

Table S1. Repeated measures ANOVA results for percent mortality in the *Rhynchophorus ferrugineus* after treatment with *Isaria fumosorosea* and *Metarhizium anisopliae* at three time intervals across four different locations in Pakistan (KPK: Khyber Pakhtunkhwa)

	df	Baluchistan		KPK		Punjab		Sindh	
		F	p	F	p	F	p	F	p
Isaria fumosorosea									
Treatment (T)	5.18	145.83	<0.001	126.41	<0.001	141.64	<0.001	142.03	<0.001
Day (D)	2.36	252.77	<0.001	223.58	<0.001	189.02	<0.001	138.3	<0.001
T * D	10.36	5.48	<0.001	5.38	<0.001	8.37	<0.001	1.59	0.149
Metarhizium anisopliae									
		61.04	<0.001	53.13	<0.001	56.41	<0.001	132.95	<0.001
		249.11	<0.001	278.84	<0.001	224.55	<0.001	286.43	<0.001
		7.29	<0.001	9.24	<0.001	8.74	<0.001	12.56	<0.001

df = degree of freedom. *p* = probability. ^{NS} non-significant results (*p*>0.05).

Table S2. Repeated measures ANOVA results for enzyme release activities in the *Rhynchophorus ferrugineus* after treatment with *Metarhizium anisopliae* at three time intervals across four different locations in Pakistan (KPK: Khyber Pakhtunkhwa)

		AChE		EST		GST	
<i>df</i>		<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>
Treatment (T)	5.12	Baluchistan					
		144.99	<0.001	104.76	<0.001	47.06	<0.001
Day (D)	2.24	11.22	<0.001	22.68	<0.001	44.7	<0.001
T * D	10.24	4.161	0.006	4.42	0.001	3.26	0.009
		KPK					
		98.77	<0.001	80.42	<0.001	45.94	<0.001
		28.73	<0.001	4.64	0.02	10.42	0.001
		2.46	0.034	2.01	0.078	0.77	0.66
		Punjab					
		116.04	<0.001	88.05	<0.001	82.2	<0.001
		28.72	<0.001	2.44	0.108	37.52	<0.001
		5.04	0.001	2.46	0.034	2.01	0.079
		Sindh					
		124.93	<0.001	97.72	<0.001	20.18	<0.001
		31.11	<0.001	27.64	<0.001	8.39	0.002
		6.36	<0.001	3.74	0.004	2.71	0.022

df = degree of freedom AChE = acetylcholinesterase. EST = esterases. GST = glutathione S-transferases. *p* = probability. ^{NS} non-significant results (*p*>0.05).

Table S3. Repeated measures ANOVA results for enzyme release activities in the *Rhynchophorus ferrugineus* after treatment with *Isaria fumosorosea* at three time intervals across four different locations in Pakistan (KPK: Khyber Pakhtunkhwa)

		AChE		EST		GST	
		<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>
Treatment (T)	5.12	Baluchistan					
		1464.35	<0.001	936.19	<0.001	604.02	<0.001
Day (D)	2.24	1432.82	<0.001	693.23	<0.001	1515.71	<0.001
T * D	10.24	256.88	<0.001	78.92	<0.001	230.11	<0.001
		KPK					
		384.25	<0.001	594.02	<0.001	367.26	<0.001
		188.19	<0.001	1329.16	<0.001	79.14	<0.001
		25.93	<0.001	219.99	<0.001	38.72	<0.001
		Punjab					
		765.54	<0.001	1092.48	<0.001	127.01	<0.001
		975.1	<0.001	1255.26	<0.001	61.55	<0.001
		160.09	<0.001	193.04	<0.001	90.38	<0.001
		Sindh					
		333.96	<0.001	504.05	<0.001	171.38	<0.001
		783.17	<0.001	258.48	<0.001	534.31	<0.001
		143.28	<0.001	37.14	<0.001	37.57	<0.001

df = degree of freedom AChE = acetylcholinesterase. EST = esterases. GST = glutathione S-transferases. *p* = probability. ^{NS} non-significant results (*p*>0.05).