

Table S1. Results of ANOVA for treatment groups (control vs acclimated) and due to two seasons as well as sexes for three stress related traits in *D. ananassae* reared under wet or dry season specific simulated condition.

	Heat knockdown			Desiccation resistance		Starvation resistance	
	df	MS	F	MS	F	MS	F
Sn	1	20869.35	4989.72***	1122.338	1891.64***	54481.07	5230.33***
T	1	37200.60	8894.41***	701.784	1182.82***	29260.42	2809.08***
S	1	17069.70	4081.09***	487.920	822.37***	13053.75	1253.19***
Sn × T	1	160.07	38.27***	5.221	8.80**	15714.02	15.08.59***
Sn × S	1	1622.40	387.91***	4.48.3	7.56**	4558.82	437.66***
T × S	1	2172.02	519.31***	28.428	47.914***	1926.67	184.97***
Sn × T × S	1	4183.35	1000.21***	3.361	5.664*	2693.40	258.57***
Error	232	4.18		0.593		10.42	

Sn = Season; T = Treatment; S = Sex; *** $p < 0.001$; ** $p < 0.01$; * $p < 0.5$

Table S2. Results of ANOVA for treatment groups (control vs acclimated) and due to two seasons as well as sexes for three energy metabolites in *D. ananassae* reared under wet or dry season specific simulated condition.

	df	Trehalose		Proline		Total body lipids	
		MS	F	MS	F	MS	F
Sn	1	8044.35	10800.51***	150016.6	296127.2***	467625.7	80.611***
S	1	232.04	311.54***	2076.2	4098.4***	218282.7	37.628***
T	3	7342.36	9858.00***	14674.9	28967.7***	375481.4	64.727***
Sn × T	3	2522.78	3387.13***	123.3	243.4***	87318.1	15.052***
Sn × S	1	1101.22	1478.52***	15360.3	30320.6***	68066.6	11.733***
T × S	3	148.15	198.91***	6.90	13.7***	14502.1	2.499**
Sn × T × S	3	174.54	234.35***	33.50	66.2***	11547.5	1.99*
Error	464	0.744		0.507		5800.98	

Sn = Season; T = Treatment; S = Sex; *** $p < 0.001$; ** $p < 0.01$; * $p < 0.5$; Unit= ($\mu\text{g mg}^{-1} \text{fly}^{-1}$)