Analyses of carotenoid composition and carotenogenic gene expression during *Ipomoea* petal development

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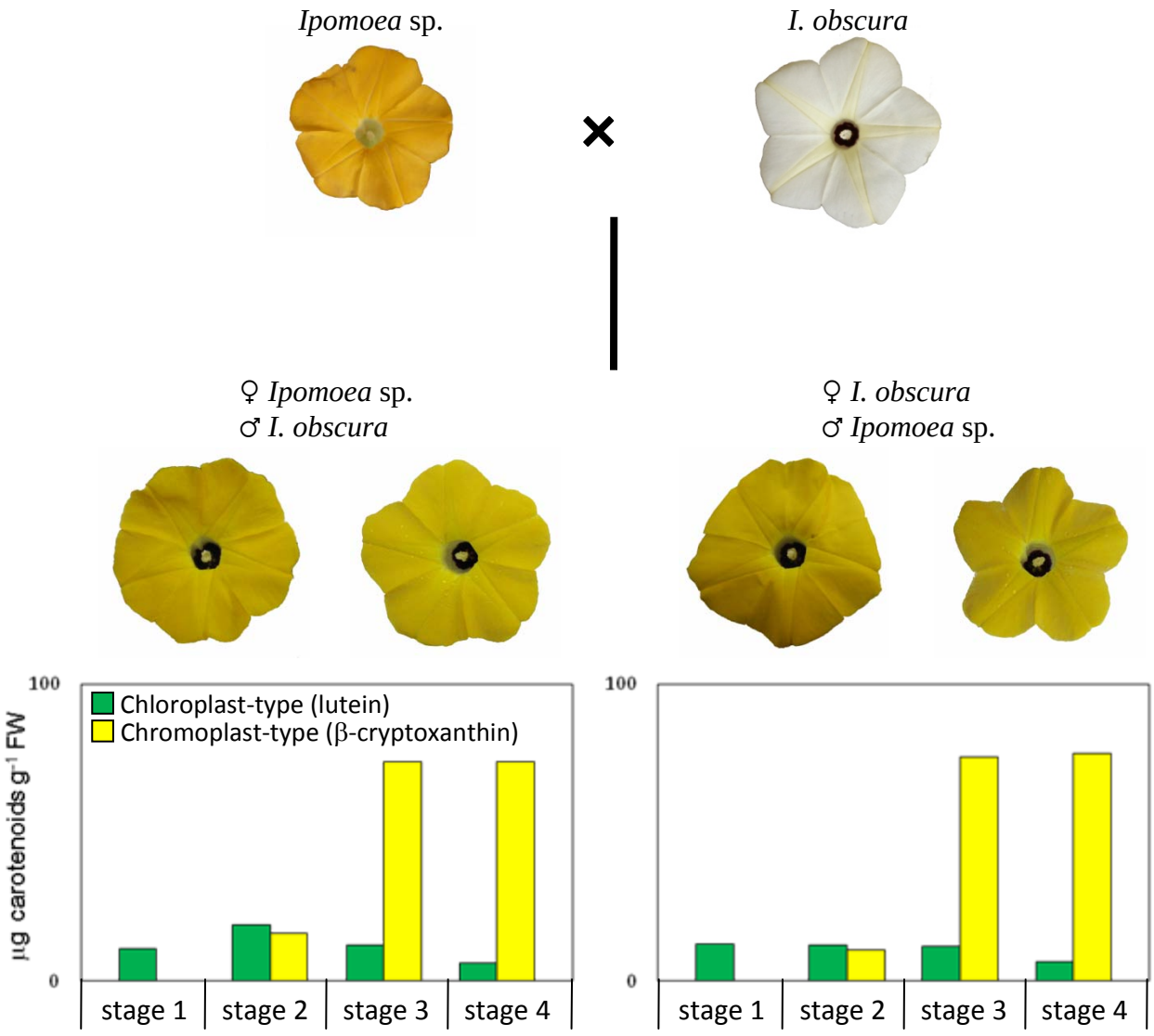
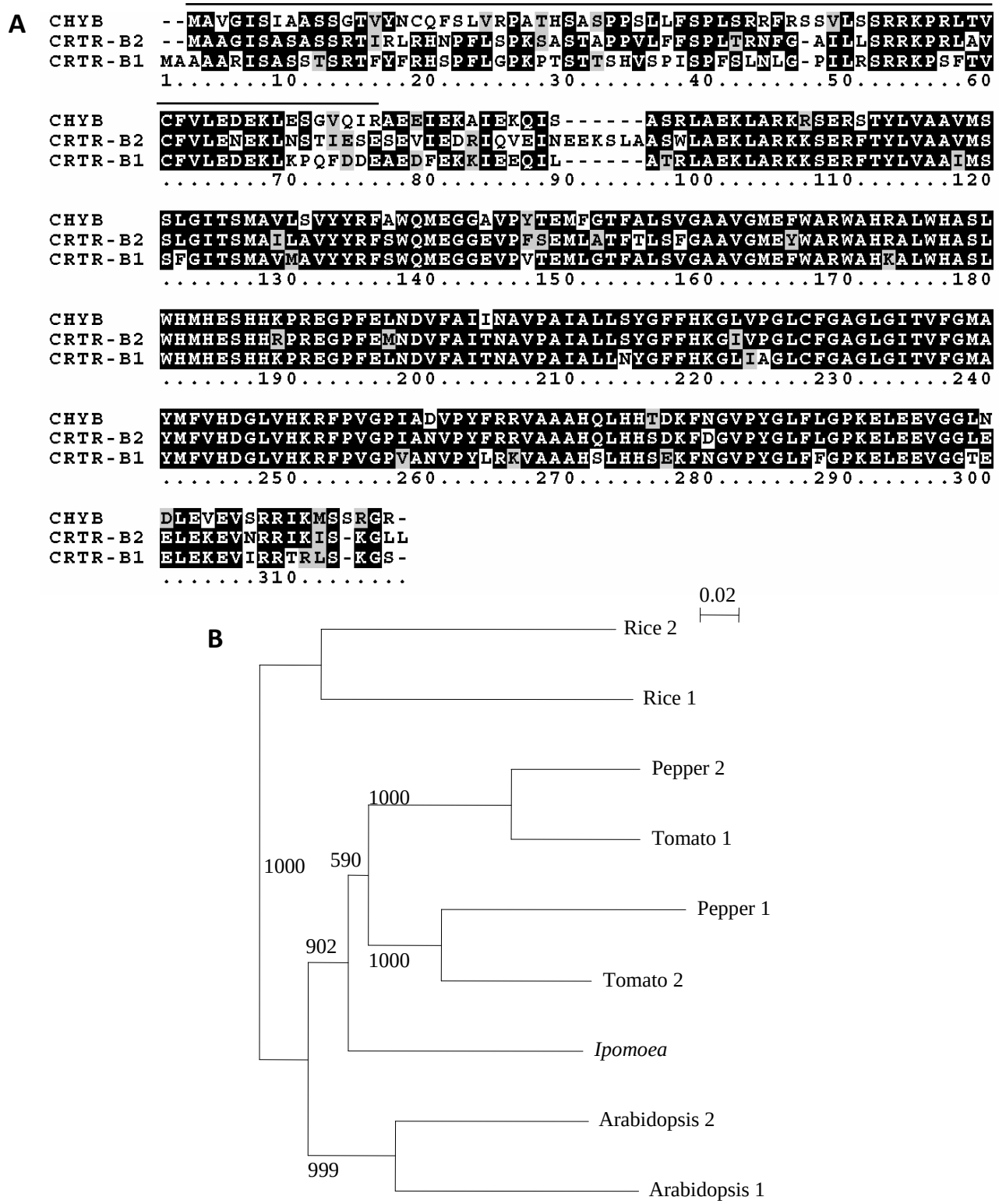
Supplementary Data

Supplemental Table S1. Genes encoding isoprenoid and carotenoiod enzymes isolated from *Ipomoea* sp.

Gene	cDNA		Peptide	
	Full-length (bp)	ORF (bp)	MW (kDa)	Identity with homologs
IPI	890	708	27.2	*Solanum lycopersicum* (93%), *Nicotiana tabacum* (92%), *Ipomoea batatas* (91%)
GGPS	1185	1122	40.2	*Catharanthus roseus* (80%), *Antirrhinum majus* (76%), *Vitis vinifera* (72%)
PSY	1425	1320	49.3	*Nicotiana langsdorffii* (82%), *Coffea canephora* (82%), *Solanum lycopersicum* (81%)
PDS	2036	1719	63.6	*Nicotiana benthamiana* (84%), *Solanum lycopersicum* (83%), *Vitis vinifera* (82%)
ZDS	2014	1767	64.7	*Solanum lycopersicum* (82%), *Capsicum annuum* (82%), *Helianthus annuus* (81%)
CRTISO	2188	1809	66.1	*Vitis vinifera* (86%), *Chrysanthemum morifolium* (85%), *Daucus carota* (78%)
LCYE	1672	1248	47.5	*Coffea canephora* (75%), *Vitis vinifera* (74%), *Daucus carota* (73%)
LCYB	1562	1506	56.4	*Nicotiana tabacum* (86%), *Solanum lycopersicum* (86%), *Capsicum annuum* (86%)
CHYB	1126	930	34.6	*Coffea arabica* (82%), *Solanum lycopersicum* (79%), *Solanum lycopersicum* (78%) (*CrtR-b1*) (*CrtR-b2*)



Supplemental Figure S1. Crossing between *Ipomoea* sp. and *I. obscura*. Petals of all progenies accumulated the same chromoplast-type carotenoids as in *Ipomoea* sp.



Supplemetal Figure S2. Sequence comparison of CHYB among various plant species. A, Alignment of amino acid sequence of *Ipomoea* CHYB with tomato CRTR sequences. Identical amino acids are indicated with black backgrounds. The plastid transit peptide in *Ipomoea* CHYB identified using ChloroP v1.1 is indicated by a bar. B, ClustalW tree analysis of *Ipomoea* CHYB and CHYB homologs in various plant species. Tomato 1 (CRTR-B1; CAB55625), Tomato 2 (CRTR-B2; CAB55626), Arabidopsis 1 (NP_200070), Arabidopsis 2 (AAC49443), Pepper 1 (CRTR-B2; CAA70427), Pepper 2 (CRTR-B1; CAA70888), Rice 1 (AAP54790), and Rice 2 (XP_473611). Numbers at branch points indicate bootstrap values (1,000 replicates).