Supplementary Information

The outer scales were removed from bulb segments with the help of a blade and cleaning of bulb segments was undertaken step by step with different commercial detergents and surfactants, like Teepol, cetramide, Tween 20, and 5% sodium hypochlorite. Before inoculation, the bulb segments were surface sterilized in a laminar hood with 70% ethanol and 0.2% mercuric chloride, followed by washing with autoclaved distilled water three times. Four different sterilization treatments (ST1–ST4) were used with different combinations and durations of treatments. To improve clarity, we have added a table containing the different combinations of surfactants and chemical treatments used for explant sterilization.

Supplementary Table S1: Effects of various surface disinfectants on sterilization of explants.

Sterilization Treatment Number	**Disinfectants Used/ Surface Sterilization Detergents**		**No. of Explants Tested**	**No. of Explants that Survived**
ST1	Teepol + cetramide washing	70% ethanol (3 min) + 0.1% $HgCl_2$ (2 min)	72	32
ST2	Teepol + cetramide washing + Tween 20	70% ethanol (4 min) + 0.1% $HgCl_2$ (3 min)	72	43
ST3	Teepol + cetramide washing + Tween 20 + 2% sodium hypochlorite	70% ethanol (4 min) + 0.1% $HgCl_2$ (5 min)	72	66
ST4	Teepol + cetramide washing + Tween 20 + 5% sodium hypochlorite	70% ethanol (5 min) + 0.1% $HgCl_2$ (6 min)	72	72

Supplementary Table S2: Accumulation of sugar content (mg g^{-1} FW) in bulb, leaf, and root parts of *Zephyranthes candida* with different methyl jasmonate treatments.

Plant Parts Used	T0	T1	T2	T3	T4
Bulb	12.56 ± 0.02e	13.02 ± 0.01d	13.56 ± 0.02c	14.56 ± 0.05b	18.06 ± 0.05a
Leaf	8.54 ± 0.04e	9.28 ± 0.02d	9.54 ± 0.02c	9.42 ± 0.03b	10.02 ± 0.01a
Root	6.23 ± 0.01e	6.56 ± 0.02d	6.96 ± 0.01c	7.44 ± 0.03b	7.54 ± 0.03a

Values are means ± standard deviation of three experiments. Mean values in the columns followed by different letters were significantly different (at $p = 0.05$) according to DMRT.

T0 = control, T1= 50 µM, T2 =100 µM, T3 = 150 µM, and T4 = 200 µM.

Supplementary Table S3. Accumulation of sugar content (mg g^{-1} FW) in bulb, leaf, and roots parts of *Zephyranthes grandiflora* with different methyl jasmonate treatments.

Plant Parts Used	T0	T1	T2	T3	T4
Bulb	13.02 ± 0.02e	13.76 ± 0.04d	13.98 ± 0.04c	14.56 ± 0.05b	17.56 ± 0.05a
Leaf	8.54 ± 0.04e	8.88 ± 0.02d	9.02 ± 0.02c	9.36 ± 0.05b	9.76 ± 0.02a
Root	5.65± 0.01e	5.44 ± 0.01d	5.97 ± 0.01c	6.22 ± 0.01b	6.34 ± 0.03a

Values are means ± standard deviation of three experiments. Mean values in the bars followed by different letters were significantly different (at $p = 0.05$) according to DMRT.

T0 = control, T1 = 50 µM, T2 =100 µM, T3 = 150 µM, and T4 = 200 µM.

Supplementary Table S4. Accumulation of sugar content (mg g^{-1} FW) in bulb, leaf, and roots parts of *Zephyranthes citrina* with different methyl jasmonate treatments.

Plant Parts Used	T0	T1	T2	T3	T4

Bulb	9.76 ± 0.02e	12.6 ± 0.04d	13.5 ± 0.04c	13.56 ± 0.04b	14.04 ± 0.05a
Leaf	5.27 ± 0.04e	7.2 ± 0.04d	7.8 ± 0.03c	7.92 ±0.03b	8.2 ± 0.02a
Root	4.34 ± 0.02e	4.5 ± 0.01d	5.2 ± 0.03c	6.22 ±0.01b	6.77± 0.07a

Values are means ± standard deviation of three experiments. Mean values in the bars followed by different letters were significantly different (at $p = 0.05$) according to DMRT.

T0 = control, T1 = 50 µM, T2 =100 µM, T3 = 150 µM, and T4 = 200 µM.

Supplementary Table S5. Accumulation of proline content (mg g^{-1} FW) in bulb, leaf, and roots parts of *Zephyranthes candida* with different methyl jasmonate treatments.

Plant Parts Used	T0	T1	T2	T3	T4
Bulb	5.63 ± 0.03e	6.02 ± 0.04d	6.54 ± 0.04c	7.05 ± 0.04b	7.42 ± 0.05a
Leaf	4.56 ± 0.03e	4.77 ± 0.02d	5.01 ± 0.02c	5.45 ±0.05b	5.78 ± 0.04a
Root	3.04 ± 0.01e	3.56 ± 0.01d	3.64 ± 0.02c	3.72 ±0.01b	3.81 ± 0.01a

Values are means ± standard deviation of three experiments. Mean values in the bars followed by different letters were significantly different (at $p = 0.05$) according to DMRT.

T0 = control, T1 = 50 µM, T2 =100 µM, T3 = 150 µM, and T4 = 200 µM.

Supplementary Table S6. Accumulation of proline content (mg g^{-1} FW) in bulb, leaf, and roots parts of *Zephyranthes grandiflora* with different methyl jasmonate treatments.

Plant Parts Used	T0	T1	T2	T3	T4
Bulb	4.63 ± 0.01e	4.98 ± 0.04d	5.2 ± 0.04c	5.32 ± 0.07b	5.55 ± 0.05a
Leaf	4.34 ± 0.05e	4.55 ± 0.03d	4.67 ± 0.05c	4.82 ± 0.03b	4.9 ± 0.04a

Root	3.01 ± 0.01e	3.42 ± 0.03d	3.55 ± 0.01c	3.60 ± 0.01b	3.75 ± 0.01a

Values are means ± standard deviation of three experiments. Mean values in the bars followed by different letters were significantly different (at $p = 0.05$) according to DMRT.

T0 = control, T1 = 50 µM, T2 =100 µM, T3 = 150 µM, and T4 = 200 µM.

Supplementary Table S7. Accumulation of proline content (mg g^{-1} FW) in bulb, leaf, and roots parts of *Zephyranthes citrina* with different methyl jasmonate treatments.

Plant Parts Used	T0	T1	T2	T3	T4
Bulb	3.27 ± 0.035e	3.56 ± 0.04d	3.98 ± 0.05c	4.05 ± 0.04b	4.24 ± 0.04a
Leaf	2.34 ± 0.02e	2.55 ± 0.03d	2.67 ± 0.04c	2.70 ± 0.03b	2.83 ± 0.03a
Root	1.54 ± 0.01e	1.65 ± 0.01d	1.76 ± 0.02c	1.83 ± 0.01b	1.92 ± 0.03a

Values are means ± standard deviation of three experiments. Mean values in the bars followed by different letters were significantly different (at $p = 0.05$) according to DMRT.

T0 = control, T1 = 50 µM, T2 =100 µM, T3 = 150 µM, and T4 = 200 µM.

Supplementary Table S8. Accumulation of protein content (mg g^{-1} FW) in bulb, leaf, and roots parts of *Zephyranthes candida* with different methyl jasmonate treatments.

Plant Parts Used	T0	T1	T2	T3	T4
Bulb	3.56 ± 0.03e	3.82 ± 0.04d	4.56 ± 0.04c	5.23 ± 0.04b	6.22 ± 0.03a
Leaf	2.98 ± 0.02e	3.23 ± 0.04d	3.85 ± 0.02c	4.67 ± 0.01b	5.05 ± 0.02a
Root	2.01 ± 0.01e	2.54 ± 0.01d	2.6 ± 0.01c	2.98 ± 0.01b	3.19 ± 0.01a

Values are means ± standard deviation of three experiments. Mean values in the bars followed by different letters were significantly different (at $p = 0.05$) according to DMRT.

T0 = control, T1 = 50 µM, T2 =100 µM, T3 = 150 µM, and T4 = 200 µM.

Supplementary Table S9. Accumulation of protein content (mg g^{-1} FW) in bulb, leaf, and roots parts of *Zephyranthes grandiflora* with different methyl jasmonate treatments.

Plant Parts Used	T0	T1	T2	T3	T4
Bulb	3.72 ± 0.03e	3.96 ± 0.01d	4.98 ± 0.04c	5.13 ± 0.04b	6.45 ± 0.05a
Leaf	3.41 ± 0.02e	3.62 ± 0.03d	3.85 ± 0.02c	4.56 ± 0.05b	5.05 ± 0.06a
Root	2.13 ± 0.01e	2.54 ± 0.01d	2.6 ± 0.02c	3.67 ±0.01b	4.03 ± 0.01a

Values are means ± standard deviation of three experiments. Mean values in the bars followed by different letters were significantly different (at $p = 0.05$) according to DMRT.

T0 = control, T1 = 50 µM, T2 =100 µM, T3 = 150 µM, and T4 = 200 µM.

Supplementary Table S10. Accumulation of protein content (mg g^{-1} FW) in bulb, leaf, and roots parts of *Zephyranthes citrina* with different methyl jasmonate treatments.

Plant Parts Used	T0	T1	T2	T3	T4
Bulb	2.78 ± 0.03e	2.98 ± 0.01d	3.05 ± 0.04c	4.05 ± 0.04b	4.67 ± 0.05a
Leaf	2.55 ± 0.04e	2.76 ± 0.03d	3.21 ± 0.05c	3.56 ±0.03b	4.03 ± 0.03a
Root	1.76 ± 0.02e	2.54 ± 0.01d	2.6 ± 0.02c	2.01 ±0.02b	2.57 ± 0.01a

Values are means ± standard deviation of three experiments. Mean values in the bars followed by different letters were significantly different (at $p = 0.05$) according to DMRT.

T0 = control, T1 = 50 µM, T2 =100 µM, T3 = 150 µM, and T4 = 200 µM.