

Supplementary material 1

Table 2. Anatomical characteristics of leaves of *Rh. rosea* from different coenopopulations

| Characteristics | M±m CV, % Location | | | | | | | |
|--|---|---|---|---|---|---|---|---|
| | CP 1 | CP 2 | CP 3, ♂ | CP 3, ♀ | CP 4 | CP 6 | CP 8 | CP 9 |
| Number of UE cells per 1 mm ² , pcs | <u>537.0^B±14.9</u> 13.8 | <u>739.8^A±15.6</u> 10.5 | <u>529.3^{B,C}±11.1</u> 10.5 | <u>498.6^{B,C,D}±14.5</u> 14.5 | <u>446.1^D±13.0</u> 14.6 | <u>350.7^E±13.6</u> 19.4 | <u>455.7^{C,D}±9.9</u> 10.9 | <u>395.5^{D,E}±14.8</u> 18.7 |
| Number of UE stomata per 1 mm ² , pcs | <u>72.3^B±3.6</u> 24.8 | <u>109.8^A±3.3</u> 14.8 | <u>71.0^B±3.7</u> 25.9 | <u>64.6^{B,C}±4.1</u> 31.5 | <u>70.4^B±3.6</u> 25.4 | <u>48.6^C±3.9</u> 39.7 | <u>73.3^B±3.3</u> 22.7 | <u>61.8^{B,C}±4.8</u> 39.1 |
| UE stomatal index, % | <u>11.7^A±0.4</u> 15.5 | <u>13.0^A±0.4</u> 13.8 | <u>11.7^A±0.4</u> 17.7 | <u>11.3^A±0.4</u> 19.7 | <u>13.4^A±0.4</u> 13.7 | <u>11.8^A±0.6</u> 25.7 | <u>13.8^A±0.4</u> 15.2 | <u>13.0^A±0.6</u> 23.8 |
| Length of UE stomata, µm | <u>26.8^B±0.5</u> 9.0 | <u>24.2^C±0.4</u> 7.9 | <u>27.1^B±0.4</u> 6.5 | <u>26.7^{B,C}±0.4</u> 6.8 | <u>27.9^B±0.7</u> 11.9 | <u>32.1^A±0.9</u> 13.2 | <u>27.2^B±0.6</u> 10.5 | <u>28.4^{A,B}±0.7</u> 11.5 |
| Width of UE stomata, µm | <u>18.8^{B,C}±0.3</u> 6.8 | <u>17.4^D±0.3</u> 8.6 | <u>18.7^{B,C,D}±0.4</u> 9.5 | <u>17.6^{C,D}±0.3</u> 7.5 | <u>18.9^{B,C,D}±0.3</u> 7.7 | <u>18.6^{B,C,D}±0.4</u> 10.6 | <u>19.8^{A,B}±0.3</u> 6.4 | <u>20.6^A±0.4</u> 10.2 |
| Sizes of UE cells, µm ² | <u>2276.3^D±199.0</u> 43.7 | <u>1958.8^D±164.7</u> 42.0 | <u>2586.2^{C,D}±174.6</u> 33.8 | <u>2998.7^{B,C,D}±173.3</u> 28.9 | <u>4685.9^{A,B}±387.5</u> 41.4 | <u>4794.0^A±565.7</u> 59.0 | <u>3653.3^{A,B,C}±386.8</u> 52.9 | <u>3927.6^{A,B,C,D}±754.5</u> 78.5 |
| Number of LE cells per 1 mm ² , pcs | <u>854.4^A±25.1</u> 14.7 | <u>814.1^A±23.6</u> 14.5 | <u>501.1^B±14.7</u> 14.7 | <u>450.6^B±11.7</u> 13.0 | <u>445.4^B±14.5</u> 16.3 | <u>458.9^B±14.3</u> 15.6 | <u>510.7^B±14.9</u> 14.6 | <u>489.0^B±19.9</u> 20.4 |
| Number of LE stomata per 1mm ² , pcs | <u>125.8^A±6.1</u> 24.1 | <u>137.6^A±5.4</u> 19.6 | <u>81.6^B±3.9</u> 23.7 | <u>65.3^B±3.2</u> 24.4 | <u>74.2^B±3.6</u> 24.0 | <u>68.2^B±3.2</u> 23.8 | <u>79.4^B±4.4</u> 27.6 | <u>79.4^B±4.6</u> 28.8 |
| LE stomatal index, % | <u>12.7^B±0.3</u> 11.3 | <u>14.4^A±0.3</u> 10.0 | <u>13.9^{A,B}±0.4</u> 13.6 | <u>12.5^{A,B}±0.4</u> 15.6 | <u>14.1^{A,C}±0.3</u> 10.0 | <u>12.9^{B,C}±0.4</u> 16.0 | <u>13.3^{B,C}±0.4</u> 14.6 | <u>13.8^{A,B}±0.4</u> 14.7 |
| Length of LE stomata, µm | <u>25.7^C±0.7</u> 14.2 | <u>25.0^C±0.5</u> 9.0 | <u>27.1^{B,C}±0.4</u> 6.7 | <u>27.5^{A,C}±0.3</u> 5.5 | <u>28.6^{A,B}±0.6</u> 10.6 | <u>30.5^A±0.7</u> 11.3 | <u>27.1^{B,C}±0.6</u> 11.0 | <u>26.4^{B,C}±0.6</u> 11.7 |
| Width of LE stomata, µm | <u>18.3^B±0.4</u> 11.6 | <u>19.3^B±0.3</u> 7.1 | <u>18.7^B±0.2</u> 6.0 | <u>18.9^B±0.3</u> 7.3 | <u>20.0^A±0.4</u> 9.2 | <u>19.0^B±0.4</u> 9.7 | <u>19.8^B±0.5</u> 12.4 | <u>18.9^B±0.4</u> 9.7 |
| Size of LE cells, µm ² | <u>2052.1^{D,E}±179.7</u> 43.8 | <u>2267.8^{C,E}±243.1</u> 53.6 | <u>4460.3^{A,B}±369.0</u> 41.4 | <u>3799.6^{A,B}±316.9</u> 41.7 | <u>4558.1^{A,B}±470.4</u> 51.6 | <u>3188.7^{B,C,D}±209.7</u> 32.9 | <u>3453.9^{A,C}±344.2</u> 49.8 | <u>5566.8^A±616.9</u> 55.4 |
| Leaf thickness, µm | <u>397.9^D±10.6</u> 13.3 | <u>423.8^D±5.2</u> 6.1 | <u>557.1^B±9.5</u> 8.5 | <u>540.0^B±10.7</u> 9.9 | <u>492.2^C±7.9</u> 8.0 | <u>629.4^A±6.5</u> 5.2 | <u>433.2^D±3.2</u> 3.7 | <u>471.5^C±8.0</u> 8.5 |
| LE thickness, µm | <u>29.2^{B,C}±0.7</u> 11.9 | <u>25.0^C±0.6</u> 11.7 | <u>32.2^{A,B}±0.8</u> 12.1 | <u>33.5^A±1.1</u> 16.1 | <u>34.2^A±1.4</u> 20.1 | <u>32.5^{A,B}±1.4</u> 21.0 | <u>33.1^{A,B}±1.1</u> 16.1 | <u>30.0^{A,B,C}±1.2</u> 20.6 |
| LE thickness, µm | <u>30.9^{B,C,D}±0.8</u> 12.5 | <u>28.0^D±1.1</u> 19.0 | <u>29.1^{C,D}±0.8</u> 13.4 | <u>35.0^{A,B}±1.1</u> 15.8 | <u>35.0^A±1.3</u> 19.1 | <u>32.6^{A,B,C,D}±1.3</u> 20.2 | <u>35.6^{A,B}±1.2</u> 16.1 | <u>32.3^{A,B,C}±1.8</u> 27.3 |

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|---|--|--|--|---|--|--|---|---|
| Mesophyll thickness, μm | $330.2^{\text{F}} \pm 10.0$ 15.2 | $364.7^{\text{E}} \pm 6.5$ 8.8 | $495.5^{\text{B}} \pm 8.8$ 8.8 | $461.3^{\text{B}} \pm 8.6$ 9.4 | $418.8^{\text{C,D}} \pm 7.6$ 9.0 | $570.5^{\text{A}} \pm 5.2$ 4.5 | $363.8^{\text{D,E,F}} \pm 3.1$ 4.3 | $393.5^{\text{C,D,E}} \pm 7.9$ 10.0 |
| Thickness of palisade mesophyll, μm | $167.8^{\text{C}} \pm 5.1$ 15.2 | $175.9^{\text{D}} \pm 3.9$ 11.1 | $231.3^{\text{B}} \pm 5.0$ 10.7 | $213.7^{\text{B}} \pm 7.6$ 17.7 | $227.4^{\text{C,D}} \pm 8.1$ 17.8 | $266.5^{\text{A}} \pm 5.3$ 10.0 | $183.2^{\text{C,D}} \pm 3.5$ 9.5 | $196.2^{\text{C,D}} \pm 4.9$ 12.5 |
| Thickness of spongy mesophyll, μm | $165.8^{\text{E}} \pm 5.7$ 17.3 | $205.8^{\text{D,E}} \pm 5.8$ 14.0 | $248.7^{\text{B}} \pm 7.0$ 14.1 | $250.0^{\text{B,C}} \pm 6.5$ 13.0 | $206.1^{\text{B,C}} \pm 10.5$ 25.5 | $293.1^{\text{A}} \pm 5.1$ 8.6 | $188.6^{\text{D,E}} \pm 4.8$ 12.7 | $191.1^{\text{C,D}} \pm 4.6$ 12.1 |
| Palisade/spongy mesophyll ratio | $1.1^{\text{A}} \pm 0.06$ 28.1 | $0.9^{\text{A}} \pm 0.03$ 16.6 | $0.9^{\text{A}} \pm 0.02$ 11.3 | $0.9^{\text{A}} \pm 0.03$ 19.8 | $1.5^{\text{A}} \pm 0.4$ 14.6 | $0.9^{\text{A}} \pm 0.03$ 17.4 | $1.0^{\text{A}} \pm 0.02$ 12.1 | $1.1^{\text{A}} \pm 0.04$ 20.2 |
| Length of cells of the upper mesophyll layer, μm | $66.3^{\text{B}} \pm 1.8$ 13.6 | $51.4^{\text{C}} \pm 1.4$ 13.4 | $51.2^{\text{C}} \pm 1.4$ 13.9 | $65.7^{\text{B}} \pm 1.8$ 13.7 | $71.7^{\text{B}} \pm 2.3$ 16.3 | $85.0^{\text{A}} \pm 2.9$ 16.8 | $63.6^{\text{B}} \pm 2.0$ 15.7 | $66.3^{\text{B,C}} \pm 2.4$ 18.0 |
| Width of cells of the upper mesophyll layer, μm | $58.04^{\text{A}} \pm 16.2$ 39.5 | $32.56^{\text{A}} \pm 1.1$ 16.1 | $36.4^{\text{A}} \pm 1.0$ 13.3 | $39.9^{\text{A}} \pm 1.1$ 13.1 | $59.6^{\text{A}} \pm 2.4$ 20.1 | $53.5^{\text{A}} \pm 2.5$ 22.9 | $43.5^{\text{A}} \pm 1.4$ 15.7 | $44.1^{\text{A}} \pm 2.1$ 23.5 |
| Bundle cross-sectional area, μm^2 | $18610.1^{\text{B,C}} \pm 716.0$ 19.2 | $20320.9^{\text{B}} \pm 810.8$ 19.9 | $19840.4^{\text{B}} \pm 609.2$ 14.7 | $25313.4^{\text{A}} \pm 1240.4$ 17.0 | $20815.8^{\text{B}} \pm 837.5$ 18.0 | $11185.1^{\text{D}} \pm 447.1$ 20.0 | $18414.7^{\text{B,C}} \pm 1203.0$ 26.1 | $14301.0^{\text{C,D}} \pm 2174.3$ 43.0 |

Note: CP – coenopopulation; UE – upper epidermis, LE – lower epidermis, different letters indicate significant differences at $p < 0.05$. Data are presented as follows: above the line – arithmetic mean \pm error of the mean, below the line – the coefficient of variation.