

Supplementary Data

Assessment of genetic diversity in medicinal rices using microsatellite markers

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Supplementary Table 1. Data on chromosome number, repeat motif, and number of total alleles, number of polymorphic alleles, unique alleles, multiple alleles, low frequency alleles, high frequency alleles, polymorphism information content and discriminating power obtained using 36 microsatellites loci in 36 rice genotypes

Microsatellite locus	Chrom#	Repeat motif	TA	PA	UA	MA	%GMA	LFA	%GLFA	HFA	%GHFA	PIC	D
259	1	(CT)17	3	3	0	1	91.67	1	13.89	2	86.11, 91.67	0.464	0.469
428	1	(AG)15	4	4	1	1	22.22	1	19.44	2	41.67, 58.33	0.862	0.822
488	1	(GA)17	3	3	0	1	22.22	2	13.89, 27.78	1	80.56	0.752	0.756
211	2	(TC)3A(TC)18	3	3	0	1	13.89	2	27.78, 16.67	1	69.44	0.804	0.81
263	2	(CT)34	5	5	0	2	38.89	3	25, 19.44, 8.33	2	66.67, 30.56	0.871	0.876
485	2	(TA)18	8	8	0	5	91.65	4	22.22, 22.22, 16.67, 16.67	4	38.89, 55.56, 50, 80.56	0.811	0.816
203	3	(AT)21	9	9	0	3	91.65	6	19.44, 16.67, 8.33, 22.22, 27.78, 13.89	3	36.11, 50, 41.67	0.914	0.919
218	3	(TC)24ACT5(GT)11	4	4	0	1	16.67	3	16.67, 19.44,	1	69.44	0.86	0.864

									11.11				
426	3	(CA)10	5	5	0	1	13.89	3	5.56, 16.67, 22.22	2	38.89, 30.56	0.935	0.94
307	4	(AT)14(GT)21	4	4	2	1	8.33	1	5.56	1	97.22	0.763	0.75
335	4	(CTT)25	8	8	1	3	61.11	6	22.22, 25, 8.33, 27.78, 27.78, 8.33	1	47.22	0.937	0.94
470	4	(CTT)14	7	7	2	2	22.22	3	8.33, 5.56, 11.11	2	58.33, 36.11	0.929	0.925
164	5	(GT)16TT(GT)4	4	4	0	1	22.22	3	25, 11.11, 25.00	1	61.11	0.872	0.877
169	5	(GA)12	6	6	0	2	27.78	5	13.89, 25, 19.44, 27.78, 16.67	1	30.56	0.947	0.952
440	5	(CTT)22	4	4	0	3	22.22	3	25, 19.44, 11.11	1	88.89	0.774	0.778
30	6	(AG)9A(GA)12	4	4	1	1	2.78	2	25, 22.22	1	50.00	0.909	0.907
225	6	(CT)18	4	4	1	1	11.11	1	11.11	2	47.22, 50	0.878	0.876
253	6	(GA)25	4	4	1	1	19.44	1	8.33	2	69.44, 38.89	0.84	0.837
10	7	(GA)15	3	3	0	1	19.44	1	19.44	2	69.44, 30.56	0.8	0.801
432	7	(CATC)9	2	2	0	0	0	1	13.89	1	86.11	0.62	0.623
500	7	(AAG)9	3	3	0	2	13.89	1	13.89	2	55.56, 50	0.807	0.813
152	8	(GGC)10	4	4	0	1	16.67	2	25, 5.56	2	50, 36.11	0.89	0.894

433	8	(AG)13	3	3	0	1	16.67	1	16.67	2	55.56, 44.44	0.822	0.828
8271	8	(AG)32	4	4	0	2	27.78	1	8.33	3	91.67, 41.67, 33.33	0.717	0.721
189	9	(AG)11	3	1	0	2	100	0	0	3	100, 52.78 100	0.24	0.243
219	9	(CT)17	3	3	0	0	0	2	25, 19.44	1	55.56	0.864	0.869
444	9	(AT)12	6	6	0	2	33.33	5	27.78, 19.44, 13.89, 25, 16.67	1	47.22	0.925	0.93
269	10	(GA)17	5	4	0	4	100	1	19.44	4	94.44, 88.89, 100, 33.33	0.434	0.437
330A	10	(CAT)5	7	7	0	4	91.67	2	8.33, 19.44	5	36.11, 52.78, 88.89, 36.11, 36.11	0.785	0.79
333	10	(TAT)19(CTT)19	9	9	2	2	38.89	5	22.22, 11.11, 8.33, 11.11, 8.33	2	36.11, 41.67	0.956	0.951
21	11	(GA)18	4	4	0	1	16.67	2	13.89, 19.44	2	38.89, 44.44	0.899	0.904
202	11	(CT)30	5	5	0	1	36.11	2	5.56, 13.89	3	47.22, 33.33, 36.11	0.903	0.903
224	11	(AAG)8(AG)13	5	5	0	2	33.33	4	5.56, 27.78, 25, 13.89	1	63.89	0.886	0.891
17	12	(GA)21	3	3	0	1	5.6	2	25, 19.44	1	61.11	0.842	0.848

20	12	(ATT)14	7	7	0	2	100	5	19.44, 13.89, 25, 27.78, 5.56	2	77. 78, 50	0.849	0.854
235	12	(CT)24	4	4	0	1	22.22	3	19.44 8.33 13.89	1	80. 56	0.822	0.825
Total			169	166	11	60	1272.2 3	90	1547.22	6 8	38 69. 44	29.183	29.24
Mean			4.69	4.61	0.30 6	1.67	37.42	2.5	17.19	1 .8 9	56. 90	0.811	0.812
%				99.4 1	6.51	35.5		53.25		4 0 .2 4			

LFA- Low frequency alleles, HFA- High frequency alleles, MA- Multiple alleles, PA- Polymorphic alleles, TA - Total number of alleles, UA- Unique alleles, %GMA-*Per cent* of genotypes showing multiple alleles, %GLFA- *Per cent* of genotypes showing different low frequency alleles, % GHFA- *Per cent* of genotypes showing different high frequency alleles, D-Discriminating power, PIC- Polymorphism information content

Supplementary Table 2: Details of amplification pattern by microsatellite loci having simple repeat motif in 36 rice genotypes

Microsatellite locus (RM)	Chrom#	Simple repeat motif	NR	TA	PIC
a) Di-nucleotide repeat motif					
259	1	(CT)17	17	3	0.464
428	1	(AG)15	15	4	0.862
488	1	(GA)17	17	3	0.752
263	2	(CT)34	34	5	0.871
485	2	(TA)18	18	8	0.811
203	3	(AT)21	21	9	0.914
426	3	(CA)10	10	5	0.935
169	5	(GA)12	12	6	0.947
225	6	(CT)18	18	4	0.878
253	6	(GA)25	25	4	0.84
10	7	(GA)15	15	3	0.8
433	8	(AG)13	13	3	0.822
8271	8	(AG)32	32	4	0.717
189	9	(AG)11	11	3	0.24
219	9	(CT)17	17	3	0.864
444	9	(AT)12	12	6	0.925
269	10	(GA)17	17	5	0.434
21	11	(GA)18	18	4	0.899
202	11	(CT)30	30	5	0.903
17	12	(GA)21	21	3	0.842
235	12	(CT)24	24	4	0.822
	Total		397	94	16.542
	Mean		18.905	4.48	0.788
b) Tri-nucleotide repeat motif					
470	4	(CTT)14	14	7	0.929
440	5	(CTT)22	22	4	0.774
335	4	(CTT)25	25	8	0.937
500	7	(AAG)9	9	3	0.807
20	12	(ATT)14	14	7	0.849
152	8	(GGC)10	10	4	0.89
330A	10	(CAT)5	5	7	0.785
	Total		99	40	5.971
	Mean		14.14	5.71	0.853
c) Tetra- nucleotide repeat motif					
432	7	(CATC)9	9	2	0.62
	Grand Total		505	136	23.133
	Mean		17.41	4.69	0.798

NR- Number of repeats in simple motif, TA - Total number of alleles, PIC- Polymorphism information content

Supplementary Table 3: Details of amplification pattern by microsatellite loci having (CTT)n and AT rich di and tri-nucleotide repeat motif in 36 rice genotypes

Microsatellite locus	Chrom #	Repeat motif	TA	PIC
203	3	(AT)21	9	0.914
444	9	(AT)12	6	0.925
20	12	(ATT)14	7	0.849
335	4	(CTT)25	8	0.937
470	4	(CTT)14	7	0.929
440	5	(CTT)22	4	0.774
333	10	(TAT)19(CTT)19	9	0.956
	Total		50	6.284
	Mean		7.14	0.898

TA-Total number of alleles, PIC-Polymorphism information content

Supplementary Table 4: Correlation coefficients, t-value and probability (P) value

Attributes (Table)	Correlation coefficient (r)	Degrees of freedom (df)	t-value	Probabilities (P)	
				One-tail	Two-tail
NR-TA (Suppl. Table 1)	0.079	27	0.41	0.3429	0.6837
NR-PIC (Suppl. Table 1)	0.147	27	0.77	0.2223	0.4467
TA-MA (Table 1)	0.665	34	5.19	<0.0001	<0.0001
TA-PIC (Table 1)	0.400	34	2.54	0.0078	0.0156

NR-Number of repeats in simple motif, TA-Total number of alleles, MA-Multiple alleles, PIC-Polymorphism information content

Supplementary Table 5:List of medicinal and high yielding rice genotypes used for DNA profiling

Sl. No.	Name of genotype	CRRI AC. No.	Place of Collection (Village/Block/District)	Medicinal and health values
1	Sareiphul	39265	Singharpur, Keshkal, Bastar	Treatment of nausea
2.	Meher	39267	Singharpur, Keshkal, Bastar	Tonic for general weaknesses
3	Sindursinga	39269	Devgaon, Narayanpur, Bastar	Curing of summer boils
4	Gadaguta	39270	Devgaon, Narayanpur, Bastar	Relief from headache and knee pain
5	Urmi	39271	Devgaon, Narayanpur, Bastar	Helps in easy delivery
6	Kande	39273	Devgaon, Narayanpur, Bastar	Relief from headache
7	Kalamali	39274	Badabengal, Narayanpur, Bastar	Treatment of paralysis
8	Barangi	39275	Badabengal, Narayanpur, Bastar	Good diet for pregnant women
9	Shella	39276	Badabengal, Narayanpur, Bastar	Tonic for general weaknesses
10	Bogasoli	39277	Badabengal, Narayanpur, Bastar	Treatment of hysteria
11	Gudamatia	39281	Badabengal, Narayanpur, Bastar	Treatment of diabetes
12	Gadakenta	39282	Badabengal, Narayanpur, Bastar	Overcoming delivery weakness
13	Bangali	39287	Jhara, Palli, Bastar	Treatment of arthritis
14	Satka	39288	Jhara, Palli, Bastar	Healthy child growth
15	Bedro	39290	Badearpur, Tokapal, Bastar	Relief from headache
16	Mancha	39294	Badearpur, Tokapal, Bastar	Helps in easy delivery in cows
17	Kandul	39303	Jamgam, Kelpal, Bastar	Treatment of paralysis
18	Marangdhan	39306	Karloor, Kelpal, Bastar	Healthy child growth
19	Kalinga III	-	CRRI, Cuttack	High yielding variety
20	Vandana	-	CRRI, Cuttack	High yielding variety
21	Swarna	-	CRRI, Cuttack	High yielding variety
22	Sambalpuri	39262	Sriharinala, Naraharpur, Kanker	Helps regain health
23	Ratanchudi	39279	Badabengal, Narayanpur, Bastar	Tonic for general weaknesses
24	Limchudi	39291	Badearpur, Tokapal, Bastar	Treatment of arthritis
25	Gadagachudi	39295	Badearpur, Tokapal, Bastar	Relief from joint pains
26	Katak	39298	Badearpur, Tokapal, Bastar	Curing of pimples
27	Edkabenji	39300	Jamgam, Kelpal, Bastar	Treatment of gastric ailments
28	Saadki	39301	Jamgam, Kelpal, Bastar	Helps build strength in children
29	Chinabhuchi	39309	Hiranal, Gidam, Dantewada	Overcoming weakness after child birth
30	Baggi	39304	Karloor, Kelpal, Bastar	Relief from headache
31	Chikma	39310	Hiranal, Gidam, Dantewada	Muscle tonic (massaging)
32	Bodi	39313	Chitrakoot, Landigunda, Bastar	Treatment of urinary burns (infections)
33	Gotia	39315	Amagunda, Jagdalpur, Bastar	Relief from joint pains
34	Baunshbod	39317	Amagunda, Jagdalpur, Bastar	Relief from skin problems
35	Mehera	39322	Chakawade, Jagdalpur, Bastar	Tonic for general weaknesses
36	Porsi	39330	Deurgaon, Jagdalpur, Bastar	Treatment for rheumatism