

Supplementary Table S1. Genetic material used for the study.

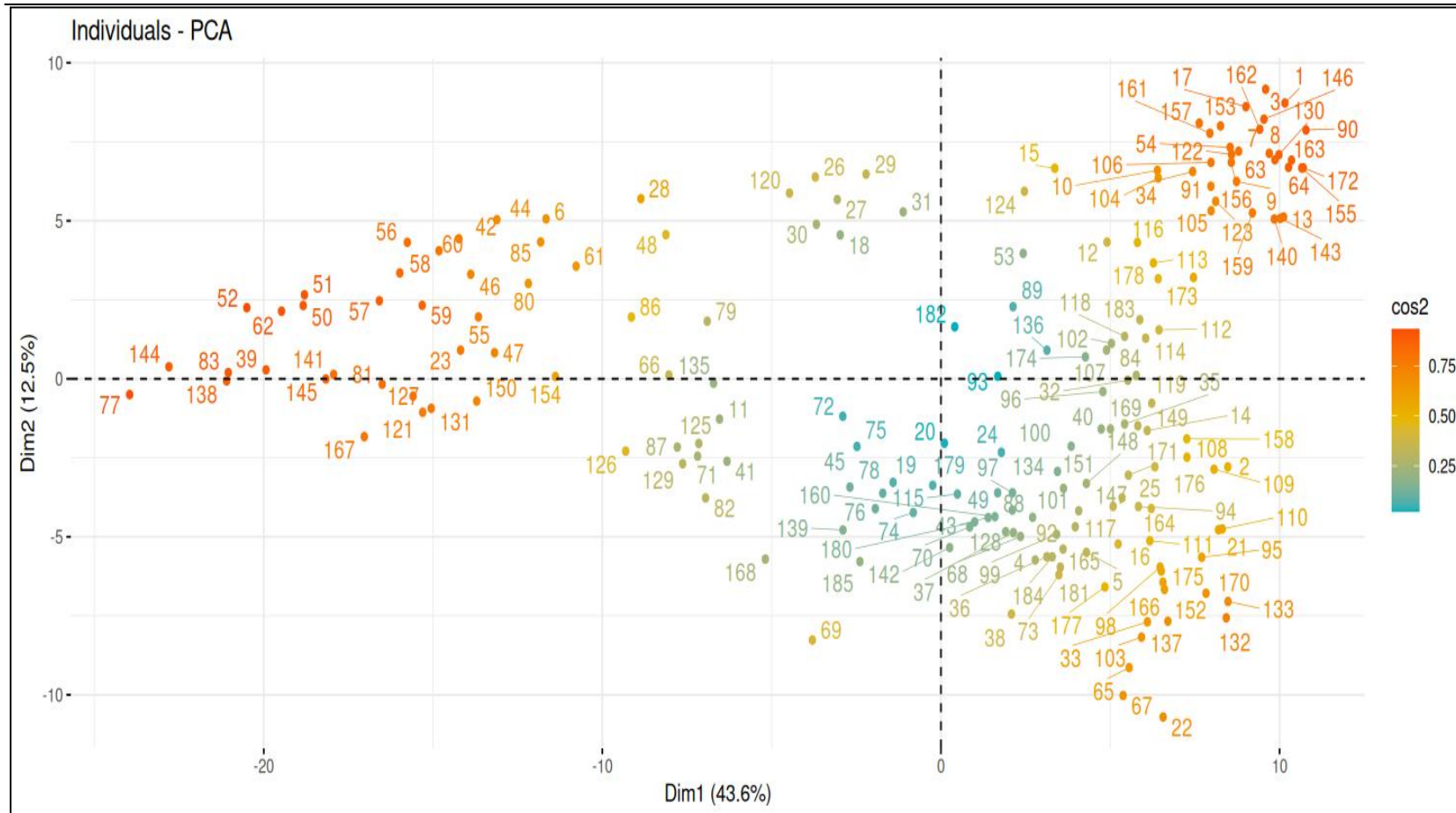
Field No.	Accession	Country of Origin	Biological Status	Field No.	Accession	Source	Biological Status	Field No.	Accession	Country of Origin	Biological Status	Field No.	Accession	Country of Origin	Biological Status	Field No.	Accession	Country of Origin	Biological Status
1	ICP14 407	India	Breeding/Research material	51	ICP92 14	India	Breeding/Research material	101	ICP14 976	India	Breeding/Research material	151	ICP72 57	Australia	Breeding/Research material	201	ICP74 26	India	Traditional cultivar/Landrace
2	ICP11 639	India	Breeding/Research material	52	ICP93 06	India	Traditional cultivar/Landrace	102	ICP13 884	Puerto Rico	Traditional cultivar/Landrace	152	ICP15 148	Congo	Traditional cultivar/Landrace	202	ICP74 52	India	Traditional cultivar/Landrace
3	ICP15 029	India	Breeding/Research material	53	ICP93 36	India	Traditional cultivar/Landrace	103	ICP93 9	India	Traditional cultivar/Landrace	153	ICP10 531	India	Traditional cultivar/Landrace	203	ICP16 674	India	Breeding/Research material
4	ICP14 420	India	Breeding/Research material	54	ICP13 191	Australia	Breeding/Research material	104	ICP11 26	India	Breeding/Research material	154	ICP14 094	Venezuela	Traditional cultivar/Landrace	204	ICP12 298	India	Traditional cultivar/Landrace
5	ICP14 853	India	Breeding/Research material	55	ICP14 793	India	Breeding/Research material	105	ICP25 77	Myanmar	Breeding/Research material	155	ICP13 579	Philippines	Traditional cultivar/Landrace	205	ICP13 270	Kenya	Traditional cultivar/Landrace
6	ICP16 342	India	Breeding/Research material	56	ICP14 793-2	India	Breeding/Research material	106	ICP39 48	India	Traditional cultivar/Landrace	156	ICP51 42	India	Breeding/Research material	206	ICP20 2	India	Traditional cultivar/Landrace
7	ICP14 732	India	Breeding/Research material	57	ICP14 803	India	Breeding/Research material	107	ICP82 55	India	Breeding/Research material	157	ICP63 59	India	Breeding/Research material	207	ICP68 15	India	Traditional cultivar/Landrace
8	ICP14 732-2	India	Breeding/Research material	58	ICP14 804	India	Breeding/Research material	108	ICP14 722	India	Advanced/Improved cultivar	158	ICP89 21	India	Traditional cultivar/Landrace	208	ICP10 654	India	Breeding/Research material
9	ICP14 732-3	India	Breeding/Research material	59	ICP11 17	India	Traditional cultivar/Landrace	109	ICP11 754	India	Breeding/Research material	159	ICP89 49	India	Traditional cultivar/Landrace	209	ICP71 88	India	Breeding/Research material
10	ICP14 840	India	Breeding/Research material	60	ICP73 19	India	Breeding/Research material	110	ICP47 15	Ghana	Breeding/Research material	160	ICP12 173	Thailand	Traditional cultivar/Landrace	210	ICP73 37	India	Traditional cultivar/Landrace
11	ICP16 184	India	Breeding/Research material	61	ICP14 701	India	Breeding/Research material	111	ICP15 161	India	Breeding/Research material	161	ICP11 910	India	Traditional cultivar/Landrace	211	ICP42 13	India	Traditional cultivar/Landrace
12	ICP14 900	India	Breeding/Research material	62	ICP14 701-2	India	Breeding/Research material	112	ICP15 180	India	Breeding/Research material	162	ICP77 2	India	Traditional cultivar/Landrace	212	ICP66 68	India	Traditional cultivar/Landrace
13	ICP14 903	India	Breeding/Research material	63	ICP14 868	Philippines	Traditional cultivar/Landrace	113	ICP15 185	India	Breeding/Research material	163	ICP42 66	India	Traditional cultivar/Landrace	213	ICP12 142	Tanzania	Traditional cultivar/Landrace
14	ICP11 611	India	Breeding/Research material	64	ICP72 60	India	Breeding/Research material	114	ICP24 05	India	Breeding/Research material	164	ICP14 033	India	Traditional cultivar/Landrace	214	ICP12 094	Tanzania	Traditional cultivar/Landrace
15	ICP14 668	India	Breeding/Research material	65	ICP89 55	India	Traditional cultivar/Landrace	115	ICP69 90	India	Traditional cultivar/Landrace	165	ICP60 49	India	Traditional cultivar/Landrace	215	ICP26 98	India	Traditional cultivar/Landrace
16	ICP14 944	India	Breeding/Research material	66	ICP12 73	India	Traditional cultivar/Landrace	116	ICP41 67	India	Traditional cultivar/Landrace	166	ICP74 03	India	Traditional cultivar/Landrace	216	ICP13 972	Dominican Republic	Traditional cultivar/Landrace

17	ICP16 313	India	Breeding/Re search material	67	ICP23 91	India	Breeding/Re search material	117	ICP79 52	India	Traditional cultivar/Lan drace	167	ICP11 259	India	Breeding/R esearch material	217	ICP14 066	Guyana	Traditional cultivar/La ndrace
18	ICP14 399	India	Breeding/Re search material	68	ICP10 447	India	Traditional cultivar/Lan drace	118	ICP49 03	India	Traditional cultivar/Lan drace	168	ICP72 66	Colombia	Breeding/R esearch material	218	ICP14 120	Jamaica	Traditional cultivar/La ndrace
19	ICP14 454	India	Breeding/Re search material	69	ICP11 153	India	Breeding/Re search material	119	ICP74 80	India	Traditional cultivar/Lan drace	169	ICP75 32	India	Traditional cultivar/La ndrace	219	ICP27 46	India	Traditional cultivar/La ndrace
20	ICP14 892	India	Breeding/Re search material	70	ICP11 772	India	Traditional cultivar/Lan drace	120	ICP77 98	India	Traditional cultivar/Lan drace	170	ICP11 096	India	Breeding/R esearch material	220	ICP14 684	India	Breeding/R esearch material
21	ICP11 599	India	Breeding/Re search material	71	ICP13 886	Dominican Republic	Traditional cultivar/Lan drace	121	ICP34 51	India	Traditional cultivar/Lan drace	171	ICP11 354	Nepal	Traditional cultivar/La ndrace	221	ICP98 91	India	Breeding/R esearch material
22	ICP70 28	India	Traditional cultivar/Lan drace	72	ICP13 887	Dominican Republic	Traditional cultivar/Lan drace	122	ICP15 382	Nigeria	Traditional cultivar/Lan drace	172	ICP92 52	Myanmar	Breeding/R esearch material	222	ICP96 4	India	Traditional cultivar/La ndrace
23	ICP16 290	India	Breeding/Re search material	73	ICP13 888	Dominican Republic	Traditional cultivar/Lan drace	123	ICP90 62	India	Traditional cultivar/Lan drace	173	ICP12 123	Tanzania	Traditional cultivar/La ndrace	223	ICP11 946	India	Traditional cultivar/La ndrace
24	ICP72 23	India	Breeding/Re search material	74	ICP14 017	India	Traditional cultivar/Lan drace	124	ICP14 126	Jamaica	Traditional cultivar/Lan drace	174	ICP15 109	Uganda	Traditional cultivar/La ndrace	224	ICP69 29	Trinidad and Tobago	Breeding/R esearch material
25	ICP73 01	India	Breeding/Re search material	75	ICP14 056	Australia	Breeding/Re search material	125	ICP11 971	India	Breeding/Re search material	175	ICP10 963	India	Traditional cultivar/La ndrace	225	ICP10 228	India	Traditional cultivar/La ndrace
26	ICP73 01-2	India	Breeding/Re search material	76	ICP99 5	India	Breeding/Re search material	126	ICP73 14	India	Breeding/Re search material	176	ICP82 42	India	Breeding/R esearch material	226	ICP12 618	China	Breeding/R esearch material
27	ICP16 189	India	Breeding/Re search material	77	ICP41 29	India	Traditional cultivar/Lan drace	127	ICP78 69	India	Traditional cultivar/Lan drace	177	ICP12 105	Tanzania	Traditional cultivar/La ndrace	227	ICP16 264	India	Breeding/R esearch material
28	ICP16 317	India	Breeding/Re search material	78	ICP61 23	India	Breeding/Re search material	128	ICP82 66	India	Breeding/Re search material	178	ICP12 515	India	Traditional cultivar/La ndrace	228	ICP13 577	China	Breeding/R esearch material
29	ICP11 513	India	Breeding/Re search material	79	ICP73 44	India	Traditional cultivar/Lan drace	129	ICP78 03	India	Traditional cultivar/Lan drace	179	ICP68 59	India	Traditional cultivar/La ndrace	229	ICP14 604	India	Traditional cultivar/La ndrace
30	ICP14 971	Indonesia	Traditional cultivar/Lan drace	80	ICP96 55	India	Breeding/Re search material	130	ICP87 57	India	Traditional cultivar/Lan drace	180	ICP13 244	Kenya	Traditional cultivar/La ndrace	230	ICP30 49	India	Traditional cultivar/La ndrace
31	ICP13 260-1	Kenya	Traditional cultivar/Lan drace	81	ICP97 50	India	Breeding/Re search material	131	ICP11 148	India	Breeding/Re search material	181	ICP11 514	India	Breeding/R esearch material	231	ICP14 147	Brazil	Breeding/R esearch material
32	ICP16 309-2	India	Breeding/Re search material	82	ICP14 320	Venezuela	Breeding/Re search material	132	ICP13 998	South Africa	Traditional cultivar/Lan drace	182	ICP14 009	India	Traditional cultivar/La ndrace	232	ICP58 63	India	Traditional cultivar/La ndrace
33	ICP30 46	India	Traditional cultivar/Lan drace	83	ICP14 322	Venezuela	Breeding/Re search material	133	ICP11 015	India	Breeding/Re search material	183	ICP13 011	India	Traditional cultivar/La ndrace	233	ICP10 241	India	Traditional cultivar/La ndrace
34	ICP11 633	India	Breeding/Re search material	84	ICP14 674	India	Breeding/Re search material	134	ICP14 545	India	Breeding/Re search material	184	ICP69 92	India	Traditional cultivar/La ndrace	234	ICP11 320	Nepal	Traditional cultivar/La ndrace
35	ICP7	India	Traditional cultivar/Lan drace	85	ICP14 678	India	Breeding/Re search material	135	ICP70 76	India	Traditional cultivar/Lan drace	185	ICP43 92	India	Traditional cultivar/La ndrace	235	ICP14 368	Venezuela	Breeding/R esearch material
36	ICP34 8	India		86	ICP14 685	India		136	ICP82 11	India		186	ICP10 613	India		236	ICP14 456	India	

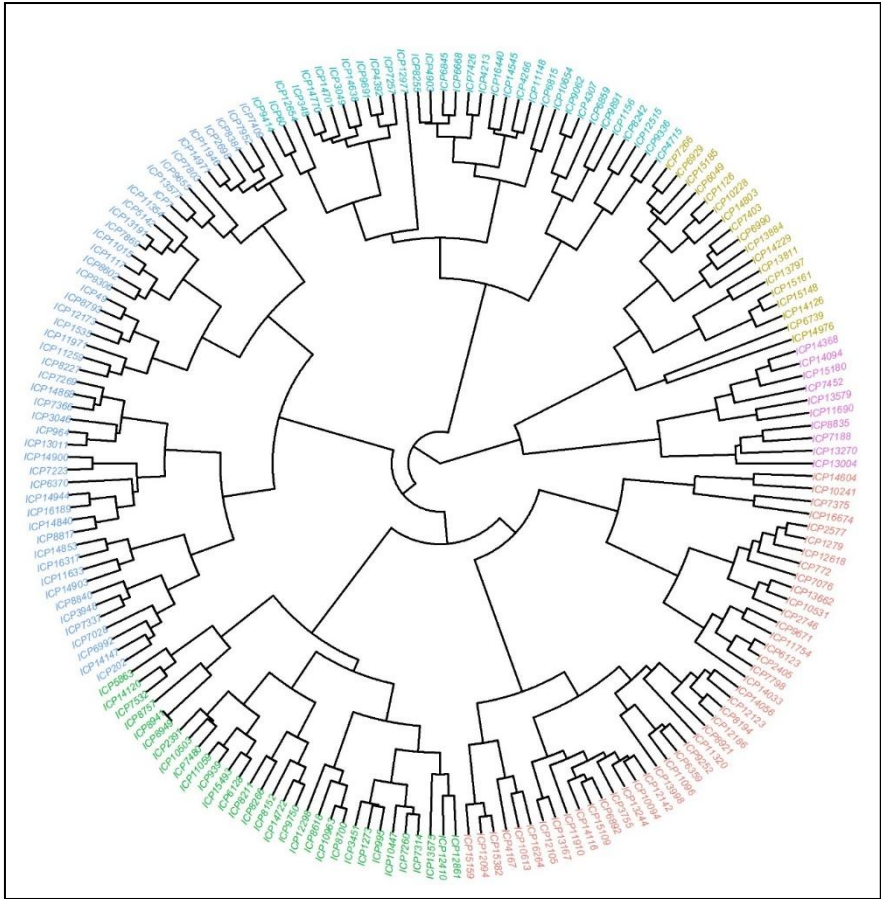
37	ICP9005	India	Breeding/Research material Traditional cultivar/Landrace	87	ICP14770	India	Breeding/Research material Advanced/Improved cultivar	137	ICP8835	India	Breeding/Research material Traditional cultivar/Landrace	187	ICP6370	Unknown	Traditional cultivar/Landrace Breeding/Research material	237	ICP14478	India	Breeding/Research material
38	ICP7269	Australia	Breeding/Research material	88	ICP8793	India	Traditional cultivar/Landrace	138	ICP15493	Uganda	Traditional cultivar/Landrace	188	ICP9414	India	Traditional cultivar/Landrace	238	ICP10503	India	Traditional cultivar/Landrace
39	ICP1156	India	Traditional cultivar/Landrace	89	ICP12410	India	Traditional cultivar/Landrace	139	ICP16440	India	Traditional cultivar/Landrace	189	ICP13575	Sierra Leone	Traditional cultivar/Landrace	239	ICP15159	India	Breeding/Research material
40	ICP11975	India	Breeding/Research material	90	ICP9671	India	Breeding/Research material	140	ICP8152	India	Traditional cultivar/Landrace	190	ICP14908	India	Breeding/Research material	240	ICP14116	Jamaica	Traditional cultivar/Landrace
41	ICP7357	India	Traditional cultivar/Landrace	91	ICP13797	Trinidad and Tobago	Traditional cultivar/Landrace	141	ICP8227	India	Breeding/Research material	191	ICP14719	India	Breeding/Research material	241	ICP12186	Sri Lanka	Traditional cultivar/Landrace
42	ICP49	India	Traditional cultivar/Landrace	92	ICP13811	Trinidad and Tobago	Traditional cultivar/Landrace	142	ICP8602	India	Traditional cultivar/Landrace	192	ICP7321	India	Breeding/Research material	242	ICP13167	Kenya	Traditional cultivar/Landrace
43	ICP4659	India	Traditional cultivar/Landrace	93	ICP1279	India	Traditional cultivar/Landrace	143	ICP8618	India	Traditional cultivar/Landrace	193	ICP11690	India	Breeding/Research material	243	ICP15013	India	Breeding/Research material
44	ICP3861	Unknown	Traditional cultivar/Landrace	94	ICP6128	Bangladesh	Breeding/Research material	144	ICP8700	India	Traditional cultivar/Landrace	194	ICP7366	India	Traditional cultivar/Landrace	244	ICP15059	India	Breeding/Research material
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47	ICP60	India	Advanced/Improved cultivar	97	ICP14638	India	Breeding/Research material	147	ICP6845	India	Traditional cultivar/Landrace	197	ICP3755	India	Breeding/Research material	247	ICP8817	India	Traditional cultivar/Landrace
48	ICP12654	India	Breeding/Research material	98	ICP8840	India	Traditional cultivar/Landrace	148	ICP6892	Puerto Rico	Breeding/Research material	198	ICP12861	India	Traditional cultivar/Landrace	248	ICP8384	India	Traditional cultivar/Landrace
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50	ICP9207	India	Breeding/Research material	100	ICP14229	Zambia	Traditional cultivar/Landrace	150	ICP4307	India	Traditional cultivar/Landrace	200	ICP7375	India	Traditional cultivar/Landrace				

Supplementary Table S2. Inter- and intra-cluster distances analysis for pigeonpea genotypes.

Cluster Group	Cluster I	Cluster II	Cluster III	Cluster IV	Cluster V	Cluster VI
Cluster I	11.26	13.4	10.28	11.04	12.36	8.02
Cluster II	-	14.59	13.4	12.56	10.58	14.06
Cluster III	-	-	11.53	10.94	10.08	10.08
Cluster IV	-	-	-	10.94	11.51	10.33
Cluster V	-	-	-	-	-	10.08
Cluster VI	-	-	-	-	-	-



Supplementary Figure S1. The SNP derived principal component analysis (PCA) biplot of 185 pigeonpea accessions illustrating individual contributions and cosine similarities across two principal components.



Supplementary Figure S2. Phenotypic cluster analysis of selected unique 185 pigeonpea accessions.