

TABLE S5. Factor structure coefficients. Correlation coefficient  $r \geq 0.10$  are in bold. For characteristic codes see Appendix S2.

Character	Between Taxa			Between Groups		Within Group I		Within Group II	
	Function 1	Function 2	Function 3	Function 1	Function 2	Function 1	Function 2	Function 1	Function 2
DPL	0.09	-0.02	<b>-0.14</b>	0.06	<b>0.13</b>	0.08	-0.08	-0.05	0.01
APL	0.05	-0.08	-0.05	-0.02	0.04	0.01	0.08	0.03	0.03
NTFP	0.05	0.004	0.05	0.01	-0.01	0.03	0.07	0.06	<b>-0.23</b>
NRTFP	0.007	-0.01	0.02	0.07	-0.04	0.06	0.08	0.01	-0.03
LTF	0.04	<b>-0.16</b>	<b>-0.31</b>	0.04	<b>0.31</b>	0.01	<b>-0.39</b>	<b>0.15</b>	0.05
LPT	-0.06	<b>-0.27</b>	0.07	-0.01	<b>-0.12</b>	<b>-0.44</b>	0.23	0.08	<b>0.23</b>
DTF	-0.02	0.02	0.03	-0.06	-0.01	<b>-0.22</b>	0.11	-0.03	<b>-0.46</b>
LTV	<b>0.12</b>	-0.01	-0.03	<b>0.13</b>	0.04	0.03	0.04	<b>0.11</b>	-0.03
LHIF	<b>0.20</b>	-0.04	0.06	<b>0.15</b>	-0.06	<b>-0.34</b>	0.08	-0.08	<b>0.17</b>
LHMF	<b>0.11</b>	-0.02	0.07	<b>0.14</b>	-0.06	0.00	<b>0.16</b>	-0.02	<b>0.20</b>
LHSF	0.08	0.03	0.02	<b>0.12</b>	-0.04	0.02	-0.02	<b>-0.12</b>	0.01
AHIF	-0.03	<b>0.31</b>	-0.01	<b>-0.25</b>	-0.03	<b>-0.11</b>	-0.07	0.05	<b>0.21</b>
AHMF	0.07	<b>0.28</b>	0.02	<b>-0.18</b>	-0.03	<b>-0.14</b>	-0.03	-0.03	<b>0.16</b>
AHSF	-0.11	<b>0.12</b>	0.05	<b>-0.18</b>	-0.02	<b>-0.20</b>	0.13	-0.07	<b>0.10</b>
NLHIF	-0.06	-0.38	<b>-0.54</b>	0.05	<b>0.58</b>	-0.17	<b>-0.34</b>	-0.04	-0.01
NLHMF	-0.15	-0.32	<b>-0.44</b>	0.09	<b>0.45</b>	-0.15	<b>-0.22</b>	0.05	-0.07
NLHSF	<b>-0.22</b>	-0.07	-0.13	<b>-0.27</b>	0.19	-0.10	<b>-0.14</b>	-0.02	<b>-0.11</b>
LLHIF	-0.19	<b>0.30</b>	0.01	<b>-0.20</b>	-0.06	-0.08	-0.04	0.07	<b>0.29</b>
LLHMF	-0.16	<b>0.24</b>	-0.14	<b>-0.16</b>	-0.05	<b>-0.16</b>	0.00	-0.01	<b>0.26</b>
LLHSF	<b>-0.34</b>	0.008	-0.05	<b>-0.41</b>	-0.01	<b>-0.30</b>	-0.14	<b>-0.21</b>	0.01
LHCV	<b>0.10</b>	-0.08	0.05	<b>0.11</b>	0.10	0.03	-0.06	0.05	0.02
AHCV	0.01	<b>0.45</b>	0.02	-0.08	-0.02	<b>0.36</b>	0.18	<b>-0.13</b>	0.04

NLCV	-0.05	<b>-0.27</b>	<b>-0.27</b>	0.09	<b>0.30</b>	0.11	<b>-0.19</b>	<b>0.13</b>	0.01
LHB	0.02	-0.07	0.07	0.05	0.09	0.02	<b>0.24</b>	0.09	0.01
AHB	-0.04	<b>0.35</b>	0.03	-0.09	-0.03	<b>-0.25</b>	0.14	<b>-0.14</b>	0.02
NLHB	-0.04	-0.23	<b>-0.25</b>	0.05	<b>0.29</b>	0.06	<b>0.18</b>	<b>0.15</b>	0.01
LHIV	<b>0.16</b>	0.03	0.06	<b>0.13</b>	-0.05	<b>-0.49</b>	-0.11	-0.08	<b>0.29</b>
LHMV	<b>0.16</b>	-0.11	0.07	<b>0.13</b>	-0.05	-0.27	<b>0.28</b>	-0.09	<b>0.17</b>
AHIV	-0.19	<b>0.36</b>	0.02	<b>-0.19</b>	-0.05	-0.04	<b>-0.16</b>	0.08	<b>0.26</b>
AHMV	-0.17	<b>-0.37</b>	-0.01	<b>-0.15</b>	-0.04	<b>-0.14</b>	-0.09	0.02	<b>0.32</b>
NLHIV	-0.02	-0.12	<b>-0.40</b>	0.04	<b>0.37</b>	-0.12	<b>0.26</b>	-0.03	0.01
NLHMV	-0.07	-0.19	<b>0.45</b>	0.01	<b>0.45</b>	-0.11	<b>-0.29</b>	-0.06	-0.05
LLHIV	-0.13	<b>0.39</b>	-0.10	<b>-0.13</b>	-0.07	<b>0.19</b>	-0.08	0.08	<b>0.31</b>
LLHMV	-0.14	<b>0.37</b>	0.02	<b>-0.12</b>	-0.05	<b>0.16</b>	-0.03	0.02	<b>0.29</b>
NHC/N	<b>0.10</b>	0.05	0.03	0.08	0.06	0.01	0.05	0.08	0.05
CD	<b>0.20</b>	0.15	-0.02	0.03	0.04	<b>-0.25</b>	0.17	0.03	<b>0.38</b>
CA	<b>-0.31</b>	-0.02	0.07	<b>-0.32</b>	0.04	0.01	<b>0.25</b>	-0.10	<b>0.11</b>
ID	0.02	0.03	-0.03	0.06	0.03	0.01	0.07	-0.01	0.01
IA	<b>-0.23</b>	-0.03	-0.10	0.04	0.08	<b>-0.33</b>	0.23	<b>-0.24</b>	-0.10
NBI	<b>0.20</b>	0.06	-0.05	<b>0.10</b>	0.06	0.02	<b>0.25</b>	-0.07	0.01
LBE	0.17	<b>0.19</b>	-0.02	0.05	0.01	<b>0.30</b>	-0.25	<b>-0.56</b>	-0.10
LBM	0.14	<b>-0.15</b>	-0.02	0.07	0.03	-0.13	<b>-0.14</b>	<b>-0.40</b>	-0.04
LB1I	-0.11	<b>-0.12</b>	0.01	<b>-0.16</b>	0.07	<b>-0.20</b>	-0.07	<b>-0.25</b>	-0.02
LB2I	-0.18	<b>-0.19</b>	-0.02	<b>-0.18</b>	0.11	<b>-0.13</b>	-0.03	<b>-0.15</b>	-0.02
LBP	-0.21	<b>-0.22</b>	-0.03	<b>-0.23</b>	0.13	<b>-0.35</b>	-0.01	<b>-0.25</b>	-0.01
ABE	-0.02	-0.07	0.09	0.02	0.01	<b>-0.19</b>	0.10	<b>-0.20</b>	-0.12
ABM	-0.03	<b>-0.20</b>	0.09	0.03	-0.01	-0.13	<b>0.22</b>	-0.06	<b>-0.14</b>
AB1I	-0.02	<b>-0.28</b>	0.12	<b>-0.10</b>	0.04	-0.16	<b>-0.18</b>	-0.02	-0.04

AB2I	-0.07	<b>-0.23</b>	0.09	<b>-0.13</b>	0.04	-0.03	0.03	-0.01	0.01
ABP	<b>-0.16</b>	-0.09	0.05	<b>-0.23</b>	0.04	-0.11	<b>-0.12</b>	-0.03	-0.03
LABE	0.02	0.07	0.08	-0.09	<b>-0.10</b>	0.09	<b>-0.10</b>	-0.04	0.03
LABM	-0.008	0.004	<b>0.13</b>	<b>0.17</b>	-0.08	0.13	<b>-0.21</b>	-0.10	<b>0.11</b>
LAB1I	-0.08	-0.05	<b>0.15</b>	<b>-0.11</b>	-0.07	-0.07	0.03	0.01	<b>0.13</b>
LAB2I	-0.08	<b>-0.17</b>	0.14	<b>0.13</b>	-0.04	<b>-0.23</b>	-0.17	0.03	0.03
AABE	<b>-0.16</b>	0.004	0.10	<b>-0.18</b>	-0.05	-0.13	<b>-0.17</b>	<b>-0.11</b>	0.08
AABM	-0.09	-0.009	<b>0.15</b>	-0.09	-0.09	-0.17	<b>-0.23</b>	-0.12	<b>0.17</b>
AAB1I	<b>-0.22</b>	-0.08	0.16	<b>-0.11</b>	-0.07	-0.11	<b>-0.17</b>	-0.05	<b>0.11</b>
AAB2I	0.01	<b>-0.23</b>	0.12	0.04	-0.01	-0.06	<b>-0.12</b>	-0.04	0.06
ALBE	<b>-0.18</b>	-0.05	0.10	<b>-0.18</b>	-0.02	0.01	<b>-0.40</b>	0.03	<b>0.26</b>
ALBM	<b>-0.22</b>	-0.15	0.16	<b>-0.16</b>	-0.04	0.01	<b>-0.39</b>	0.04	<b>0.26</b>
ALB1I	<b>-0.16</b>	-0.04	0.09	<b>-0.17</b>	-0.02	0.04	<b>-0.14</b>	-0.02	<b>0.27</b>
ALB2I	-0.09	0.009	0.04	-0.07	-0.01	0.02	-0.09	0.01	<b>0.18</b>
LANTP	<b>-0.12</b>	0.04	-0.02	-0.02	0.04	-0.03	-0.06	<b>-0.28</b>	0.07
LANTC	<b>-0.12</b>	0.06	-0.03	-0.04	0.03	-0.10	<b>-0.11</b>	<b>-0.28</b>	0.08
LTECP	<b>-0.15</b>	0.12	0.10	<b>-0.17</b>	-0.01	-0.02	-0.07	<b>-0.15</b>	0.03
LTECC	<b>-0.17</b>	0.09	0.16	<b>-0.13</b>	0.03	<b>-0.20</b>	-0.17	-0.07	0.03
LESTP	-0.09	0.09	0.09	<b>-0.11</b>	0.06	0.01	0.009	-0.07	-0.03
LESTC	-0.07	<b>0.15</b>	0.04	<b>-0.10</b>	0.01	<b>-0.14</b>	0.04	0.01	0.08
LPP	-0.09	<b>0.11</b>	-0.02	<b>-0.10</b>	0.06	<b>0.27</b>	0.05	-0.09	0.07
LPC	-0.10	<b>0.20</b>	-0.07	<b>-0.11</b>	0.04	<b>0.35</b>	-0.15	-0.15	<b>0.25</b>
LCP	-0.05	<b>-0.15</b>	-0.08	<b>-0.16</b>	0.09	-0.05	<b>0.23</b>	<b>-0.15</b>	0.10
LCC	<b>-0.18</b>	0.05	-0.08	<b>-0.19</b>	0.09	-0.06	<b>-0.13</b>	-0.04	<b>0.12</b>
LTFP	0.02	-0.05	0.07	0.002	-0.03	-0.01	<b>0.24</b>	-0.04	-0.01
LTFC	-0.04	<b>-0.12</b>	0.08	-0.03	0.05	-0.02	-0.004	-0.08	-0.04

ALFP	-0.08	-0.003	-0.04	<b>-0.12</b>	-0.06	-0.06	-0.02	-0.03	-0.03
ALFC	-0.009	-0.002	0.04	-0.01	-0.07	-0.05	-0.02	-0.03	-0.06
ATFP	0.05	-0.03	0.06	-0.04	-0.09	-0.06	0.08	-0.02	-0.05
ATFC	-0.008	-0.03	0.09	-0.03	-0.08	-0.03	0.05	0.08	-0.04
LAQP	<b>-0.25</b>	0.15	-0.15	<b>-0.24</b>	0.11	-0.23	<b>-0.33</b>	-0.04	<b>0.11</b>
LAQC	<b>-0.23</b>	-0.03	-0.03	<b>-0.22</b>	0.05	<b>-0.27</b>	-0.12	<b>-0.15</b>	0.01
AAQP	<b>-0.24</b>	-0.12	0.04	<b>-0.23</b>	0.03	<b>-0.33</b>	-0.05	-0.18	<b>0.20</b>
AAQC	<b>-0.29</b>	-0.15	-0.06	<b>-0.19</b>	0.08	<b>-0.43</b>	-0.34	<b>-0.10</b>	-0.01
Eigenvalue	13.65	6.99	4.55	8.05	4.00	10.60	9.98	8.26	3.81
Cum. Prop.	0.42	0.60	0.73	0.66	1.00	0.42	0.82	0.68	1.00

TABLE S6. Results of the multidimensional scaling and variation between taxa and groups of qualitative characters by means of logistic regression analysis ( $p < 0.0001$ ). Correlation coefficient  $r \geq 0.10$  are in bold. Df, degrees of freedom. For characteristic codes see Appendix S3.

Character	Multidimensional Scaling				Between Taxa		Between Groups	
	D 1	D 2	D 3	D 4	$\chi^2$	df	$\chi^2$	df
PCL	0.44	0.21	0.52	<b>0.89</b>	37,01.73	33	2,538.01	9
PUB	<b>0.69</b>	0.19	0.42	0.27	2,637.07	33	1,692.99	9
PVG	0.07	0.10	0.05	<b>0.80</b>	1,078.45	11	1,078.45	3
PRT	0.05	0.05	0.02	<b>0.83</b>	1,620.84	33	1,102.99	9
TFQ	0.17	0.06	<b>0.30</b>	0.006	5,597.19	11	1,431.52	3
TFZ	0.14	<b>0.86</b>	0.28	0.08	4,346.78	22	4,121.02	6
TVZ	<b>0.32</b>	0.10	0.20	0.01	2,036.70	22	352.80	6
PDS	0.13	0.16	<b>0.34</b>	0.05	3,476.98	22	1,127.88	6
BFLS	0.26	<b>0.60</b>	0.38	0.07	1,114.07	33	1,156.19	8
BFLG	0.07	<b>0.84</b>	0.27	0.02	2,035.77	22	3,333.81	9
MHBF	0.46	0.14	0.29	<b>0.69</b>	2,217.07	33	1,304.94	6
FHIF	0.51	<b>0.75</b>	0.63	0.09	4,367.99	44	4,906.24	12
FHMF	0.51	<b>0.78</b>	0.62	0.15	1,887.57	44	4,474.69	12
FHSF	<b>0.17</b>	0.13	0.14	0.15	2,712.51	44	1,498.78	12
FHIV	0.30	<b>0.74</b>	0.64	0.09	3,711.29	33	3,519.72	9
FHMV	0.42	<b>0.77</b>	0.67	0.18	2,398.97	44	2,462.63	12
MHIF	0.32	0.43	0.47	<b>0.93</b>	2,499.46	99	4,720.25	27
MHMF	0.70	0.12	0.66	<b>0.92</b>	3,716.92	110	6,621.01	30
MHSF	0.49	0.59	0.35	<b>0.81</b>	1,813.02	55	4,578.67	15
MHIV	0.19	0.40	0.63	<b>0.92</b>	2,468.17	110	4,456.83	30
MHMV	0.41	0.73	0.58	<b>0.91</b>	2,870.02	88	5,287.28	24

MIA	0.08	0.09	<b>0.81</b>	0.002	5,501.65	11	1,332.62	3
LIIF	<b>0.66</b>	0.34	0.32	0.08	2,432.55	44	3,208.36	12
LIMF	<b>0.60</b>	0.28	0.36	0.03	2,950.37	44	4,236.80	12
LISF	<b>0.61</b>	0.23	0.25	0.003	2,500.10	44	5,214.33	12
LIIV	<b>0.56</b>	0.27	0.34	0.03	1,089.78	44	2,354.45	12
LIMV	0.35	<b>0.38</b>	0.29	0.007	1,427.00	44	2,710.08	12
FLH	0.001	<b>0.64</b>	0.24	0.09	682.66	11	1,395.18	3
APH	0.36	<b>0.48</b>	0.41	0.05	2,100.73	44	1,797.70	12
CPS	<b>0.42</b>	0.11	0.13	0.05	3,244.88	22	4,152.85	6
CPU	<b>0.14</b>	0.001	0.004	0.01	579.04	22	513.64	6
RCP	<b>0.35</b>	0.02	0.02	0.11	4,020.91	33	1,608.45	9
FBE	0.05	0.03	0.004	0.008	468.61	44	382.39	15
FBM	<b>0.12</b>	0.08	0.02	0.04	915.92	55	127.45	15
FB1I	<b>0.21</b>	0.06	0.02	0.05	1,428.20	44	912.57	12
FB2I	<b>0.24</b>	0.06	0.09	0.02	803.33	66	544.58	21
FBIS	0.03	0.01	0.05	0.01	408.96	33	316.56	9
FAPBE	<b>0.86</b>	0.06	0.01	0.002	982.98	11	1,076.21	3
FAPBM	<b>0.80</b>	0.0001	0.0009	0.004	680.60	11	232.01	3
FAPBI1	0.0001	0.004	0.01	<b>0.20</b>	191.71	11	307.25	3
APC	0.05	0.04	0.01	<b>0.82</b>	1,078.45	11	278.51	3
BEAD	<b>0.70</b>	0.09	0.03	0.009	2,245.46	44	3,481.75	15
BMAD	<b>0.44</b>	0.09	0.10	0.02	2,101.73	44	2,267.40	12
BI1AD	<b>0.33</b>	0.12	0.08	0.07	1,449.17	55	-	-
BI2AD	<b>0.37</b>	0.20	0.05	0.18	2,431.12	44	-	-
BISAD	<b>0.40</b>	0.03	0.07	0.07	1,714.53	22	2,984.41	6
BEAQ	<b>0.60</b>	0.26	0.07	0.06	4,622.62	22	5,938.01	6

BMAQ	<b>0.57</b>	0.26	0.11	0.09	3,939.15	22	2,817.73	6
BI1AQ	<b>0.67</b>	0.18	0.13	0.09	4,418.32	22	5,884.17	6
BI2AQ	0.05	0.04	0.01	<b>0.82</b>	528.59	11	1,078.45	3
PLBIS	0.17	0.19	<b>0.39</b>	0.22	1,853.33	33	2,213.16	9
PBIS	<b>0.52</b>	0.18	0.39	0.24	4,174.82	44	3,131.05	12
FLPS	<b>0.45</b>	0.10	0.21	0.02	1,761.94	11	595.47	3
CFF	<b>0.20</b>	0.10	0.15	0.06	1,070.00	11	230.23	3
Eigenvalue	20.04	15.64	15.13	12.64				
Cronbach Alpha	0.97	0.95	0.95	0.94				