



Figure S1. *Wolffia australiana* under growth assay.

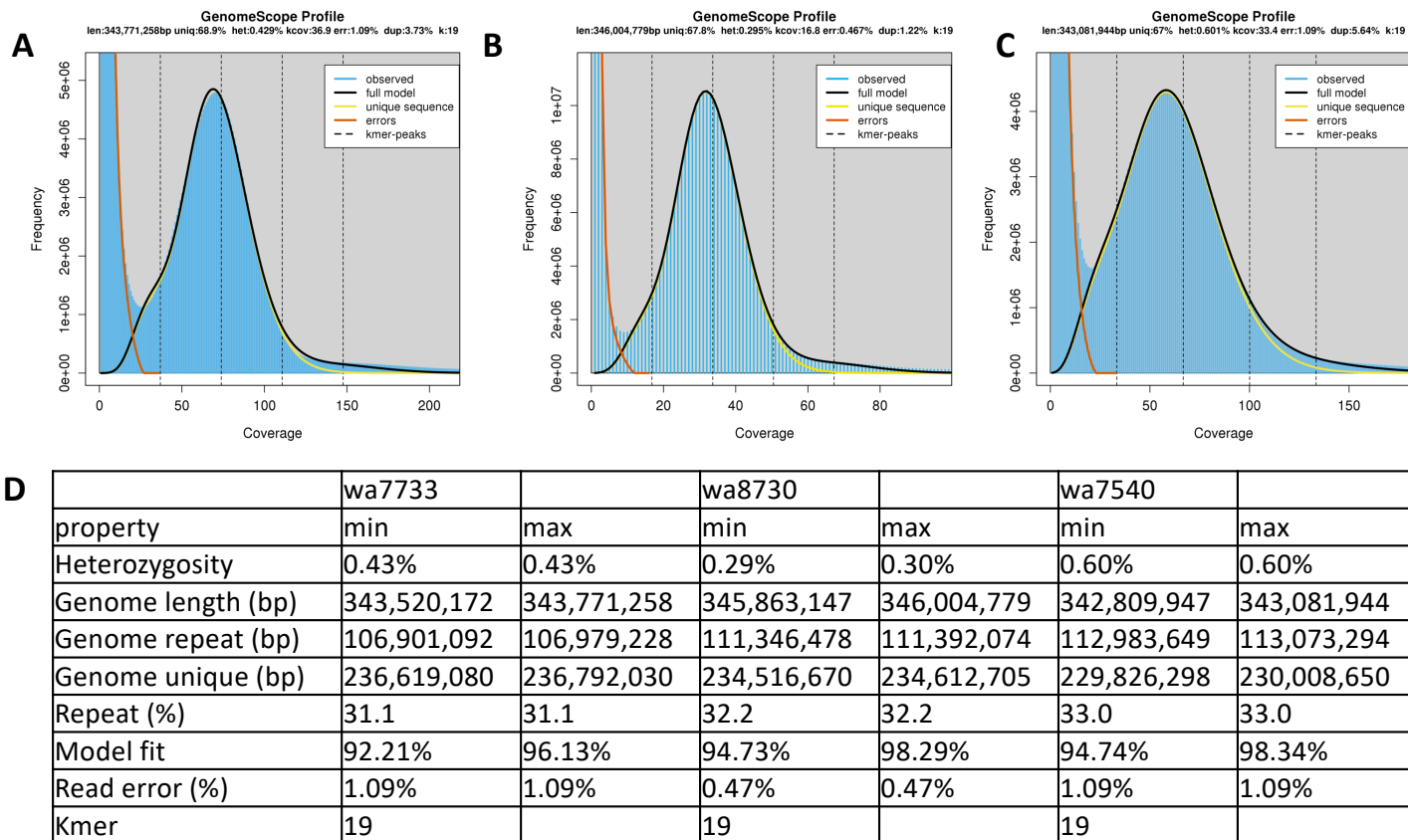
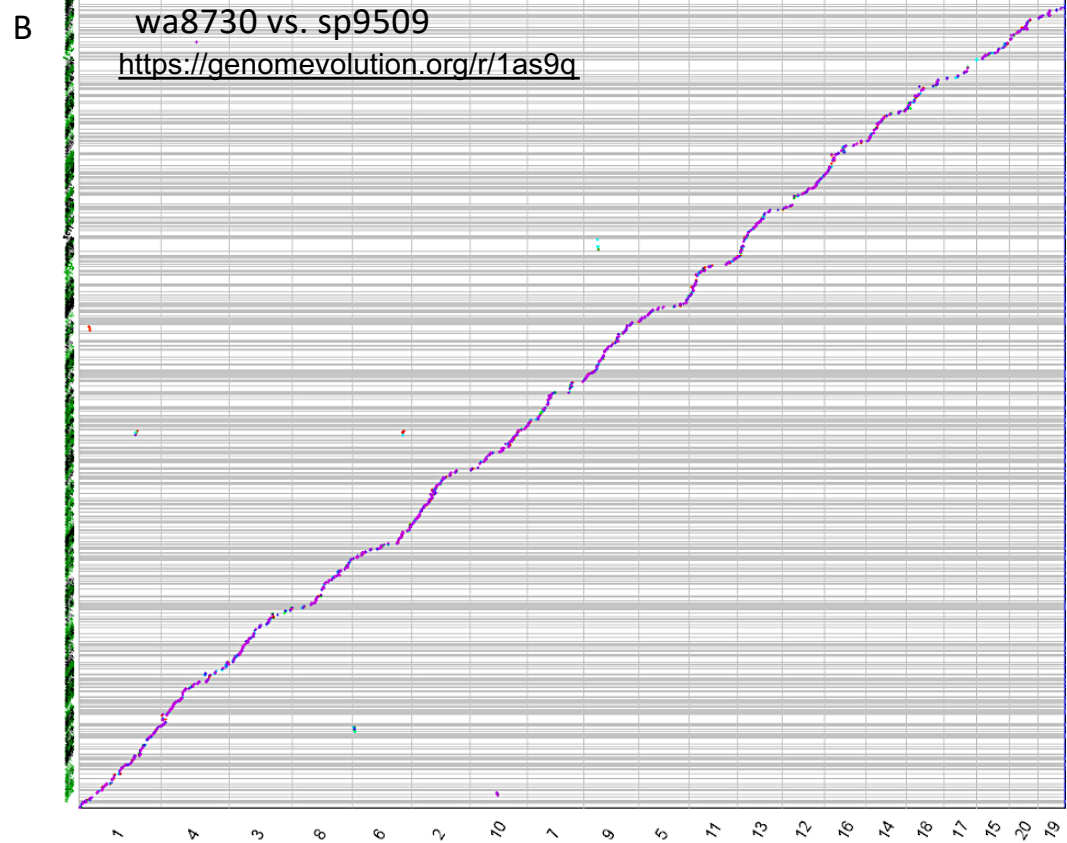
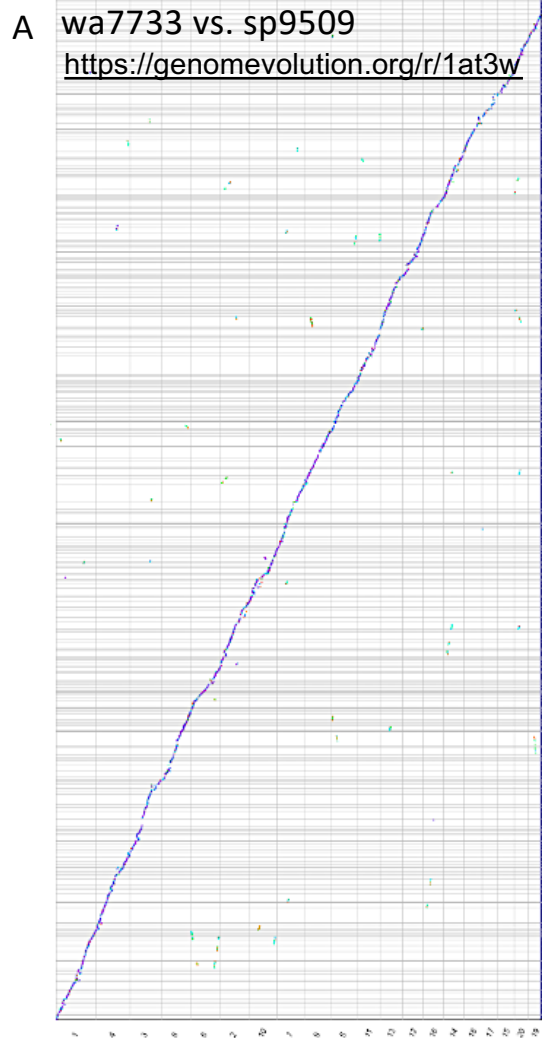


Figure S2. Genome size estimated by Kmer (k=19) frequency.



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	wa7733	wa8730
Total gene level syntenic blocks (>5)	814	518
Average number of genes per block	10	7
Minimum genes per block	5	5
Maximum genes per block	92	21
Total genes in syntenic blocks	7,936	3,622

Figure S3. Wolffia is colinear with sp9509.

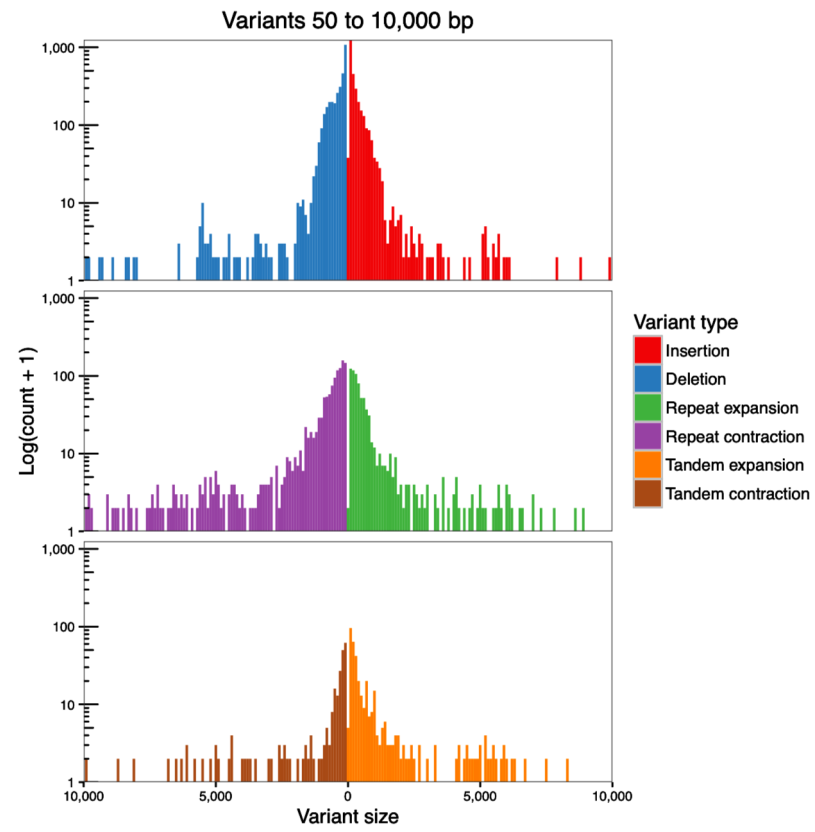


Figure S4. Wolffia genomes differ mostly by small INDELS.

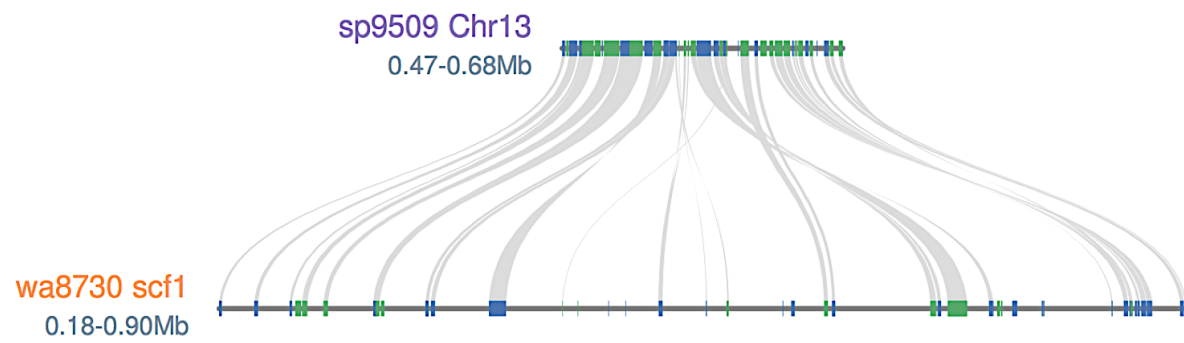


Figure S5. Wolffia genome is colinear with sp9509.

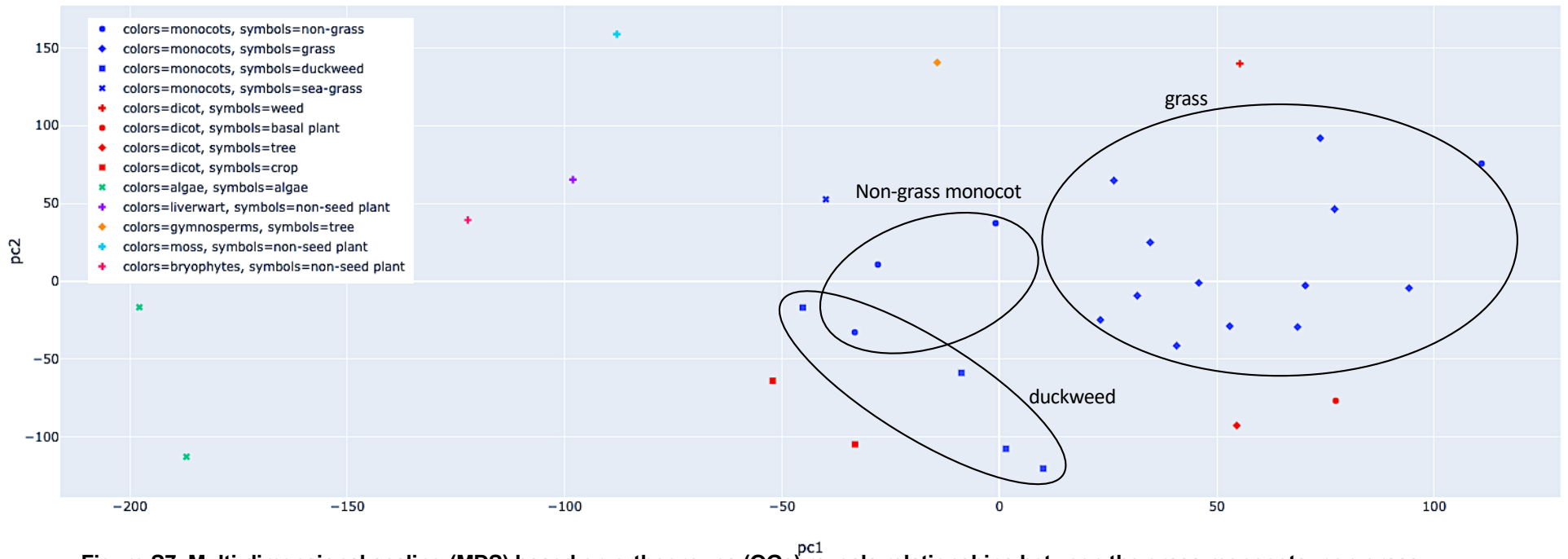


Figure S7. Multi-dimensional scaling (MDS) based on orthogroups (OGs) reveals relationships between the grass monocots, non-grass monocots and duckweeds.

	Wa7733	Wa8730	Sp9509	Sp7498	zostera	arabidopsis	rice	brachy	maize
1	41	45	37	33	26	18	18	19	12
2	20	20	19	18	17	14	12	13	13
3	9	9	9	10	10	9	8	9	9
4	6	5	6	6	7	7	5	6	8
5	3	3	4	4	5	5	4	4	6
6	3	3	4	4	4	4	3	3	5
7	2	2	2	3	3	3	2	2	5
8	2	2	2	2	2	3	2	2	3
9	1	1	2	2	2	2	2	2	3
10	1	1	1	1	2	2	2	2	2
11-15'	3	3	4	4	6	7	6	6	7
16-20	2	2	2	2	2	4	3	4	5
21-50	3	2	3	4	4	8	8	8	9
51-100	1	1	1	1	1	2	3	3	2
101-150	1	1	0	0	1	1	2	1	1
151-200	0	0	1	1	0	0	0	0	1
201-500	0	0	0	0	0	0	0	0	1
501-1000	0	0	0	0	0	0	0	0	0
1001+	0	0	0	0	0	0	0	0	0

Figure S8. Wolffia and Spirodela genes found in small gene families (orthogroups).

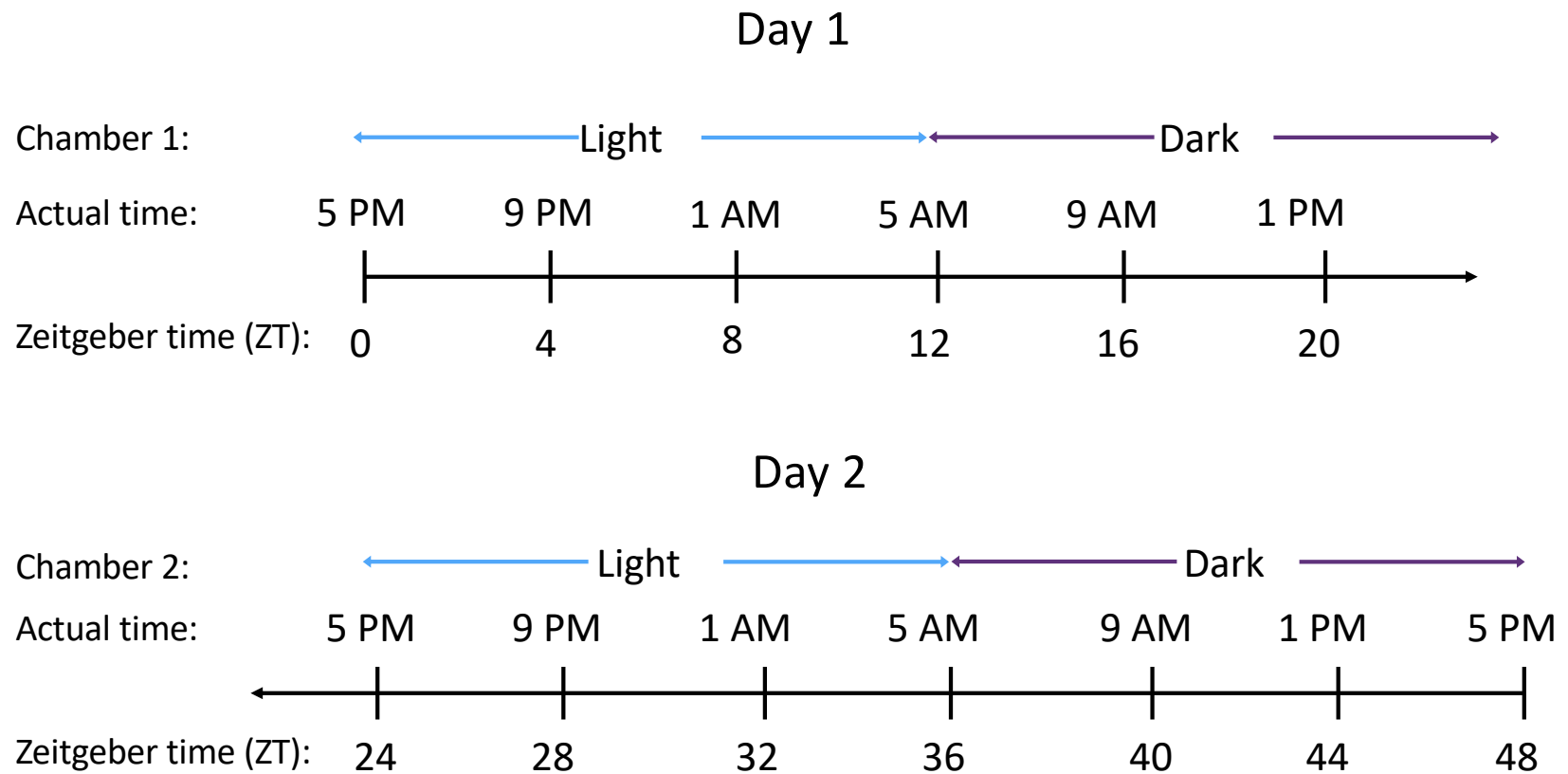


Figure S9. Wolffia time course design.

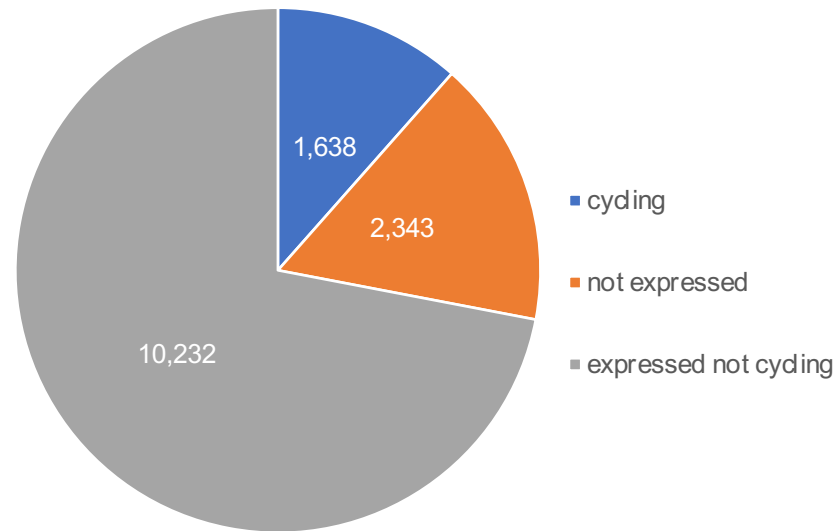


Figure S10. Break down of expressed and cycling genes in wa8730.

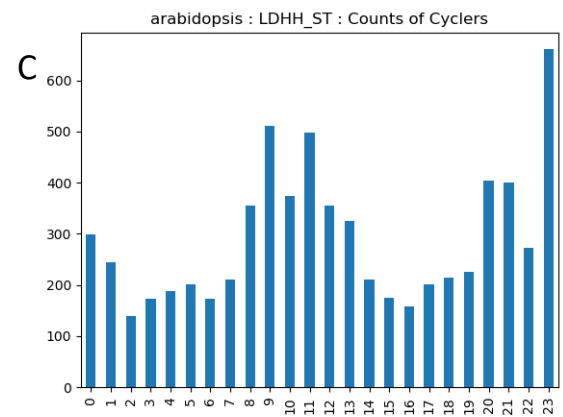
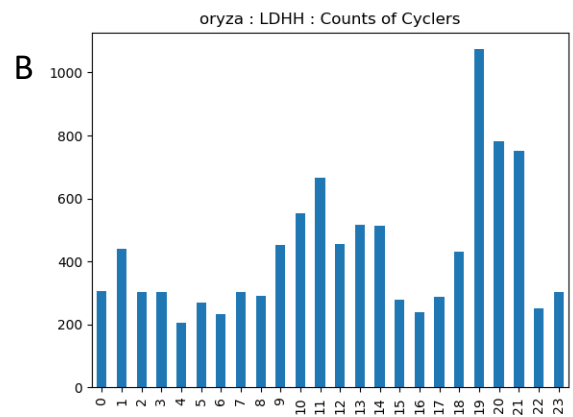
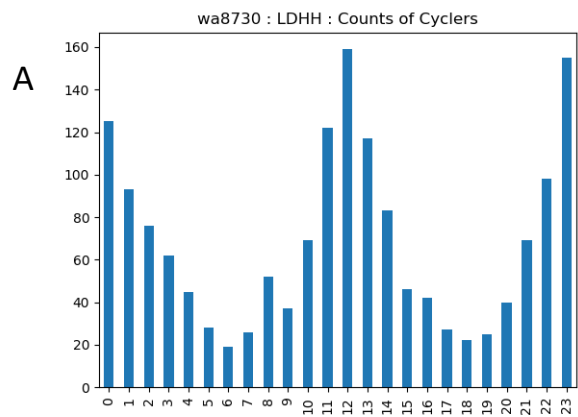


Figure S11. Distribution of cycling genes over the day.

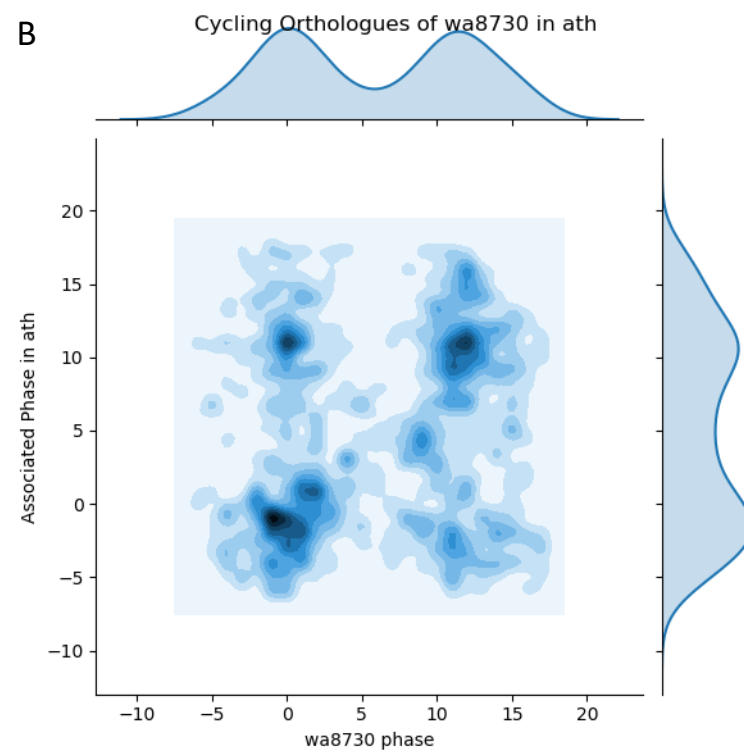
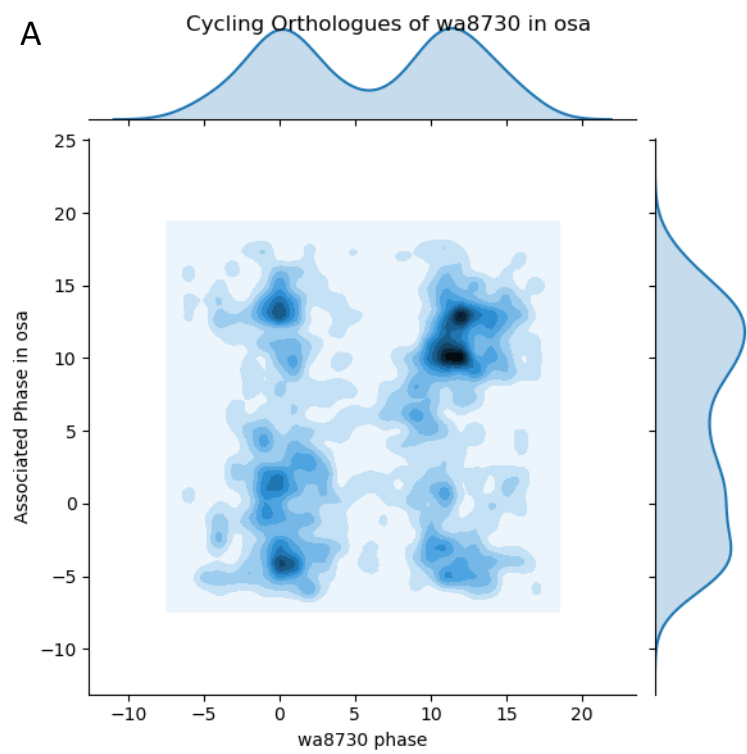


Figure S12. Comparison of cycling genes between Wolffia (wa8730), Arabidopsis (ath) and rice (osa).

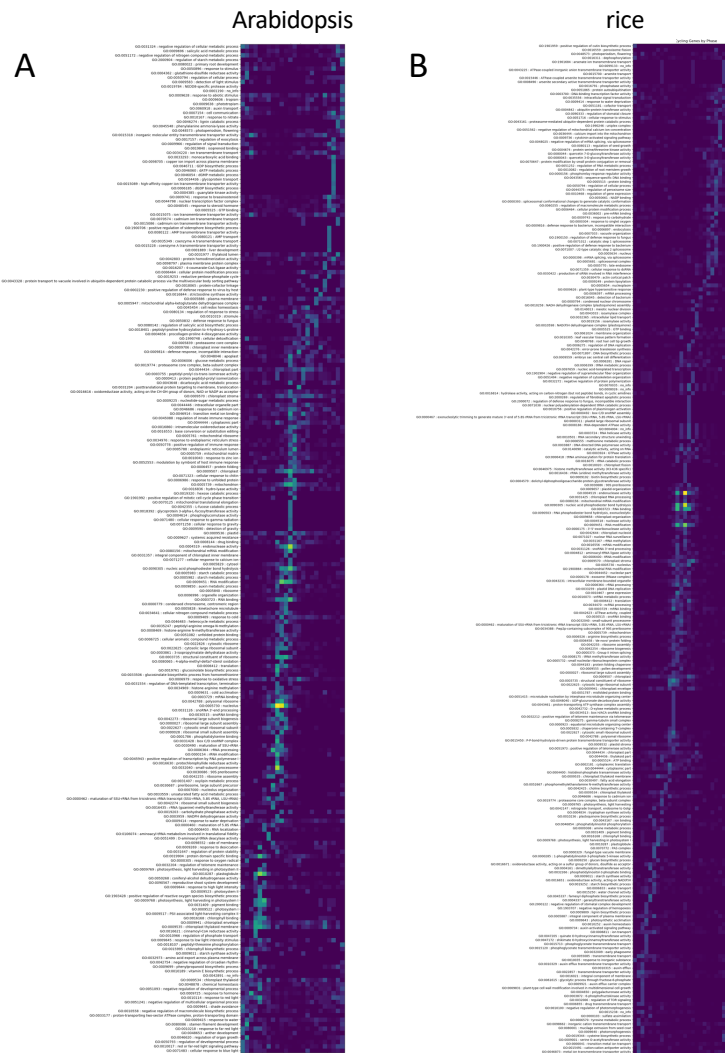


Figure S13. Time of day (TOD) overrepresentation of GO terms in rice and Arabidopsis.