

Supplementary Table 1. Sequence reads obtained before and after trimming of pigeonpea North and pigeonpea South mRNAome data

Sample name	Sample type	Sequence reads obtained before trimming	Sequence reads obtained after trimming (q=20)
PN-R1	Pigeonpea North Total RNA	13802536	13123603
PN-R2	Pigeonpea North Total RNA	13802536	13118692
PS-R1	Pigeonpea South Total RNA	8210236	7492037
PS-R2	Pigeonpea South Total RNA	8210236	7490154

Supplementary Table 2. List of selected Emara viruses nucleotide sequences used for pairwise identity and phylogenetic analysis of RNA2 segment of pigeonpea sterility mosaic virus isolates identified in the pigeonpea virome study

Sl. No.	Accession no.	Virus	Isolate/strain	Host	Origin	% nucleotide identity		
						PN P1 R2	PS P1 R2	PN P2 R2
1	MT683534	PPSMV 2 RNA 2	Dharwad	Pigeonpea	India	75.13	75.24	99.12
2	PQ782228	PPSMV 2 RNA 2	Hisar	Pigeonpea	India	76.21	76.25	99.20
3	LN651182	PPSMV 2 RNA 2	Chevella	Pigeonpea	India	77.23	77.14	99.50
4	MT683532	PPSMV 2 RNA 2	Vamban	Pigeonpea	India	78.26	78.27	98.60
5	MT683535	PPSMV 2 RNA 2	Bengaluru	Pigeonpea	India	78.56	77.42	97.30
6	MT683533	PPSMV 2 RNA 2	Gulbarga	Pigeonpea	India	76.32	76.12	96.90
7	KX363906	PPSMV 2 RNA 2	Bihar	Pigeonpea	India	75.11	74.23	92.00
8	LN887952	PPSMV 1 RNA 2	Hyderabad	Pigeonpea	India	97.32	94.61	74.40
9	LN887953	PPSMV 1 RNA 2	Chevella	Pigeonpea	India	97.33	95.87	75.21
10	KX363887	PPSMV 1 RNA 2	Kalaburagi	Pigeonpea	India	97.63	94.86	74.63
11	NC 029556	PPSMV 1 RNA 2	Bihar 2	Pigeonpea	India	97.95	94.63	77.41
12	NC 029555	PPSMV 1 RNA 2	Andhra Pradesh	Pigeonpea	India	97.93	95.32	75.21
13	KX363905	PPSMV 1 RNA 2	Bihar	Pigeonpea	India	90.23	97.51	71.25
14	KX363887	PPSMV 1 RNA 2	Gulbarga	Pigeonpea	India	91.23	96.56	74.63
15	MH374921	PPSMV 1 RNA 2	Badnapur	Pigeonpea	India	90.36	97.21	75.24

16	KX363907	PPSMV 1 RNA 2	Pune	Pigeonpea	India	90.11	98.23	74.67
17	MN562747	RRV 1 RNA 2	RRV2 99	Rose	USA	70.11	85.23	68.25
18	MN562737	RRV 1 RNA 2	RRV2 79T	Rose	USA	70.02	88.63	67.42

Supplementary Table 3. List of selected Emara viruses nucleotide sequences used for pairwise identity and phylogenetic analysis of RNA4 segment of pigeonpea sterility mosaic virus isolate identified in the pigeonpea virome study

Sl. No.	Accession no.	Isolate/strain	Virus	Host	Origin	% nucleotide identity
1	KX363938	Pune	PPSMV 1 RNA 4	Pigeonpea	India	96.99
2	NC 029557	Andhra Pradesh	PPSMV 1 RNA 4	Pigeonpea	India	95.63
3	LM652700	Hyderabad	PPSMV 1 RNA 4	Pigeonpea	India	95.62
4	MH374923	Badnapur	PPSMV 1 RNA 4	Pigeonpea	India	95.52
5	LN887954	Chevella	PPSMV 1 RNA 4	Pigeonpea	India	95.48
6	KX363934	Coimbatore	PPSMV 1 RNA 4	Pigeonpea	India	95.3
7	KX363937	Mahagaon	PPSMV 1 RNA 4	Pigeonpea	India	95.21
8	KX363931	Bidar	PPSMV 1 RNA 4	Pigeonpea	India	95.17
9	KX363929	Bengaluru-9	PPSMV 1 RNA 4	Pigeonpea	India	94.64
10	KX363921	Bengaluru-1	PPSMV 1 RNA 4	Pigeonpea	India	94.5
11	KX363922	Bengaluru-2	PPSMV 1 RNA 4	Pigeonpea	India	94.46
12	KX363924	Bengaluru-4	PPSMV 1 RNA 4	Pigeonpea	India	94.44

13	KX363932	Bihar	PPSMV 1 RNA 4	Pigeonpea	India	94.36
14	MH581216	BA2018	RRV 1 RNA 4	Rose	USA	66.02
15	MH581223	WA2017	RRV 1 RNA 4	Rose	USA	66.14
16	MZ703631	BA2019	RRV 1 RNA 4	Rose	USA	66.20

Supplementary Table 4. List of selected Emara viruses nucleotide sequences used for pairwise identity and phylogenetic analysis of RNA6 segment of pigeonpea sterility mosaic virus 2 isolate identified in the pigeonpea virome study

Sl. No.	Accession no.	Isolate/strain	Virus	Host	Origin	% nucleotide identity
1	MH374930	Badnapur	PPSMV 2 RNA 6	Pigeonpea	India	98.01
2	KX363891	Kalaburagi	PPSMV 2 RNA 6	Pigeonpea	India	98.5
3	LN898419	Chevella	PPSMV 2 RNA 6	Pigeonpea	India	98.55
4	HG939490	ICP8863	PPSMV 2 RNA 6	Pigeonpea	India	98.58
5	KX363946	Raichur	PPSMV 2 RNA 6	Pigeonpea	India	98.55
6	KX363943	Bihar	PPSMV 2 RNA 6	Pigeonpea	India	98.62
7	KX363944	Coimbatore-1	PPSMV 2 RNA 6	Pigeonpea	India	98.65
8	MT376975	Salem-2	PPSMV 2 RNA 6	Pigeonpea	India	98.74
9	MT376974	Salem-1	PPSMV 2 RNA 6	Pigeonpea	India	98.72

10	MT376976	Trichy-1	PPSMV 2 RNA 6	Pigeonpea	India	98.45
11	MT376972	Namakkal-2	PPSMV 2 RNA 6	Pigeonpea	India	98.28
12	MN531620	RRV2 107T	RRV 2 RNA 6	Rose	USA	75.52
13	MN531631	RRV2 45	RRV 2 RNA 6	Rose	USA	75.54
14	MN531592	RRV 22	RRV 2 RNA 6	Rose	USA	75.26
15	MN531640	RRV2 59T	RRV 2 RNA 6	Rose	USA	75.35

Supplementary Table 5. List of selected begomoviruses nucleotide sequences used for pairwise identity and phylogenetic analysis of HgYMV DNA B isolate identified in the pigeonpea virome study

Sl. No.	Accession no.	Isolate/strain	Virus	Host	Origin	% nucleotide identity
1	MW791234	Banglore	HgYMV DNA B	Frenchbean	India	99.82
2	MW814718	Raichur	HgYMV DNA B	Cowpea	India	98.34
3	MW816844	PB5	HgYMV DNA B	Polebean	India	98.24
4	OQ508785	Tirupati	HgYMV DNA B	Horsegram	India	96.21
5	MW284412	Chittoor	HgYMV DNA B	Pigeonpea	India	95.10
6	MN602421	Dharward	HgYMV DNA B	Mungbean	India	95.01
7	MN698288	Belgaum	HgYMV DNA B	Mothbean	India	95.01
8	OP784479	Kadapa Duddekunta	HgYMV DNA B	Horsegram	India	94.27

9	ON853782	Kanpur	MYMIV DNA B	Cowpea	India	70.21
10	PP502429	Burdwan	MYMIV DNA B	Mungbean	India	71.07
11	ON853791	Kanpur 2	MYMIV DNA B	Cowpea	India	71.16
12	KC019305	Varanasi	MYMIV DNA B	Frenchbean	India	70.79
13	MW791240	Ludhiana	MYMIV DNA B	Mungbean	India	70.77
14	KC852202	Indore	DoYMV DNA B	Dolichos bean	India	54.25
15	ON421044	Kanpur	DoYMV DNA B	Dolichos bean	India	54.25