 | yes |
| <i>Erebia medusa</i> 2012 | Autumn | -18 | yes |
| <i>Erebia epiphron</i> | Autumn | -26.5 | no |
| <i>Erebia epiphron</i> | Autumn | -20 | no |
| <i>Erebia epiphron</i> | Autumn | -26.5 | no |
| <i>Erebia epiphron</i> | Autumn | -18.5 | no |
| <i>Erebia epiphron</i> | Autumn | -24.5 | no |
| <i>Erebia epiphron</i> | Autumn | -15.5 | no |
| <i>Erebia epiphron</i> | Autumn | -25.5 | no |
| <i>Erebia epiphron</i> | Autumn | -21.5 | no |
| <i>Erebia epiphron</i> | Autumn | -22.5 | no |
| <i>Erebia epiphron</i> | Autumn | -25 | no |
| <i>Erebia epiphron</i> | Autumn | -22.5 | no |
| <i>Erebia epiphron</i> | Autumn | -19.5 | no |
| <i>Erebia epiphron</i> | Autumn | -24.5 | no |
| <i>Erebia epiphron</i> | Autumn | -20.5 | no |
| <i>Erebia epiphron</i> | Autumn | -18.5 | no |
| <i>Erebia epiphron</i> | Autumn | -21 | no |
| <i>Erebia sudetica</i> | Autumn | -22 | no |
| <i>Erebia sudetica</i> | Autumn | -7 | no |
| <i>Erebia sudetica</i> | Autumn | -15 | no |
| <i>Erebia sudetica</i> | Autumn | -9 | no |
| <i>Erebia sudetica</i> | Autumn | -9.5 | no |
| <i>Erebia sudetica</i> | Autumn | -10 | no |
| <i>Erebia sudetica</i> | Autumn | -12.5 | no |
| <i>Erebia sudetica</i> | Autumn | -15 | no |
| <i>Erebia sudetica</i> | Autumn | -16.5 | no |
| <i>Erebia sudetica</i> | Autumn | -17.5 | no |
| <i>Erebia sudetica</i> | Autumn | -20 | no |
| <i>Erebia sudetica</i> | Autumn | -15 | no |
| <i>Erebia sudetica</i> | Autumn | -16 | no |

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|---------------------------|--------|-------|-----|
| <i>Erebia sudetica</i> | Autumn | -17 | no |
| <i>Erebia sudetica</i> | Autumn | -19.5 | no |
| <i>Erebia sudetica</i> | Autumn | -20 | no |
| <i>Erebia tyndarus</i> | Autumn | -5.5 | no |
| <i>Erebia tyndarus</i> | Autumn | -8 | no |
| <i>Erebia tyndarus</i> | Autumn | -5.5 | no |
| <i>Erebia tyndarus</i> | Autumn | -9.5 | no |
| <i>Erebia tyndarus</i> | Autumn | -8.5 | no |
| <i>Erebia tyndarus</i> | Autumn | -11 | no |
| <i>Erebia tyndarus</i> | Autumn | -7 | no |
| <i>Erebia tyndarus</i> | Autumn | -11 | no |
| <i>Erebia tyndarus</i> | Autumn | -6 | no |
| <i>Erebia tyndarus</i> | Autumn | -15 | no |
| <i>Erebia tyndarus</i> | Autumn | -8.5 | no |
| <i>Erebia tyndarus</i> | Autumn | -6 | no |
| <i>Erebia tyndarus</i> | Autumn | -5.5 | no |
| <i>Erebia tyndarus</i> | Autumn | -12.5 | no |
| <i>Erebia tyndarus</i> | Autumn | -8.5 | no |
| <i>Erebia tyndarus</i> | Autumn | -6.5 | no |
| <i>Erebia medusa 2017</i> | Autumn | -8.4 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -8.3 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -13.8 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -7.8 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -15.4 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -11.9 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -8.1 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -8.8 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -12.7 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -8.4 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -6.9 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -11.8 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -14.4 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -11.4 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -11.9 | yes |
| <i>Erebia medusa 2017</i> | Autumn | -13.3 | yes |
| <i>Erebia medusa 2017</i> | Winter | -8.4 | yes |
| <i>Erebia medusa 2017</i> | Winter | -16.3 | yes |
| <i>Erebia medusa 2017</i> | Winter | -19.1 | yes |
| <i>Erebia medusa 2017</i> | Winter | -6.2 | yes |
| <i>Erebia medusa 2017</i> | Winter | -8.2 | yes |
| <i>Erebia medusa 2017</i> | Winter | -8.1 | yes |
| <i>Erebia medusa 2017</i> | Winter | -8.8 | yes |
| <i>Erebia medusa 2017</i> | Winter | -7.9 | yes |
| <i>Erebia medusa 2017</i> | Winter | -18.0 | yes |
| <i>Erebia medusa 2017</i> | Winter | -7.9 | yes |
| <i>Erebia medusa 2017</i> | Winter | -11.5 | yes |
| <i>Erebia medusa 2017</i> | Winter | -7.5 | yes |
| <i>Erebia medusa 2017</i> | Winter | -21.8 | yes |

| | | | |
|---------------------------|--------|-------|-----|
| <i>Erebia medusa</i> 2017 | Winter | -21.1 | yes |
| <i>Erebia medusa</i> 2017 | Winter | -7.3 | yes |
| <i>Erebia medusa</i> 2017 | Winter | -6.1 | yes |
| <i>Erebia aethiops</i> | Autumn | -7.6 | yes |
| <i>Erebia aethiops</i> | Autumn | -12.7 | yes |
| <i>Erebia aethiops</i> | Autumn | -10.1 | yes |
| <i>Erebia aethiops</i> | Autumn | -12.4 | yes |
| <i>Erebia aethiops</i> | Autumn | -7.8 | yes |
| <i>Erebia aethiops</i> | Autumn | -12.1 | no |
| <i>Erebia aethiops</i> | Autumn | -23.3 | no |
| <i>Erebia aethiops</i> | Autumn | -19.2 | no |
| <i>Erebia aethiops</i> | Autumn | -16.2 | no |
| <i>Erebia aethiops</i> | Autumn | -17.1 | no |
| <i>Erebia aethiops</i> | Autumn | -12.3 | no |
| <i>Erebia aethiops</i> | Autumn | -15.8 | no |
| <i>Erebia aethiops</i> | Autumn | -18.8 | no |
| <i>Erebia aethiops</i> | Autumn | -23 | no |
| <i>Erebia aethiops</i> | Autumn | -22.6 | no |
| <i>Erebia aethiops</i> | Autumn | -17.1 | no |
| <i>Erebia aethiops</i> | Winter | -18.8 | no |
| <i>Erebia aethiops</i> | Winter | -18.9 | no |
| <i>Erebia aethiops</i> | Winter | -22.9 | no |
| <i>Erebia aethiops</i> | Winter | -19.1 | no |
| <i>Erebia aethiops</i> | Winter | -18.1 | no |
| <i>Erebia aethiops</i> | Winter | -15.5 | no |
| <i>Erebia aethiops</i> | Winter | -22.9 | no |
| <i>Erebia aethiops</i> | Winter | -22.7 | no |
| <i>Erebia aethiops</i> | Winter | -10.1 | yes |
| <i>Erebia aethiops</i> | Winter | -12.6 | yes |
| <i>Erebia aethiops</i> | Winter | -13.7 | no |
| <i>Erebia aethiops</i> | Winter | -7.2 | no |
| <i>Erebia aethiops</i> | Winter | -8.4 | no |
| <i>Erebia aethiops</i> | Winter | -8.6 | no |
| <i>Erebia aethiops</i> | Winter | -19.7 | no |
| <i>Erebia aethiops</i> | Winter | -8.3 | yes |
| <i>Erebia pronoe</i> | Autumn | -13.6 | no |
| <i>Erebia pronoe</i> | Autumn | -23.5 | no |
| <i>Erebia pronoe</i> | Autumn | -15.2 | no |
| <i>Erebia pronoe</i> | Autumn | -12.1 | no |
| <i>Erebia pronoe</i> | Autumn | -18.3 | no |
| <i>Erebia pronoe</i> | Autumn | -19.0 | no |
| <i>Erebia pronoe</i> | Autumn | -13.9 | no |
| <i>Erebia pronoe</i> | Autumn | -13.9 | no |
| <i>Erebia pronoe</i> | Autumn | -25.9 | no |
| <i>Erebia pronoe</i> | Autumn | -18.3 | no |
| <i>Erebia pronoe</i> | Autumn | -22.9 | no |
| <i>Erebia pronoe</i> | Autumn | -20.4 | no |
| <i>Erebia pronoe</i> | Autumn | -19.2 | no |

| | | | |
|------------------------|--------|-------|----|
| <i>Erebia pronoe</i> | Autumn | -24.8 | no |
| <i>Erebia pronoe</i> | Autumn | -15.1 | no |
| <i>Erebia pronoe</i> | Autumn | -23.8 | no |
| <i>Erebia pronoe</i> | Winter | -9.5 | no |
| <i>Erebia pronoe</i> | Winter | -24.4 | no |
| <i>Erebia pronoe</i> | Winter | -16.8 | no |
| <i>Erebia pronoe</i> | Winter | -12.0 | no |
| <i>Erebia pronoe</i> | Winter | -4.8 | no |
| <i>Erebia pronoe</i> | Winter | -8.2 | no |
| <i>Erebia tyndarus</i> | Autumn | -25.3 | no |
| <i>Erebia tyndarus</i> | Autumn | -24.6 | no |
| <i>Erebia tyndarus</i> | Autumn | -23.1 | no |
| <i>Erebia tyndarus</i> | Autumn | -23.3 | no |
| <i>Erebia tyndarus</i> | Autumn | -24.1 | no |
| <i>Erebia tyndarus</i> | Autumn | -24.2 | no |
| <i>Erebia tyndarus</i> | Autumn | -26.1 | no |
| <i>Erebia tyndarus</i> | Autumn | -15.3 | no |
| <i>Erebia tyndarus</i> | Autumn | -23.7 | no |
| <i>Erebia tyndarus</i> | Autumn | -18.4 | no |
| <i>Erebia tyndarus</i> | Autumn | -23.4 | no |
| <i>Erebia tyndarus</i> | Autumn | -22.2 | no |
| <i>Erebia tyndarus</i> | Autumn | -19.5 | no |
| <i>Erebia tyndarus</i> | Autumn | -17.2 | no |
| <i>Erebia tyndarus</i> | Autumn | -23.1 | no |
| <i>Erebia tyndarus</i> | Autumn | -14.1 | no |
| <i>Erebia tyndarus</i> | Winter | -19.5 | no |
| <i>Erebia tyndarus</i> | Winter | -13.8 | no |
| <i>Erebia tyndarus</i> | Winter | -17.0 | no |
| <i>Erebia tyndarus</i> | Winter | -18.5 | no |
| <i>Erebia tyndarus</i> | Winter | -11.5 | no |
| <i>Erebia tyndarus</i> | Winter | -17.2 | no |
| <i>Erebia tyndarus</i> | Winter | -24.8 | no |
| <i>Erebia tyndarus</i> | Winter | -15.9 | no |
| <i>Erebia tyndarus</i> | Winter | -16.2 | no |
| <i>Erebia tyndarus</i> | Winter | -19.9 | no |
| <i>Erebia tyndarus</i> | Winter | -21.7 | no |
| <i>Erebia tyndarus</i> | Winter | -19.4 | no |
| <i>Erebia tyndarus</i> | Winter | -24.9 | no |
| <i>Erebia tyndarus</i> | Winter | -25.3 | no |
| <i>Erebia pluto</i> | Autumn | -7.4 | no |
| <i>Erebia pluto</i> | Autumn | -15.8 | no |
| <i>Erebia pluto</i> | Autumn | -17.5 | no |
| <i>Erebia pluto</i> | Autumn | -21.6 | no |
| <i>Erebia pluto</i> | Autumn | -8.2 | no |
| <i>Erebia pluto</i> | Autumn | -9.1 | no |
| <i>Erebia pluto</i> | Autumn | -8.6 | no |
| <i>Erebia pluto</i> | Autumn | -18.2 | no |
| <i>Erebia pluto</i> | Autumn | -14.6 | no |

| | | | |
|---------------------|--------|-------|----|
| <i>Erebia pluto</i> | Autumn | -17.0 | no |
| <i>Erebia pluto</i> | Autumn | -24.9 | no |
| <i>Erebia pluto</i> | Autumn | -10.1 | no |
| <i>Erebia pluto</i> | Autumn | -16.3 | no |
| <i>Erebia pluto</i> | Autumn | -16.7 | no |
| <i>Erebia pluto</i> | Autumn | -25.9 | no |
| <i>Erebia pluto</i> | Autumn | -24.3 | no |

Supplementary Table S2. Results of post-hoc Tukey's HSD tests used for multiple comparisons of SCP (**supercooling points, bold triangle**) and *TSPC* (*total sugars and polyols concentrations, triangle in italics*) measured on overwintering larvae of eight European monovoltine Satyrinae butterflies, obtained from ANOVA analysis with factors species and treatment (A and W: Autumn and Winter).

| | | <i>C. arcania</i> | | <i>C. gardetta</i> | | <i>M. jurtina</i> | | <i>A. hyperantus</i> | | <i>M. galathea</i> | | <i>M. dryas</i> | | <i>H. semele</i> | | <i>C. briseis</i> | |
|----------------------|---|-------------------|-------------|--------------------|-------------|-------------------|-------------|----------------------|-------------|--------------------|-------------|-----------------|-------------|------------------|-------------|-------------------|-------------|
| | | A | W | A | W | A | W | A | W | A | W | A | W | A | W | A | W |
| <i>C. arcania</i> | A | | 1.00 | 0.99 | 0.94 | * | **** | **** | **** | **** | **** | 0.99 | 0.60 | **** | **** | 1.00 | 1.00 |
| | W | <i>1.00</i> | | 0.99 | 0.98 | * | **** | **** | **** | **** | **** | 0.99 | 0.57 | **** | **** | 1.00 | 1.00 |
| <i>C. gardetta</i> | A | ** | <i>0.11</i> | | 1.00 | **** | **** | **** | **** | **** | **** | 1.00 | * | **** | **** | 1.00 | 0.99 |
| | W | <i>1.00</i> | <i>1.00</i> | <i>0.33</i> | | **** | **** | **** | **** | **** | **** | 1.00 | * | **** | **** | 0.99 | 0.99 |
| <i>M. jurtina</i> | A | <i>0.95</i> | <i>0.99</i> | <i>0.67</i> | <i>1.00</i> | | 1.00 | 1.00 | 1.00 | 0.80 | 0.99 | **** | ** | 0.99 | 0.99 | **** | **** |
| | W | <i>0.72</i> | <i>0.99</i> | <i>0.92</i> | <i>1.00</i> | <i>1.00</i> | | ** | ** | **** | **** | ** | 0.99 | **** | *** | ** | 0.11 |
| <i>A. hyperantus</i> | A | **** | *** | <i>0.90</i> | *** | ** | * | | 1.00 | 0.98 | 0.99 | **** | **** | 0.99 | 0.99 | **** | **** |
| | W | <i>0.10</i> | <i>0.55</i> | <i>1.00</i> | <i>0.86</i> | <i>0.99</i> | <i>0.99</i> | <i>0.40</i> | | 0.97 | 0.99 | **** | *** | 0.99 | 1.00 | **** | **** |
| <i>M. galathea</i> | A | **** | **** | **** | **** | **** | **** | **** | **** | | 1.00 | **** | **** | 0.99 | 1.00 | **** | **** |
| | W | <i>0.10</i> | <i>0.54</i> | <i>1.00</i> | <i>0.86</i> | <i>0.98</i> | <i>0.99</i> | <i>0.41</i> | <i>1.00</i> | **** | | **** | **** | 1.00 | 1.00 | **** | **** |
| <i>M. dryas</i> | A | **** | **** | **** | **** | **** | **** | **** | **** | <i>0.24</i> | **** | | 0.06 | **** | **** | 1.00 | 0.99 |
| | W | **** | **** | <i>0.17</i> | **** | **** | *** | <i>0.97</i> | * | **** | * | *** | | **** | *** | 0.29 | 0.79 |
| <i>H. semele</i> | A | <i>0.07</i> | <i>0.44</i> | <i>1.00</i> | <i>0.78</i> | <i>0.97</i> | <i>0.99</i> | <i>0.50</i> | <i>1.00</i> | **** | <i>1.00</i> | **** | * | | 1.00 | **** | **** |
| | W | <i>0.0002</i> | ** | <i>1.00</i> | * | <i>0.12</i> | <i>0.35</i> | <i>0.99</i> | <i>0.96</i> | **** | <i>0.96</i> | **** | <i>0.72</i> | <i>0.98</i> | | **** | **** |
| <i>C. briseis</i> | A | *** | * | <i>1.00</i> | <i>0.10</i> | <i>0.31</i> | <i>0.64</i> | <i>0.99</i> | <i>0.99</i> | **** | <i>0.99</i> | **** | <i>0.44</i> | <i>0.99</i> | <i>1.00</i> | | 1.00 |
| | W | <i>0.99</i> | <i>1.00</i> | <i>0.27</i> | <i>1.00</i> | <i>1.00</i> | <i>0.99</i> | *** | <i>0.80</i> | **** | <i>0.80</i> | **** | **** | <i>0.71</i> | * | <i>0.07</i> | |

Supplementary Table S3. Detailed results of correlations analyses (Pearson product moment correlation) relating concentrations of individual polyols in overwintering larvae ($\mu\text{g} \times \text{g}^{-1}$ fresh mass), plus their summed sugars and polyols concentrations (TSPC), to supercooling points (SCP) found for a selection of species of European univoltine Satyrinae butterflies. Concentration values were log-transformed to achieve normality of distributions.

Eight non-*Erebia* spp.

| | Both treatments (N = 16) | | | Autumn (N = 8) | | | Winter (N = 16) | | |
|-----------------|--------------------------|-------|------|----------------|-------|------|-----------------|-------|------|
| | r | t | P | r | t | P | r | t | P |
| Glycerol | 0.63 | 3.03 | ** | 0.82 | 3.55 | * | 0.47 | 1.32 | 0.23 |
| Ribose | -0.33 | -1.30 | 0.21 | -0.43 | -1.17 | 0.29 | -0.20 | -0.49 | 0.64 |
| Arabinitol | 0.25 | 0.97 | 0.35 | 0.51 | 1.46 | 0.19 | 0.00 | -0.01 | 1.00 |
| Ribitol | 0.00 | 0.00 | 1.00 | -0.08 | -0.19 | 0.86 | 0.12 | 0.29 | 0.78 |
| Fructose | 0.32 | 1.27 | 0.22 | 0.45 | 1.22 | 0.27 | 0.21 | 0.52 | 0.62 |
| Glucose | -0.32 | -1.25 | 0.23 | -0.58 | -1.76 | 0.13 | 0.15 | 0.38 | 0.71 |
| Manitol | 0.21 | 0.81 | 0.43 | 0.32 | 0.83 | 0.44 | 0.12 | 0.31 | 0.77 |
| Sorbitol | -0.28 | -1.10 | 0.29 | -0.54 | -1.58 | 0.16 | 0.18 | 0.44 | 0.67 |
| Scyllo-inositol | 0.06 | 0.23 | 0.82 | -0.42 | -1.12 | 0.31 | 0.47 | 1.32 | 0.24 |
| Myo-inositol | 0.45 | 1.87 | + | 0.56 | 1.68 | 0.14 | 0.26 | 0.65 | 0.54 |
| Saccharose | 0.53 | 2.33 | * | 0.60 | 1.82 | 0.12 | 0.48 | 1.34 | 0.23 |
| Trehalose | -0.22 | -0.82 | 0.42 | -0.37 | -0.98 | 0.36 | 0.10 | 0.25 | 0.81 |
| Maltose | 0.30 | 1.18 | 0.26 | 0.38 | 1.00 | 0.36 | 0.26 | 0.66 | 0.53 |
| TSPC | 0.20 | 0.77 | 0.46 | 0.14 | 0.34 | 0.75 | 0.36 | 0.95 | 0.38 |

Five *Erebia* spp. [15] added

| | Both treatments (N = 25) | | | Autumn (N = 13) | | | Winter (N = 12) | | |
|----------|--------------------------|------|------|-----------------|-------|------|-----------------|------|------|
| | r | t | P | r | t | P | r | t | P |
| Glycerol | 0.02 | 0.10 | 0.92 | -0.03 | -0.10 | 0.92 | 0.15 | 0.48 | 0.64 |

| | | | | | | | | | |
|-----------------|-------|-------|------|-------|-------|------|-------|-------|------|
| Ribose | -0.22 | -1.10 | 0.28 | -0.25 | -0.87 | 0.40 | -0.25 | -0.80 | 0.44 |
| Arabinitol | 0.15 | 0.71 | 0.49 | 0.04 | 0.13 | 0.90 | 0.25 | 0.83 | 0.43 |
| Ribitol | 0.05 | 0.23 | 0.82 | -0.01 | -0.03 | 0.98 | 0.11 | 0.37 | 0.72 |
| Fructose | 0.19 | 0.95 | 0.35 | 0.28 | 0.97 | 0.35 | 0.11 | 0.34 | 0.74 |
| Glucose | -0.11 | -0.54 | 0.59 | -0.33 | -1.17 | 0.27 | 0.23 | 0.75 | 0.47 |
| Manitol | 0.14 | 0.68 | 0.50 | 0.18 | 0.61 | 0.55 | 0.07 | 0.22 | 0.83 |
| Sorbitol | -0.14 | -0.66 | 0.52 | -0.25 | -0.87 | 0.40 | -0.09 | -0.30 | 0.77 |
| Scyllo-inositol | 0.14 | 0.67 | 0.51 | -0.34 | -1.20 | 0.26 | 0.40 | 1.36 | 0.20 |
| Myo-inositol | 0.40 | 2.12 | * | 0.52 | 2.03 | + | 0.20 | 0.65 | 0.53 |
| Saccharose | 0.45 | 2.44 | * | 0.56 | 2.27 | * | 0.38 | 1.30 | 0.22 |
| Trehalose | -0.13 | -0.62 | 0.54 | -0.25 | -0.84 | 0.42 | 0.00 | -0.01 | 0.99 |
| Maltose | 0.23 | 1.14 | 0.27 | 0.21 | 0.71 | 0.49 | 0.31 | 1.04 | 0.32 |
| Threitol | 0.02 | 0.12 | 0.91 | -0.03 | -0.09 | 0.93 | 0.09 | 0.29 | 0.78 |
| Erythritol | 0.26 | 1.30 | 0.21 | 0.28 | 0.96 | 0.36 | 0.29 | 0.96 | 0.36 |
| TSPC | 0.06 | 0.31 | 0.76 | 0.02 | 0.08 | 0.94 | 0.13 | 0.40 | 0.70 |

Supplementary Table S4. Mean (\pm SD) concentrations ($\mu\text{g} \times \text{mg}^{-1}$ fresh mass) of sugars and polyols detected in the eight non-*Erebia* spp. targeted in this study, and six *Erebia* spp. targeted in [15]. Only substances reaching higher concentrations than $0.1 \mu\text{g} \times \text{mg}^{-1}$ are listed. A and W: Autumn and Winter treatments.

| | | Arabinitol | Fructose | Glucose | Glycerol | Maltose | Myo-Inositol | Ribitol | Saccharose | Sorbitol | Threitol | Trehalose |
|----------------------|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|------------------|
| <i>C. arcania</i> | A | 0.01 \pm 0.00 | 0.15 \pm 0.04 | 0.45 \pm 0.13 | 0.11 \pm 0.03 | 0.03 \pm 0.02 | 0.07 \pm 0.05 | 0.07 \pm 0.05 | 0.95 \pm 0.82 | 0.02 \pm 0.00 | 0 | 0.04 \pm 0.01 |
| | W | 0.01 \pm 0.00 | 0.13 \pm 0.04 | 0.47 \pm 0.24 | 0.09 \pm 0.05 | 0.01 \pm 0.01 | 0.07 \pm 0.04 | 0.04 \pm 0.03 | 1.55 \pm 1.87 | 0.01 \pm 0.00 | 0 | 0.07 \pm 0.04 |
| <i>C. gardetta</i> | A | 0.01 \pm 0.00 | 0.10 \pm 0.04 | 1.94 \pm 0.93 | 0.07 \pm 0.02 | 0.01 \pm 0.01 | 0.07 \pm 0.04 | 0.03 \pm 0.02 | 0.32 \pm 0.55 | 0.02 \pm 0.01 | 0 | 2.06 \pm 0.36 |
| | W | 0.02 \pm 0.01 | 0.23 \pm 0.10 | 1.06 \pm 0.39 | 0.05 \pm 0.02 | 0.00 \pm 0.01 | 0.09 \pm 0.10 | 0.01 \pm 0.00 | 0.01 \pm 0.01 | 0.03 \pm 0.01 | 0 | 1.26 \pm 0.23 |
| <i>M. jurtina</i> | A | 0.03 \pm 0.01 | 0.17 \pm 0.04 | 0.34 \pm 0.08 | 0.14 \pm 0.02 | 0.01 \pm 0.01 | 0.04 \pm 0.03 | 0.04 \pm 0.04 | 2.26 \pm 0.55 | 0 | 0 | 0.07 \pm 0.02 |
| | W | 0.04 \pm 0.01 | 0.61 \pm 0.23 | 1.10 \pm 0.48 | 0.17 \pm 0.04 | 0.03 \pm 0.02 | 0.07 \pm 0.05 | 0.03 \pm 0.03 | 1.25 \pm 0.37 | 0.03 \pm 0.01 | 0 | 0.07 \pm 0.01 |
| <i>A. hyperantus</i> | A | 0.02 \pm 0.01 | 0.18 \pm 0.06 | 0.57 \pm 0.15 | 0.16 \pm 0.03 | 0.03 \pm 0.02 | 0.37 \pm 0.09 | 0.01 \pm 0.00 | 3.22 \pm 0.60 | 0.02 \pm 0.01 | 0 | 1.34 \pm 0.42 |
| | W | 0.02 \pm 0.01 | 0.28 \pm 0.09 | 0.85 \pm 0.21 | 0.11 \pm 0.02 | 0 | 0.10 \pm 0.09 | 0.02 \pm 0.01 | 1.44 \pm 0.33 | 0.05 \pm 0.02 | 0 | 1.22 \pm 0.33 |
| <i>M. galathea</i> | A | 0.02 \pm 0.01 | 0.59 \pm 0.09 | 1.10 \pm 0.32 | 0.19 \pm 0.05 | 0.18 \pm 0.02 | 0.25 \pm 0.12 | 0 | 10.28 \pm 2.75 | 0 | 0 | 0 |
| | W | 0.02 \pm 0.00 | 0.78 \pm 0.10 | 1.87 \pm 0.33 | 0.15 \pm 0.03 | 0.15 \pm 0.17 | 0.19 \pm 0.12 | 0.01 \pm 0.01 | 0.68 \pm 0.13 | 0.09 \pm 0.02 | 0 | 0.15 \pm 0.02 |
| <i>M. dryas</i> | A | 0.01 \pm 0.00 | 0.54 \pm 0.07 | 2.35 \pm 0.52 | 0.06 \pm 0.01 | 0.02 \pm 0.01 | 0.07 \pm 0.03 | 0 | 6.23 \pm 1.93 | 0.07 \pm 0.01 | 0 | 1.31 \pm 0.34 |
| | W | 0.02 \pm 0.00 | 0.56 \pm 0.23 | 2.57 \pm 0.87 | 0.07 \pm 0.02 | 0.03 \pm 0.05 | 0.09 \pm 0.03 | 0 | 1.63 \pm 1.16 | 0.16 \pm 0.06 | 0 | 1.00 \pm 0.53 |
| <i>H. semele</i> | A | 0.01 \pm 0.01 | 0.29 \pm 0.05 | 1.08 \pm 0.54 | 0.11 \pm 0.08 | 0.01 \pm 0.00 | 0.07 \pm 0.07 | 0 | 2.27 \pm 1.68 | 0.03 \pm 0.01 | 0 | 0.33 \pm 0.36 |
| | W | 0.01 \pm 0.00 | 0.21 \pm 0.17 | 1.69 \pm 1.59 | 0.07 \pm 0.04 | 0.02 \pm 0.02 | 0.07 \pm 0.04 | 0 | 1.62 \pm 0.94 | 0.04 \pm 0.01 | 0 | 1.50 \pm 1.25 |
| <i>C. briseis</i> | A | 0.02 \pm 0.01 | 0.04 \pm 0.01 | 3.91 \pm 1.22 | 0.08 \pm 0.03 | 0.01 \pm 0.00 | 0.03 \pm 0.03 | 0 | 0.02 \pm 0.06 | 0.05 \pm 0.01 | 0 | 0.82 \pm 0.59 |
| | W | 0.01 \pm 0.01 | 0.04 \pm 0.02 | 1.42 \pm 0.81 | 0.06 \pm 0.02 | 0.01 \pm 0.00 | 0.02 \pm 0.03 | 0 | 0.19 \pm 0.10 | 0.07 \pm 0.04 | 0 | 0.87 \pm 1.41 |
| <i>E. medusa</i> | A | 0.04 \pm 0.01 | 0.04 \pm 0.02 | 1.29 \pm 0.65 | 0.27 \pm 0.05 | 0.02 \pm 0.07 | 0.03 \pm 0.01 | 0.11 \pm 0.03 | 1.58 \pm 0.66 | 0.00 \pm 0.01 | 0.14 \pm 0.03 | 4.07 \pm 2.26 |
| | W | 0.11 \pm 0.04 | 0.10 \pm 0.09 | 2.23 \pm 1.31 | 0.35 \pm 0.09 | 0 | 0.03 \pm 0.01 | 0.10 \pm 0.05 | 1.25 \pm 0.77 | 0.02 \pm 0.02 | 0.10 \pm 0.04 | 1.28 \pm 1.35 |
| <i>E. aethiops</i> | A | 0.03 \pm 0.03 | 0.35 \pm 0.40 | 0.60 \pm 0.19 | 0.40 \pm 0.15 | 0.02 \pm 0.03 | 0.03 \pm 0.01 | 0.04 \pm 0.01 | 1.25 \pm 0.67 | 0.03 \pm 0.03 | 0.11 \pm 0.03 | 0.88 \pm 1.03 |
| | W | 0.09 \pm 0.07 | 0.10 \pm 0.05 | 1.06 \pm 0.44 | 0.57 \pm 0.22 | 0 | 0.01 \pm 0.01 | 0.07 \pm 0.03 | 1.19 \pm 0.49 | 0.04 \pm 0.04 | 0.10 \pm 0.03 | 11.90 \pm 3.12 |
| <i>E. pronoe</i> | A | 0.02 \pm 0.02 | 0.08 \pm 0.03 | 0.42 \pm 0.03 | 0.68 \pm 0.10 | 0.13 \pm 0.02 | 0.02 \pm 0.02 | 0.01 \pm 0.01 | 0.69 \pm 0.27 | 0.01 \pm 0.02 | 0.07 \pm 0.03 | 0.95 \pm 0.28 |
| | W | 0.11 \pm 0.03 | 0.09 \pm 0.03 | 0.99 \pm 0.34 | 0.86 \pm 0.05 | 0 | 0.04 \pm 0.01 | 0.05 \pm 0.01 | 0.96 \pm 0.27 | 0.01 \pm 0.02 | 0.13 \pm 0.02 | 8.68 \pm 0.88 |
| <i>E. cassioides</i> | A | 0.04 \pm 0.02 | 0.02 \pm 0.02 | 0.43 \pm 0.09 | 0.51 \pm 0.08 | 0 | 0.02 \pm 0.01 | 0.06 \pm 0.02 | 0.45 \pm 0.17 | 0 | 0.12 \pm 0.04 | 11.28 \pm 2.40 |
| | W | 0.05 \pm 0.02 | 0.02 \pm 0.02 | 0.61 \pm 0.24 | 0.63 \pm 0.06 | 0 | 0.01 \pm 0.01 | 0.08 \pm 0.02 | 0.34 \pm 0.24 | 0 | 0.13 \pm 0.05 | 11.83 \pm 3.64 |
| <i>E. pluto</i> | A | 0.15 \pm 0.12 | 0.17 \pm 0.06 | 0.40 \pm 0.20 | 2.40 \pm 2.75 | 0.04 \pm 0.05 | 0.04 \pm 0.01 | 0.05 \pm 0.01 | 1.44 \pm 0.20 | 0.10 \pm 0.03 | 0.09 \pm 0.07 | 13.19 \pm 1.90 |

Supplementary Figure S1. CCA ordination biplots (with first and second ordination axes) showing the sugars and polyols profiles in the eight non-*Erebia* (left) and satyrines including *Erebia* (right) if effect of treatment (Autumn vs. Winter) was filtered out as covariable (top), and if identities of species were treated as covariables (bottom). The letters H, I, and L denote High, Intermediate, or Low concentrations of individual polyols.

