

Supplementary Materials

Table S1. Primer sets used in the transgenic overexpression.

Table S2. Primer sequences used in this study.

Figure S1. Main characteristics of different silk-producing strains of *Dazao* and *S872*.

Figure S2. Overexpression of *BmJHBPd2* results in inhibition of JH catabolic enzyme in silk glands.

Table S1. Primer sets used in the transgenic overexpression.

Gene	Primer sequences (5'-3')
<i>BmJHBPd2</i> -F (<i>Bam</i> H I)	<u>GGATCC</u> ATGTGGACCGTCTGTTTTAGT
<i>BmJHBPd2</i> -R (<i>Not</i> I-Myc)	<u>GCGGCCGCTTACAGATCCTCTTCTGAGATGAGTTTTGTTCTTCGGGCATTAAT</u> TCGTCAA

The underlined sequence is *Bam*H I restriction site, *Not* I restriction site and Myc tag sequence.

Table S2. Primer sequences used in this study.

Assay	Gene	Primer sequences (5'-3')
RT-PCR	<i>BmJHBPd2</i>	F, ATGTGGACCGTCTGTTTTAGT
		R, TTCGGGCATTAATTCGTCAA
RT-PCR	<i>BmRPL3-1</i>	F, TCGTCATCGTGGTAAGGTCAA
		R, TTTGTATCCTTTGCCCTTGGT
qRT-PCR	<i>BmJHBPd2</i>	F, TAGAAAAGGCTGTGTTTCGC
		R, ATGAGTGATCCGCAGATT
qRT-PCR	<i>BmfibH</i>	F, TCTGTGTCATCTGCTTCATCTCG
		R, TATCCAGGACGAAGTAAGAAACAA
qRT-PCR	<i>BmfibL</i>	F, ATACCGATTGGTCACATAACAG
		R, GCAGATAGATGGGCGATAA
qRT-PCR	<i>BmP25</i>	F, AGCCGCTGTGGCAGTTTTG
		R, TAGGTGGCGTTGAAGTATGG
qRT-PCR	<i>BmKr-h1</i>	F, CTCCTCCTACTCCACCT
		R, GGCAACGAAATGTAATGT

qRT-PCR	<i>BmMet1</i>	F,	AATCTTGCCACCAACAGC
		R,	ACCCAACGCACATCTTCT
qRT-PCR	<i>BmMet2</i>	F,	CCGAACCAACGCAGTATGTAA
		R,	ACGCACGACGCCAATGA
qRT-PCR	<i>BmSRC</i>	F,	TCAAACGAGTCAAATAGGGTCA
		R,	GCGGTCGGTGGTAGGGTT
qRT-PCR	<i>Bmjhe</i>	F,	ACAGATTGGCGGTTTTCGGA
		R,	CCCTTAGCGGCATCAGACAT
qRT-PCR	<i>Bmjheh</i>	F,	GGACTCTTCGGGTTAGTGATAA
		R,	TGTGGTATTTTCGTGCATTCC
qRT-PCR	<i>Bmdimm</i>	F,	CGTGGAACCCGCATTTGTA
		R,	AACCTCGGCAATCCAGTCG
qRT-PCR	<i>Bmsage</i>	F,	AGCAATCACGAAGGTCCGC
		R,	CGTATCGTGGTTGGAGTCGT
qRT-PCR	<i>Bmsgf-1</i>	F,	ATCCGACATTCGCTGTCCTT
		R,	TGACGTCGCAAGAAACAACC
qRT-PCR	<i>BmEcR</i>	F,	GCTGGTCTGATAACGGTGGCT
		R,	CAAGGATTCCGGCGACATAAC
qRT-PCR	<i>BmHR3</i>	F,	TCAACGAGAAGACACCACGG
		R,	AGAAACATCCTGGGGCTTGC
qRT-PCR	<i>BmE75A</i>	F,	GAAATTCGCGCTATGAGGC
		R,	TTTAGCGAGCACCGAATGC
qRT-PCR	<i>BmE74A</i>	F,	AGCAGTCAACTGCAAGGGTA
		R,	GTGCCCgATCTAAGGAGTTG
qRT-PCR	<i>BmUSP</i>	F,	AGAAGTGGACGTTCTTCGAG
		R,	GGTGGAACAGGTAGAGGTGC

qRT-PCR	<i>BmBrc</i>	F,	TCGCTGACAAACACGCTG
		R,	ATGGTAAGAACGGCGGAC
qRT-PCR	<i>BmRPL3-2</i>	F,	TTCGTACTGGCTCTTCTCGT
		R,	CAAAGTTGATAGCAATTCCCT

F indicates forward, and R indicates reverse.

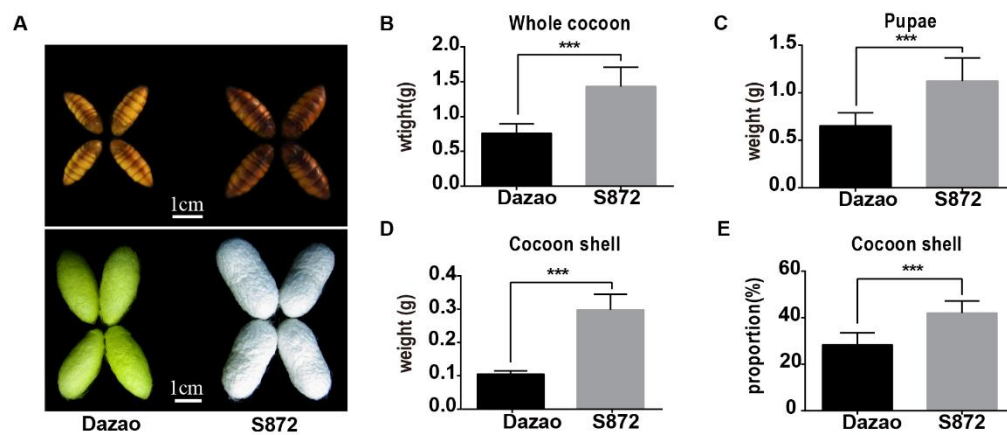


Figure S1. Main characteristics of different silk-producing strains of *Dazao* and *S872*. A. Pupae and cocoons. B. whole cocoon weight. C. Pupae weight. D. Cocoon shell weight. E. Cocoon shell proportion. Data are means \pm SD. *** $P < 0.001$.

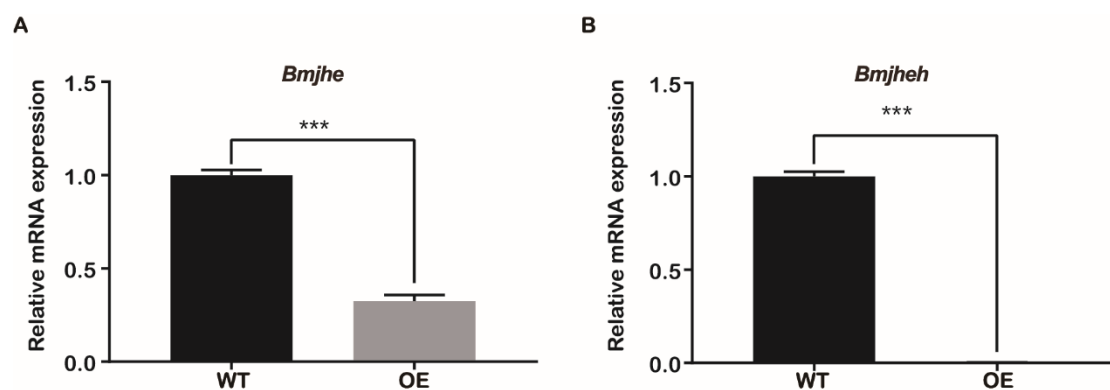


Figure S2. Overexpression of *BmJHBPd2* results in inhibition of JH catabolic enzyme in silk glands. The following JH catabolic enzyme related genes were selected: JHE(A) and JHEH(B). *BmRpl3* was used as a control. Results are expressed as means S.D. of three independent experiments. *** $P < 0.001$.