

## Supplementary data

**Table S1:** Inhibition percentage of the 5 antioxidant assays per species for the 4 fractions and the total extract. The final concentration tested was 25 µg/mL. Activity percentages of fractions that are identical to those of the crude extract (rows) are noted \* for significant values  $p < 0.001$  according to Dunnett's test. Activity percentages that are identical for the same fraction among the 3 species (columns) have the same superscript letter for significant values  $p < 0.001$  according to Tukey's test.

Colorimetric tests	Species	Crude extract	F1	F2	F3	F4
		% activity		% activity		
DPPH	Pedunculate	74 <sup>*a</sup>	74 <sup>*a</sup>	79 <sup>a</sup>	75 <sup>*a</sup>	66 <sup>a</sup>
	Sessile	70 <sup>*b</sup>	34 <sup>b</sup>	75 <sup>b</sup>	76 <sup>a</sup>	61 <sup>b</sup>
	Pubescent	72 <sup>*ab</sup>	62 <sup>c</sup>	78 <sup>a</sup>	76 <sup>a</sup>	43 <sup>c</sup>
ABTS	Pedunculate	96 <sup>*a</sup>	94 <sup>*a</sup>	96 <sup>*a</sup>	96 <sup>*a</sup>	86 <sup>a</sup>
	Sessile	96 <sup>*a</sup>	59 <sup>b</sup>	96 <sup>*a</sup>	96 <sup>*a</sup>	94 <sup>*b</sup>
	Pubescent	96 <sup>*a</sup>	72 <sup>c</sup>	96 <sup>*a</sup>	96 <sup>*a</sup>	53 <sup>c</sup>
CUPRAC	Pedunculate	53 <sup>*a</sup>	28 <sup>a</sup>	70 <sup>a</sup>	60 <sup>a</sup>	24 <sup>a</sup>
	Sessile	40 <sup>*b</sup>	13 <sup>b</sup>	72 <sup>a</sup>	57 <sup>b</sup>	25 <sup>a</sup>
	Pubescent	42 <sup>*b</sup>	14 <sup>b</sup>	65 <sup>b</sup>	59 <sup>ab</sup>	10 <sup>b</sup>
FRAP	Pedunculate	90 <sup>*a</sup>	58 <sup>a</sup>	106 <sup>a</sup>	93 <sup>a</sup>	49 <sup>a</sup>
	Sessile	80 <sup>*b</sup>	27 <sup>b</sup>	103 <sup>b</sup>	58 <sup>b</sup>	48 <sup>a</sup>
	Pubescent	88 <sup>*a</sup>	35 <sup>c</sup>	104 <sup>ab</sup>	100 <sup>c</sup>	24 <sup>b</sup>
Iron chelation	Pedunculate	97 <sup>*a</sup>	97 <sup>*a</sup>	108 <sup>a</sup>	105 <sup>a</sup>	98 <sup>*a</sup>
	Sessile	98 <sup>*a</sup>	86 <sup>b</sup>	104 <sup>b</sup>	100 <sup>*b</sup>	92 <sup>b</sup>
	Pubescent	103 <sup>*b</sup>	93 <sup>c</sup>	106 <sup>ab</sup>	101 <sup>*b</sup>	86 <sup>c</sup>

**Table S2:** Inhibition percentage of the 3 enzymatic assays per species for the 4 fractions and the total extract tested at 2 concentrations. Inhibition percentages of fractions that are identical to those of the crude extract (rows) are noted \* for significant values  $p < 0.001$  according to Dunnett's test. Inhibition percentages that are identical for the same fraction among the 3 species (columns) have the same superscript letter for significant values  $p < 0.001$  according to Tukey's test.

Enzymatic tests	Concentrations tested	Species	Crude extract	F1	F2	F3	F4
			% Inhibition	% Inhibition			
Xanthine oxidase	8.4 $\mu\text{g/mL}$	Pedunculate	98 <sup>*a</sup>	100 <sup>*a</sup>	97 <sup>*a</sup>	98 <sup>*a</sup>	97 <sup>*a</sup>
		Sessile	99 <sup>*a</sup>	98 <sup>*ab</sup>	98 <sup>*a</sup>	96 <sup>a</sup>	98 <sup>*a</sup>
		Pubescent	99 <sup>*a</sup>	96 <sup>cb</sup>	99 <sup>*a</sup>	98 <sup>*a</sup>	93 <sup>b</sup>
	4 $\mu\text{g/mL}$	Pedunculate	63 <sup>*a</sup>	47 <sup>a</sup>	60 <sup>a</sup>	57 <sup>a</sup>	53 <sup>a</sup>
		Sessile	54 <sup>*b</sup>	43 <sup>b</sup>	57 <sup>b</sup>	59 <sup>a</sup>	52 <sup>*a</sup>
		Pubescent	55 <sup>*b</sup>	43 <sup>b</sup>	55 <sup>*b</sup>	53 <sup>*b</sup>	47 <sup>b</sup>
Elastase	250 $\mu\text{g/mL}$	Pedunculate	52 <sup>*a</sup>	14 <sup>a</sup>	26 <sup>a</sup>	35 <sup>a</sup>	30 <sup>a</sup>
		Sessile	20 <sup>*b</sup>	0 <sup>b</sup>	18 <sup>*b</sup>	21 <sup>*b</sup>	8 <sup>b</sup>
		Pubescent	56 <sup>*c</sup>	8 <sup>c</sup>	28 <sup>a</sup>	25 <sup>c</sup>	30 <sup>a</sup>
	125 $\mu\text{g/mL}$	Pedunculate	4 <sup>*a</sup>	0 <sup>a</sup>	9 <sup>a</sup>	16 <sup>a</sup>	14 <sup>a</sup>
		Sessile	2 <sup>*a</sup>	0 <sup>*a</sup>	7 <sup>b</sup>	12 <sup>b</sup>	0 <sup>*b</sup>
		Pubescent	15 <sup>*b</sup>	6 <sup>b</sup>	16 <sup>*c</sup>	8 <sup>c</sup>	14 <sup>*a</sup>
Collagenase	0.4 $\mu\text{g/mL}$	Pedunculate	79 <sup>*a</sup>	70 <sup>a</sup>	88 <sup>a</sup>	79 <sup>*a</sup>	65 <sup>a</sup>
		Sessile	37 <sup>*b</sup>	56 <sup>b</sup>	94 <sup>b</sup>	86 <sup>b</sup>	68 <sup>b</sup>
		Pubescent	74 <sup>*c</sup>	62 <sup>c</sup>	81 <sup>c</sup>	90 <sup>c</sup>	83 <sup>c</sup>
	0.04 $\mu\text{g/mL}$	Pedunculate	49 <sup>*a</sup>	21 <sup>a</sup>	64 <sup>a</sup>	59 <sup>a</sup>	55 <sup>a</sup>
		Sessile	21 <sup>*b</sup>	40 <sup>b</sup>	64 <sup>a</sup>	60 <sup>a</sup>	27 <sup>b</sup>
		Pubescent	56 <sup>*c</sup>	50 <sup>c</sup>	58 <sup>*b</sup>	69 <sup>c</sup>	78 <sup>c</sup>

**Table S3:** Description and proposition of annotation of the majority molecules in the most active fractions 2 and 3.

Fraction number	Cluster number	R <sub>T</sub> (min)	Measured <i>m/z</i> [M-H] <sup>-</sup> or [M-2H] <sup>2-</sup>	Formula [M]	Error (ppm)	MS/MS fragments [M-H] <sup>-</sup>	Proposed annotation
Fraction 2	Single node	2.41	990.0807 <sup>2-</sup>	C <sub>87</sub> H <sub>58</sub> O <sub>55</sub>	-2.4	1065.1068 C <sub>46</sub> H <sub>33</sub> O <sub>30</sub> 915.0544 C <sub>41</sub> H <sub>23</sub> O <sub>25</sub>	Roburin B or C [29,34]
	Cluster 1	2.95	924.0613 <sup>2-</sup>	C <sub>82</sub> H <sub>50</sub> O <sub>51</sub>	-1.8	631.0587 C <sub>27</sub> H <sub>19</sub> O <sub>18</sub> 300.9993 C <sub>14</sub> H <sub>5</sub> O <sub>8</sub>	Roburin A or D [29,34]
	Single node	3.01	1065.1095 <sup>1-</sup>	C <sub>46</sub> H <sub>34</sub> O <sub>30</sub>	-2.1	1021.1164 C <sub>45</sub> H <sub>33</sub> O <sub>28</sub> 975.0763 C <sub>43</sub> H <sub>27</sub> O <sub>27</sub>	Grandinin or roburin E [29,34]
	Single node	3.32	1100.0728 <sup>1-</sup>	C <sub>48</sub> H <sub>30</sub> O <sub>31</sub>	-1.1	1057.0800 C <sub>47</sub> H <sub>29</sub> O <sub>29</sub> 933.0635 C <sub>41</sub> H <sub>25</sub> O <sub>26</sub> 631.0573 C <sub>27</sub> H <sub>19</sub> O <sub>18</sub>	Vescavalonic acid [35]
	Cluster 1	3.91	933.0645 <sup>1-</sup>	C <sub>41</sub> H <sub>26</sub> O <sub>26</sub>	-0.8	631.0580 C <sub>27</sub> H <sub>19</sub> O <sub>18</sub> 300.9991 C <sub>14</sub> H <sub>5</sub> O <sub>8</sub>	Castalagin or vescalagin [29]
Fractions 2 and 3	Cluster 1	4.45	783.0693 <sup>1-</sup>	C <sub>34</sub> H <sub>24</sub> O <sub>22</sub>	0.2	481.0633 C <sub>20</sub> H <sub>17</sub> O <sub>14</sub> 300.9986 C <sub>14</sub> H <sub>5</sub> O <sub>8</sub> 275.0186 C <sub>13</sub> H <sub>7</sub> O <sub>7</sub>	Pedunculagin [36]
Fraction 3	Cluster 7	5.10	497.1304 <sup>1-</sup>	C <sub>22</sub> H <sub>26</sub> O <sub>13</sub>	-0.6	313.0568 C <sub>13</sub> H <sub>13</sub> O <sub>9</sub> 169.0140 C <sub>7</sub> H <sub>5</sub> O <sub>5</sub> 125.0244 C <sub>6</sub> H <sub>5</sub> O <sub>3</sub>	3,4,5-trimethoxyphenyl-(6'-O-galloyl)-O-β-glucopyranoside [30]
	Cluster 9	6.85	581.2256 <sup>1-</sup>	C <sub>28</sub> H <sub>38</sub> O <sub>13</sub>	-0.3	419.1722 C <sub>22</sub> H <sub>27</sub> O <sub>8</sub>	Lyoniresinol glucoside [37]
	Cluster 9	7.38	551.2159 <sup>1-</sup>	C <sub>27</sub> H <sub>36</sub> O <sub>12</sub>	-0.3	419.1711 C <sub>22</sub> H <sub>27</sub> O <sub>8</sub>	Lyonside [37]
	Cluster 10	7.65	839.3509 <sup>1-</sup>	C <sub>44</sub> H <sub>56</sub> O <sub>16</sub>	-2.0	419.1719 C <sub>22</sub> H <sub>27</sub> O <sub>8</sub>	Lyoniresinol [31]
	Cluster 8	7.79	575.2136 <sup>1-</sup>	C <sub>29</sub> H <sub>36</sub> O <sub>12</sub>	-0.4	331.1117 C <sub>18</sub> H <sub>19</sub> O <sub>6</sub> 165.0557 C <sub>9</sub> H <sub>9</sub> O <sub>3</sub>	Not identified