

FOR THE RECORD

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Autosomal Microsatellite Profile of Three Socially Diverse Ethnic Tamil Populations of India*

POPULATION: Three endogamous populations: Kongu Vellala Gounder, a socially progressive community, Irular, a tribal community and Chakkiliyar, a socially backward caste all residing around Coimbatore in the state of Tamil Nadu, India.

KEYWORDS: forensic science, human identification, DNA profiling, short tandem repeats, D3S1358, TH01, D21S11, D18S51, Penta E, D5S818, D13S317, D7S820, D16S539, CSF1P0, Penta D, vWA, D8S1179, TPOX, FGA, population genetics, India, Tamil Nadu, Kongu Vellala Gounder, Irular, Chakkiliyar

Blood samples were obtained by venipuncture from random, consenting individuals of the three populations: Kongu Vellala Gounder (56), Irular (54), and Chakkiliyar (49). DNA was isolated using standard phenol/chloroform procedure (1). Fifteen autosomal microsatellite loci were amplified using the PowerPlex[®] 16 system (Promega Corporation, Madison) according to manufacturer's recommendations (2). The amplified products were separated by denaturing gel electrophoresis using the ABI Prism[™] 377 DNA Sequencer (PE Applied Biosystems, Foster City, CA). Alleles were determined by comparison with the allelic ladder included in the kit.

The resultant data were analyzed using DNATYPE program (3). The genotype frequencies, results of Hardy-Weinberg tests, combined probability of match, the observed and expected heterozygosity values obtained in the three Tamil populations are given in Tables 1–3. The study contributes three new populations to the database being created for the Indian population groups (4–8).

The complete data set is available to any interested researcher upon request.

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* Supported by a grant from BPR&D, MHA, Govt. of India.

† Assisted with a fellowship from Council of Scientific & Industrial Research (CSIR), India.

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TABLE 1—Allele frequencies, tests for Hardy-Weinberg equilibrium, and forensic statistics for 15 microsatellite loci in the Gounder population.

Allele	D3S1358	TH01	D21S11	D18S51	Penta E	D5S818	D13S317	D7S820	D16S539	CSFIPO	Penta D	vWA	D8S1179	TPOX	FGA
5	...	0.170	...	...	0.018	...	...	...	...	...	...	...	...	...	...
6	...	0.241	...	...	0.063	...	...	0.098	...	...	...	...	...	...	...
7	...	0.205	...	...	...	0.321	0.098	0.214	0.045	...	0.027	...	...	0.170	...
8	...	0.223	...	...	0.018	0.098	0.045	0.045	0.116	...	0.268	...	...	0.125	...
9	...	0.161	...	...	...	...	...	...	...	...	...	...	...	...	...
9.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	...	0.018	0.036	0.116	0.063	0.170	0.080	0.188	0.161	...	0.214	0.223	...
11	...	...	...	0.027	0.214	0.339	0.232	0.223	0.402	0.491	0.339	...	0.152	0.473	...
12	...	...	...	0.071	0.080	0.339	0.232	0.205	0.214	0.286	0.143	...	0.116	0.009	...
13	...	...	...	0.143	0.036	0.205	0.027	0.045	0.089	0.036	0.063	...	0.063	...	...
14	0.054	...	...	0.214	0.054	...	0.027	...	0.054	...	...	0.036	0.205	...	...
15	0.402	...	...	0.161	0.063	...	...	...	...	...	...	0.089	0.161	...	...
16	0.223	...	...	0.179	0.179	...	...	...	...	...	...	0.134	0.080	...	0.009
17	0.205	...	...	0.161	0.098	...	...	...	...	...	...	0.464	0.009	...	...
18	0.116	...	...	0.018	0.036	...	...	...	...	...	...	0.098	...	...	...
19	...	...	...	...	0.036	...	...	...	...	...	...	0.161	...	...	0.080
20	...	...	...	0.009	0.063	...	...	...	...	...	...	0.161	...	...	0.161
21	...	...	...	...	0.009	...	...	...	...	...	...	0.018	...	...	0.196
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.143
22.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.018
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.196
23.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.009
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.063
24.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.009
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.071
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.045
28	...	...	0.116	...	...	...	...	...	...	...	...	...	...	...	...
29	...	...	0.143	...	...	...	...	...	...	...	...	...	...	...	...
30	...	...	0.196	...	...	...	...	...	...	...	...	...	...	...	...
31	...	...	0.063	...	...	...	...	...	...	...	...	...	...	...	...
31.2	...	...	0.161	...	...	...	...	...	...	...	...	...	...	...	...
32	...	...	0.009	...	...	...	...	...	...	...	...	...	...	...	...
32.2	...	...	0.250	...	...	...	...	...	...	...	...	...	...	...	...
33	...	...	0.009	...	...	...	...	...	...	...	...	...	...	...	...
33.2	...	...	0.054	...	...	...	...	...	...	...	...	...	...	...	...
OH	0.714	0.768	0.857	0.768	0.821	0.821	0.768	0.750	0.750	0.625	0.696	0.607	0.839	0.732	0.839
EH	0.737	0.802	0.840	0.851	0.893	0.721	0.781	0.827	0.767	0.647	0.769	0.728	0.847	0.688	0.866
LR (p)	0.810	0.980	0.171	0.917	0.549	0.017	0.977	0.927	0.209	0.943	0.536	0.743	0.026	0.642	0.064
ET (p)	0.898	0.970	0.117	0.721	0.413	0.016	0.811	0.771	0.128	0.876	0.394	0.641	0.018	0.785	0.047

Combined probability of match: 8.94×10^{-16} .

OH: Observed Heterozygosity, EH: Expected Heterozygosity, LR (p): Likelihood Ratio Test (probability), ET (p): Exact Test (probability).

TABLE 2—Allele frequencies, tests for Hardy-Weinberg equilibrium, and forensic statistics for 15 microsatellite loci in the Irular population.

Allele	D3S1358	TH01	D21S11	D18S51	Penta E	D5S818	D13S317	D7S820	D16S539	CSFIPO	Penta D	vWA	D8S1179	TPOX	FGA
5	...	...	...	...	0.028	...	...	...	...	...	...	...	...	...	...
6	...	0.306	...	...	...	...	...	...	...	...	...	...	...	...	...
7	...	0.083	...	...	...	...	0.056	0.009	...	...	...	...	...	...	...
8	...	0.157	...	...	...	...	0.306	0.537	0.056	...	...	...	...	0.093	...
9	...	0.398	...	...	...	0.046	0.315	0.046	0.296	...	0.278	...	...	0.333	...
9.3	...	0.056	...	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	...	0.028	0.009	0.148	0.037	0.204	0.019	0.176	0.278	...	0.250	0.130	...
11	...	...	...	...	0.037	0.296	0.065	0.176	0.481	0.194	0.148	...	0.046	0.435	...
12	...	...	...	0.019	0.185	0.426	0.130	0.028	0.056	0.463	0.028	...	0.157	0.009	...
13	...	...	...	0.148	0.009	0.083	0.019	...	0.093	0.120	0.074	...	0.046	...	...
13.2	...	...	...	0.009	...	...	...	...	...	...	...	...	...	...	...
14	0.102	...	...	0.306	0.083	...	0.074	...	...	0.046	0.194	0.139	0.204	...	...
15	0.306	...	...	0.194	0.046	...	...	...	...	...	...	0.130	0.176	...	...
16	0.315	...	...	0.157	0.139	...	...	...	...	...	...	0.250	0.074	...	...
17	0.130	...	...	0.037	0.157	...	...	...	...	...	...	0.241	0.046	...	...
18	0.120	...	...	...	0.185	...	...	...	...	...	...	0.185	...	...	...
19	0.028	...	...	0.065	0.083	...	...	...	...	...	...	0.056	...	...	0.065
20	...	...	...	0.037	0.037	...	...	...	...	...	...	...	...	...	0.287
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.056
21.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.009
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.296
22.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.009
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.083
23.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.009
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.093
24.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.009
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.037
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.019
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.019
28	...	...	0.213	...	...	...	...	...	...	...	...	...	...	...	0.009
28.2	...	...	0.037	...	...	...	...	...	...	...	...	...	...	...	...
29	...	...	0.241	...	...	...	...	...	...	...	...	...	...	...	...
29.2	...	...	0.028	...	...	...	...	...	...	...	...	...	...	...	...
30	...	...	0.056	...	...	...	...	...	...	...	...	...	...	...	...
31	...	...	0.028	...	...	...	...	...	...	...	...	...	...	...	...
31.2	...	...	0.194	...	...	...	...	...	...	...	...	...	...	...	...
32.2	...	...	0.204	...	...	...	...	...	...	...	...	...	...	...	...
OH	0.704	0.630	0.833	0.889	0.944	0.611	0.796	0.593	0.704	0.685	0.796	0.759	0.926	0.648	0.759
EH	0.772	0.720	0.819	0.822	0.876	0.706	0.784	0.642	0.672	0.707	0.787	0.814	0.836	0.680	0.812
LR (p)	0.689	0.519	0.283	0.225	0.024	0.346	0.103	0.392	0.352	0.052	0.853	0.272	0.202	0.149	0.182
ET (p)	0.565	0.213	0.214	0.316	0.049	0.300	0.040	0.239	0.396	0.052	0.942	0.243	0.198	0.209	0.199

Combined probability of match: 6.27×10^{-15} .

OH: Observed Heterozygosity, EH: Expected Heterozygosity, LR (p): Likelihood Ratio Test (probability), ET (p): Exact Test (probability).

TABLE 3—Allele frequencies, tests for Hardy-Weinberg equilibrium, and forensic statistics for 15 microsatellite loci in the Chakkiliyar population.

Allele	D3S1358	TH01	D21S11	D18S51	Penta E	D5S818	D13S317	D7S820	D16S539	CSFIPO	PentaD	vWA	D8S1179	TPOX	FGA
5	...	...	...	...	0.041	...	...	...	...	...	...	...	...	...	...
6	...	0.337	...	...	...	...	...	...	...	...	...	...	...	...	...
7	...	0.092	...	...	0.020	...	...	...	...	...	...	...	...	...	...
8	...	0.092	...	...	...	0.204	0.286	0.286	0.143	0.020	0.010	...	...	0.255	...
9	...	0.408	...	...	...	0.061	0.102	0.102	0.133	0.020	0.214	...	...	0.184	...
9.3	...	0.071	...	...	...	0.051	...	...	...	...	...	...	...	...	...
10	...	...	...	...	0.020	0.173	0.214	0.214	0.041	0.347	0.214	...	0.184	0.102	...
11	...	...	...	0.102	0.143	0.316	0.255	0.255	0.337	0.296	0.398	...	0.173	0.388	...
12	...	...	...	0.092	0.378	0.082	0.122	0.122	0.204	0.276	0.082	...	0.071	0.071	...
13	...	...	...	0.020	0.184	...	0.010	0.010	0.133	0.041	0.041	...	0.133	...	...
13.2	...	...	...	0.020	...	...	...	...	...	...	...	...	...	...	...
14	0.020	...	...	0.224	0.041	...	0.031	0.010	0.010	...	0.041	0.143	0.194	...	...
14.2	...	...	...	0.010	...	...	...	...	...	...	...	...	...	...	...
15	0.490	...	...	0.265	0.041	...	...	...	...	...	...	0.163	0.143	...	...
16	0.296	...	...	0.143	0.112	...	...	...	...	...	...	0.184	0.031	...	...
17	0.153	...	...	0.041	0.071	...	...	...	...	...	...	0.214	0.071	...	...
18	0.041	...	...	0.041	0.051	...	...	...	...	...	...	0.245	...	...	...
19	...	...	...	0.041	0.051	...	...	...	...	...	...	0.051	...	...	0.051
20	...	...	...	0.020	...	...	...	...	...	...	...	...	...	...	0.061
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.173
21.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.020
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.153
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.235
23.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.041
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.143
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.122
28	...	...	0.061	...	...	...	...	...	...	...	...	...	...	...	...
28.2	...	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...
29	...	...	0.245	...	...	...	...	...	...	...	...	...	...	...	...
30	...	...	0.245	...	...	...	...	...	...	...	...	...	...	...	...
30.2	...	...	0.041	...	...	...	...	...	...	...	...	...	...	...	...
31	...	...	0.051	...	...	...	...	...	...	...	...	...	...	...	...
31.2	...	...	0.163	...	...	...	...	...	...	...	...	...	...	...	...
32	...	...	0.051	...	...	...	...	...	...	...	...	...	...	...	...
32.2	...	...	0.092	...	...	...	...	...	...	...	...	...	...	...	...
33.2	...	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...
34.2	...	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...
35.0	...	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...
35.2	...	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...
OH	0.592	0.714	0.878	0.776	0.857	0.633	0.837	0.857	0.694	0.633	0.694	0.694	0.857	0.898	0.816
EH	0.654	0.705	0.842	0.843	0.876	0.725	0.814	0.790	0.800	0.721	0.747	0.819	0.858	0.743	0.856
LR (p)	0.838	0.926	0.064	0.848	0.448	0.765	0.923	0.445	0.835	0.656	0.267	0.773	0.156	0.094	0.430
ET (p)	0.611	0.971	0.071	0.805	0.411	0.672	0.933	0.418	0.582	0.564	0.139	0.595	0.104	0.141	0.287

Combined probability of match: 1.10×10^{-15} .

OH: Observed Heterozygosity, EH: Expected Heterozygosity, LR (p): Likelihood Ratio Test (probability), ET (p): Exact Test (probability).