

附表1 变异度分析所用数据 (单位 : mm)

测量项目中 文名		颅骨最 大长	颅骨最 大宽	额骨最 小宽	颅高	上面宽	颧点间 宽	中面宽	上面 高n- pr	眶宽d- ec (左)	眶高 (左)	鼻宽	鼻高	鼻最 小宽	鼻最 小宽 之矢 高	上颌 槽 弓宽	鼻根点 到两眶 内宽之 矢高	眶间 宽d-d	鼻棘下 点至中 面宽之 矢高
Howells代号		GOL	XCB	WFB	BBH	UFBR	ZYB	ZMB	NPH	OBB-L	OBH-L	NLB	NLH	WNB	SIS	MAB	NAS	DKB	SSS
男	BM13:1	183.00	139.00	92.21	137.00	104.61	137.10	97.43	73.88	41.26	33.98	27.37	54.14	9.41	5.50	65.50	18.10	21.62	24.92
	BM41	176.75	142.26	87.70	139.00	100.93	136.92	104.48	70.81	40.70	33.64	24.44	51.45	3.28	2.30	64.51	15.20	18.91	27.85
	M11:2	178.00	149.00	93.85	144.00	110.51	146.88	111.00	77.63	42.77	35.15	29.42	54.93	6.64	3.80	70.23	13.90	22.85	26.19
	M14	186.00	138.00	95.87	136.00	103.53	138.16	96.94	70.39	40.05	35.46	26.55	53.77	3.97	2.30	62.57	16.00	16.21	22.74
	M24	183.00	131.00	90.07	139.00	102.70	135.72	101.06	69.40	39.99	33.40	28.91	54.06	7.47	4.80	66.50	14.90	20.92	28.25
	M27:2	188.00	138.00	92.46	142.00	101.68	137.53	101.87	65.04	41.07	32.10	24.65	54.93	5.34	3.30	66.97	16.00	22.85	31.62
	M31	175.00	139.00	96.69	136.00	103.35	139.25	102.08	71.07	38.62	33.18	29.41	55.96	7.26	1.30	67.03	14.20	20.08	29.44
	M35	192.00	147.00	91.02	138.00	103.16	133.16	102.64	70.36	40.71	34.89	26.04	54.42	6.22	2.40	68.28	19.00	20.88	28.68
	M40:1	171.00	145.00	93.70	139.00	105.14	143.08	93.90	64.69	41.22	33.94	27.32	51.70	11.09	3.30	67.08	14.00	20.93	23.64
	M40:2	186.00	142.00	96.61	138.00	107.62	141.91	105.21	71.45	41.51	35.48	27.98	57.77	7.40	2.10	66.57	15.20	21.63	22.88
	M46	186.00	146.00	94.23	133.00	105.35	143.52	96.94	77.07	42.59	34.72	25.73	54.93	7.40	2.10	65.80	14.90	20.08	22.88
	M8:2	190.00	149.00	93.92	134.00	107.12	142.84	101.80	78.89	40.03	34.08	28.22	54.53	7.35	3.70	68.87	14.50	23.64	21.95
	佚号3	181.00	144.00	90.78	132.00	106.36	139.21	104.58	70.31	41.17	35.83	24.97	53.18	6.55	2.30	64.58	17.30	20.77	23.27
	佚号6	186.00	141.00	97.14	137.00	108.33	138.50	105.84	73.25	39.57	34.26	27.03	54.06	7.26	2.40	63.64	14.90	21.65	24.82
	佚号5	176.00	137.00	93.76	140.00	105.66	134.00	103.86	61.42	35.83	32.47	28.21	48.64	8.69	3.50	66.92	18.90	23.88	24.13

女	BM15	171.00	133.00	90.14	133.00	103.76	133.76	110.02	73.29	40.32	35.32	26.50	53.92	3.82	1.40	70.65	14.70	21.62	23.43
	M1:2	173.27	139.69	92.89	130.12	100.17	132.16	97.40	69.31	39.47	35.66	28.21	51.59	8.30	2.40	66.22	15.30	20.31	23.29
	M10:1	186.00	136.00	97.01	139.00	107.71	130.07	90.64	69.94	39.43	33.89	26.03	53.91	10.88	3.80	62.77	16.70	23.66	24.32
	M11:1	165.00	142.00	92.39	133.00	101.11	131.83	102.02	64.40	38.67	33.75	24.39	50.76	2.16	0.50	65.89	12.70	18.09	21.82
	M11:3	170.00	131.00	95.23	130.88	105.60	134.70	94.93	64.93	39.05	34.49	26.91	49.19	7.38	2.40	55.76	15.00	23.81	25.59
	M13:2	167.00	131.00	92.23	124.00	100.12	120.31	88.68	63.04	38.45	30.00	25.84	46.52	8.11	3.20	59.67	15.90	19.13	29.49
	M17:1	175.00	128.00	86.53	125.00	106.00	131.70	92.91	70.18	44.76	38.26	24.47	50.84	7.28	2.50	58.66	14.30	23.42	27.70
	M17:3	183.00	139.00	100.81	131.00	109.58	135.08	98.77	75.23	43.28	35.34	28.36	57.79	12.06	6.10	62.64	22.60	23.35	23.54
	M18	170.09	135.19	89.89	138.00	98.59	127.91	86.40	70.73	40.36	35.73	25.59	50.43	8.30	1.91	66.51	12.30	21.88	23.18
	M2	171.34	132.78	89.36	129.31	101.49	129.12	95.18	65.72	38.96	34.78	24.03	49.73	8.81	3.40	62.88	15.10	19.56	22.90
	M21	175.00	144.00	94.66	127.00	104.49	132.41	97.33	69.68	40.43	34.40	24.83	55.02	7.73	2.50	61.68	15.50	21.96	14.28
	M27:1	181.00	150.00	99.13	137.00	108.99	141.59	104.14	74.12	41.20	35.94	29.17	55.95	7.33	1.90	68.95	17.10	23.89	26.81
	M32	168.82	136.19	89.39	129.92	101.24	128.84	106.45	65.67	39.28	33.75	26.11	51.54	8.19	3.25	62.33	15.87	21.88	22.79
	M34	169.00	136.00	94.14	133.00	103.39	128.54	95.59	67.10	39.41	34.04	25.68	50.81	11.67	3.20	62.84	16.00	22.95	27.38
	M38	172.00	147.00	94.75	128.00	98.43	124.22	98.29	67.29	40.43	33.16	26.06	50.92	9.57	3.08	60.56	14.67	19.54	24.61
	M8:1	173.00	138.00	95.32	129.00	101.61	129.37	92.94	66.51	44.75	37.75	27.35	50.11	8.08	1.80	52.13	15.50	18.61	22.86
	M9:1	174.00	138.00	87.81	135.05	98.65	127.59	121.52	70.16	37.27	34.47	26.20	51.04	7.99	3.60	64.82	15.20	23.74	26.10
	M9:2	178.00	134.00	96.37	132.00	103.31	129.59	115.33	72.82	37.87	34.46	28.21	51.94	8.58	1.62	68.43	18.97	21.14	26.70
	佚号1	168.00	142.00	83.39	132.00	93.97	127.79	93.89	66.82	39.24	34.18	26.01	50.11	5.74	2.10	61.03	11.40	18.45	20.16
	佚号2	174.00	137.00	90.14	128.00	100.95	125.90	97.74	65.27	37.40	34.29	25.77	48.37	8.77	2.40	62.65	16.40	21.27	24.45

注：SSS由中面宽（ZMB）和颧上颌角（SSA，即 $\angle \text{zm-ss-zm}$ ）计算得来。表中标红数据系通过线性回归方法插补所得数值。

附表2 判别分析所用数据 (单位 : mm)

测量项目中文名		颅骨最大长	颅基底长	颅高	颅骨最大宽	颧点间宽	耳点间宽	枕骨最大宽	面底长	上面高n-pr	鼻高	鼻宽
Howells代号		GOL	BNL	BBH	XCB	ZYB	AUB	ASB	BPL	NPH	NLH	NLB
男	BM13:1	183.00	106.00	137.00	139.00	137.10	128.91	111.69	97.44	73.88	54.14	27.37
	BM41	186.42	105.64	130.12	132.06	136.65	135.25	109.77	96.47	70.81	51.45	24.44
	M10:2	190.00	97.35	132.31	132.00	139.29	134.18	112.32	103.61	73.73	51.66	28.90
	M11:2	178.00	110.00	144.00	149.00	146.88	137.39	116.54	116.89	77.63	54.93	29.42
	M14	186.00	98.00	136.00	138.00	138.16	135.47	113.81	93.79	70.39	53.77	26.55
	M24	183.00	109.00	139.00	131.00	135.72	123.52	103.24	104.26	69.40	54.06	28.91
	M27:2	188.00	106.51	142.00	138.00	139.41	129.03	106.59	97.63	77.46	61.16	24.65
	M31	175.00	101.00	136.00	139.00	139.25	125.33	109.39	97.25	71.07	55.96	29.41
	M35	192.00	105.00	138.00	147.00	133.16	125.92	114.64	101.62	70.36	54.42	26.04
	M39	177.00	106.20	136.45	131.00	138.75	125.82	107.50	99.66	67.19	54.79	22.82
	M40:1	171.00	95.00	139.00	145.00	143.08	129.54	113.68	86.59	64.69	51.70	27.32
	M40:2	186.00	103.00	138.00	142.00	141.91	129.93	115.10	97.89	71.45	57.77	27.98
	M45	181.91	111.63	140.98	137.00	137.28	129.10	113.64	108.02	67.32	55.15	26.90
	M46	187.59	100.92	133.00	146.00	136.59	135.62	108.74	88.91	72.24	52.60	25.73
	M8:2	190.00	103.00	134.00	149.00	136.98	138.67	115.68	94.88	78.89	54.53	28.22
	佚号3	181.00	107.00	132.00	144.00	139.21	132.77	115.75	101.82	70.31	53.18	24.97
	佚号6	186.00	96.03	133.99	141.00	140.84	136.84	112.83	89.69	75.93	53.20	27.03
	佚号5	176.00	99.00	140.00	137.00	134.00	121.36	106.60	98.87	61.42	48.64	28.21
女	BM15	171.00	104.00	133.00	133.00	127.56	123.59	104.15	98.84	73.29	53.92	26.50
	M1:2	174.34	96.00	130.73	140.90	130.81	122.38	107.07	92.90	69.31	51.59	28.21
	M10:1	186.00	98.00	139.00	136.00	130.07	127.87	115.43	95.96	69.94	53.91	26.03
	M11:1	165.00	95.00	133.00	142.00	132.44	126.05	112.66	89.00	64.40	50.76	24.39
	M11:3	170.00	90.86	130.17	131.00	123.49	121.78	104.32	91.02	64.93	49.19	26.91
	M13:2	167.00	94.00	124.00	131.00	120.31	116.14	100.10	89.83	63.04	46.52	25.84
	M17:1	175.00	95.00	125.00	128.00	131.70	125.22	108.46	99.72	70.18	50.84	24.47
	M17:2	177.98	101.08	125.37	135.00	131.84	127.87	109.94	97.46	71.63	54.12	24.38
	M17:3	183.00	104.00	131.00	139.00	135.08	125.06	106.82	97.99	75.23	57.79	28.36
	M18	176.18	104.48	138.00	121.80	133.61	126.56	107.70	94.48	71.35	54.28	25.07
	M2	168.04	95.69	132.45	135.45	128.67	123.87	108.12	96.21	65.72	49.73	24.03
	M21	175.00	99.00	127.00	144.00	132.41	129.86	114.29	110.40	69.68	55.02	24.83
	M27:1	181.00	99.00	137.00	150.00	141.59	131.89	115.71	97.83	74.12	55.95	29.17
	M32	174.96	97.00	131.53	147.79	128.34	123.76	106.42	94.53	67.11	52.29	26.00
	M34	169.00	94.00	133.00	136.00	128.54	120.48	107.26	93.26	67.92	50.81	25.68
	M38	172.00	91.00	128.00	147.00	130.81	126.34	110.50	93.93	67.29	51.45	24.78
	M42	177.28	102.02	133.00	131.64	127.85	122.02	106.93	97.35	70.99	53.71	27.75
	M8:1	173.00	94.00	129.00	138.00	131.15	129.00	112.01	85.71	66.51	50.89	25.63
	M9:1	174.00	101.31	131.29	138.00	127.59	122.19	105.76	99.16	70.16	51.04	26.20
	M9:2	178.00	99.35	132.00	134.00	134.68	128.41	110.83	101.84	70.03	54.02	25.96
	佚号1	168.00	95.00	132.00	142.00	127.79	116.94	103.22	92.52	66.82	50.11	26.01
	佚号2	174.00	97.00	128.00	137.00	125.90	126.65	104.83	93.39	65.27	48.37	25.77

注：表中标红数据系通过线性回归方法插补所得数值。

上颌齿槽弓宽	乳突高(左)	眶高(左)	眶宽(左)	眶间宽	两眶内宽	两眶宽	额骨矢状弦	顶骨矢状弦	枕骨矢状弦	枕骨大孔长
MAB	MDH-L	OBH-L	OBB-L	DKB	FMB	EKB	FRC	PAC	OCC	FOL
65.50	30.14	33.98	41.26	21.62	92.21	98.81	118.02	105.49	100.64	31.82
64.51	30.48	33.64	40.70	18.91	87.70	98.57	108.07	119.07	97.78	34.77
66.15	30.84	35.95	41.05	20.36	91.77	97.63	107.90	103.82	106.96	38.39
70.23	37.27	35.15	42.77	22.85	93.85	106.97	114.57	113.00	98.08	30.70
62.57	34.42	35.46	40.05	16.21	95.87	96.01	109.36	113.88	103.84	35.39
66.50	29.02	33.40	39.99	20.92	90.07	95.58	110.74	110.58	98.22	37.81
66.97	33.98	33.35	40.61	21.10	92.46	98.72	114.61	115.15	109.88	33.29
67.03	29.69	33.18	38.62	20.08	96.69	94.95	119.20	108.36	92.48	35.80
68.28	27.29	34.89	40.71	20.88	91.02	97.32	112.87	111.96	106.39	39.41
68.21	32.32	34.10	38.85	20.09	90.44	99.97	109.35	109.81	97.24	38.09
67.08	33.92	33.94	41.22	20.93	93.70	99.91	115.60	109.00	94.54	34.05
66.57	32.37	35.48	41.51	21.63	96.61	101.42	112.12	108.65	105.69	38.72
67.72	32.63	32.43	38.04	21.77	91.82	96.89	118.24	129.47	103.14	30.03
63.83	27.12	33.76	39.84	19.20	94.23	98.45	120.40	115.23	104.49	36.87
68.87	27.95	34.08	40.03	23.64	93.92	101.64	107.46	111.11	112.00	34.73
64.58	27.46	35.83	41.17	20.77	90.78	99.31	112.28	102.31	94.37	35.40
64.85	33.32	34.39	39.58	22.95	97.14	98.99	106.90	118.63	104.96	37.23
66.92	25.36	31.41	35.83	23.88	93.76	99.31	103.06	123.55	93.11	36.41
70.65	30.55	35.32	40.32	21.62	90.14	98.34	109.60	101.40	91.62	33.34
66.22	28.75	32.50	39.47	20.31	94.62	97.01	110.49	103.52	97.69	34.67
62.77	29.07	33.89	39.43	23.66	97.01	98.28	117.29	116.75	101.49	36.74
65.89	27.60	33.75	38.67	18.09	92.39	94.38	104.39	105.66	94.85	34.94
55.76	30.16	34.49	39.05	23.81	95.23	100.26	101.92	108.07	103.44	37.50
59.67	23.33	30.00	38.45	19.13	92.23	92.16	107.53	109.70	91.84	32.26
58.66	27.57	38.26	44.76	23.42	86.53	100.53	105.71	115.90	92.86	38.77
65.22	28.03	36.90	43.67	21.62	90.94	99.15	105.26	104.58	97.71	36.83
62.64	31.94	35.34	43.28	23.35	100.81	101.61	114.03	108.41	88.61	38.26
60.19	29.18	33.61	40.01	25.81	89.89	102.12	109.81	116.60	103.86	34.81
62.88	27.68	34.78	38.96	19.56	89.85	95.52	105.14	112.80	108.55	38.46
61.68	27.81	34.40	40.43	21.96	94.66	98.37	123.00	102.00	125.00	33.96
68.95	30.88	35.94	41.20	23.89	99.13	101.23	119.76	114.07	99.36	34.64
62.33	27.73	33.75	39.28	21.88	96.04	97.40	111.01	115.79	94.45	37.52
62.02	32.02	34.04	39.41	22.95	94.14	98.52	103.58	114.15	95.97	32.31
60.56	27.50	34.99	41.72	21.93	94.75	97.53	108.11	117.57	95.07	38.06
65.39	27.59	32.85	43.28	20.39	90.94	98.03	112.12	108.10	104.94	38.46
52.13	23.72	37.75	44.75	18.61	95.32	93.78	107.61	107.11	106.90	34.40
64.82	32.00	34.47	37.27	23.74	87.81	99.01	106.93	114.79	91.05	36.70
68.43	31.34	34.80	40.58	20.85	96.37	102.63	114.87	106.95	99.19	37.84
61.03	25.58	34.18	39.24	18.45	83.39	93.81	105.09	102.39	102.67	32.87
62.65	26.32	34.29	37.40	21.27	90.14	93.78	107.29	98.47	103.09	32.51

附表3-1 男性个体判别分析结果

典型变量的特征值					交叉验证结果		判别结果	
典型变量序号	特征值	方差百分比	累积	典型相关	组别	交叉验证的 误差率	个体编号	判别结果
1	2.41788	25.57%	25.57%	0.84108	NORSE	54.55%	BM13:1	ANYANG
2	1.82786	19.33%	44.90%	0.80397	ZALAVAR	62.26%	BM41	ESKIMO
3	1.30976	13.85%	58.75%	0.75303	BERG	32.14%	M10:2	MORIORI
4	0.91073	9.63%	68.39%	0.69039	TEITA	36.36%	M11:2	ANYANG
5	0.78659	8.32%	76.70%	0.66353	DOGON	23.40%	M14	MORIORI
6	0.4781	5.06%	81.76%	0.56873	ZULU	40.00%	M24	ANYANG
7	0.31986	3.38%	85.14%	0.49229	AUSTRALI	15.38%	M27:2	ANYANG
8	0.30495	3.23%	88.37%	0.48341	TASMANIA	31.11%	M31	PHILLIPI
9	0.27459	2.90%	91.27%	0.46415	TOLAI	23.21%	M35	AINU
10	0.18488	1.96%	93.23%	0.39501	MOKAPU	37.25%	M39	ESKIMO
11	0.165	1.75%	94.97%	0.37634	EASTER I	12.24%	M40:1	ANYANG
12	0.11105	1.17%	96.15%	0.31615	MORIORI	33.33%	M40:2	MORIORI
13	0.09352	0.99%	97.14%	0.29244	ARIKARA	35.71%	M45	ANYANG
14	0.06834	0.72%	97.86%	0.25291	SANTA CR	15.69%	M46	ARIKARA
15	0.06208	0.66%	98.52%	0.24176	PERU	32.73%	M8:2	ANYANG
16	0.03866	0.41%	98.92%	0.19293	N JAPAN	67.27%	佚号3	AINU
17	0.03369	0.36%	99.28%	0.18053	S JAPAN	58.00%	佚号5	ATAYAL
18	0.02687	0.28%	99.56%	0.16176	HAINAN	66.67%	佚号6	ARIKARA
19	0.01853	0.20%	99.76%	0.13487	ATAYAL	58.62%		
20	0.01491	0.16%	99.92%	0.12121	PHILLIPI	58.00%		
21	0.00432	0.05%	99.96%	0.06557	GUAM	43.33%		
22	0.00342	0.04%	100.00%	0.05839	EGYPT	41.38%		
					BUSHMAN	12.20%		
					ANDAMAN	11.43%		
					AINU	27.08%		
					BURIAT	29.09%		
					ESKIMO	16.98%		
					ANYANG	54.76%		
					总计	36.79%		

附表3-2 女性个体判别分析结果

典型变量的特征值					交叉验证结果		判别结果	
典型变量序号	特征值	方差百分比	累积	典型相关	组别	交叉验证的 误差率	个体编号	判别结果
1	2.74128	29.27%	29.27%	0.85599	NORSE	41.82%	BM15	N JAPAN
2	1.77463	18.95%	48.22%	0.79974	ZALAVAR	46.67%	M1:2	N JAPAN
3	1.21534	12.98%	61.19%	0.74068	BERG	37.74%	M10:1	GUAM
4	0.8006	8.55%	69.74%	0.66681	TEITA	28.00%	M11:1	BURIAT
5	0.68752	7.34%	77.08%	0.63829	DOGON	25.00%	M11:3	N JAPAN
6	0.40845	4.36%	81.44%	0.53852	ZULU	39.13%	M13:2	EGYPT
7	0.34559	3.69%	85.13%	0.50679	AUSTRALI	18.37%	M17:1	S JAPAN
8	0.33999	3.63%	88.76%	0.50371	TASMANIA	23.81%	M17:2	MORIORI
9	0.26545	2.83%	91.60%	0.458	TOLAI	12.96%	M17:3	MORIORI
10	0.18015	1.92%	93.52%	0.39071	MOKAPU	30.61%	M18	S JAPAN
11	0.1473	1.57%	95.09%	0.35831	EASTER I	5.41%	M2	S JAPAN
12	0.13237	1.41%	96.50%	0.3419	MORIORI	27.45%	M21	BURIAT
13	0.09881	1.05%	97.56%	0.29987	ARIKARA	37.04%	M27:1	BURIAT
14	0.07228	0.77%	98.33%	0.25964	SANTA CR	15.69%	M32	BERG
15	0.05307	0.57%	98.90%	0.22449	PERU	27.27%	M34	S JAPAN
16	0.03915	0.42%	99.32%	0.19411	N JAPAN	50.00%	M38	BERG
17	0.02363	0.25%	99.57%	0.15193	S JAPAN	58.54%	M42	N JAPAN
18	0.01597	0.17%	99.74%	0.12539	HAINAN	55.26%	M8:1	MORIORI
19	0.01097	0.12%	99.86%	0.10417	GUAM	37.04%	M9:1	S JAPAN
20	0.00901	0.10%	99.95%	0.0945	EGYPT	39.62%	M9:2	N JAPAN
21	0.00347	0.04%	99.99%	0.05879	BUSHMAN	20.41%	佚号1	S JAPAN
22	9.84E-04	0.01%	100.00%	0.03136	ANDAMAN	14.29%	佚号2	ARIKARA
					AINU	47.37%		
					BURIAT	14.81%		
					ESKIMO	9.09%		
					总计	30.54%		

附表4-1 Howells数据库中的参考样本简介

Fordisc中的代号	英文名	中文名	男样本量	女样本量	对应Ancestry方法中的群体名称
BUR	Siberia(Bruriats)	布里亚特人	55	54	Northern Asia & Arctic
ESK	Greenland(Inugsuk Eskimo)	爱斯基摩人	53	55	
AIN	Ainu, Japan(south and southwest Hokkaido)	阿伊努人	48	38	
ARI	North America(Early Arikara)	阿里卡拉人	42	27	North America
SAN	North America(Santa Cruz Island, California)	圣克鲁兹岛	51	51	South America
PER	South America(Yauyos,Peru)	秘鲁	55	55	
NOR	Medieval Norse(Oslo)	挪威	55	55	Northern & Central Europe
ZAL	Zalavar, Hungary	佐落堡	54	45	
BER	Berg, Austria	贝格	56	53	Southwestern Europe
EGY	Egypt(Gizeh, 26th~30th Dynasties)	古埃及人	58	53	Northeast Africa
TEI	East Africa(Teita, Kenya)	泰塔人	34	49	Sub-Saharan Africa
DOG	West Africa(Dogon, Mali)	多贡人	48	53	
ZUL	South Africa(Zulu)	祖鲁人	55	47	
BUS	South Africa(Bushman)	布须曼人	41	49	
ANY	Shang Dynasty Chinese(Anyang)	安阳殷墟	42	0	East Asia
HAI	Chinese(Haikou city, Hainan)	海南	45	38	
N J	North Japan(Hokkaido)	日本北部	55	32	
S J	South Japan(North Kyushu)	日本南部	50	41	
PHI	Philippine Islands(general)	菲律宾	50	0	Southeast Asia
ATA	Taiwan aboriginals(Atayal)	台湾泰雅族	29	18	
GUA	Guam(Latte period)	关岛	30	27	
MOK	Polynesia(Mokapu, Oahu, Hawaii)	夏威夷莫卡普	51	49	Polynesia
MOR	Polynesia(Moriori, Chatham Island)	莫里奥里人	57	51	
EAS	Polynesia(Easter Island)	复活节岛	49	37	
AUS	Lake Alexandrina Tribes, South Australia	澳大利亚土著人	52	49	Australia & Melanesia
TAS	TASMANIA	塔斯马尼亚	44	42	
TOL	Melanesia(Tolai, New Britain)	托莱人/图拉族	55	55	

附表4-2 美国法医数据库中的参考样本

人群名称 的代号	英文名	中文名	简介
A	American Indians	美国印第安人	共有59例男性和32例女性。样本中包含来自美国西南部的法医个例（15例男性和5例女性）。其余个体出自19世纪中晚期的墓地。
W	American Whites	美国白人	共有737例男性和454例女性。此样本由欧洲裔美国人构成，其中少数个体是欧洲出生的。样本源自全美国各地。
B	American Blacks	美国黑人	共有224例男性和137例女性。来自美国的27个州，大部分来自美国西南部和大西洋沿岸中部地区
H	Hispanics	拉丁裔	共有281例男性和74例女性。一般被认为是印第安人和白人的混血。来自美国、墨西哥和中美洲地区。样本中不包含加勒比海地区的个例，因其一般被认为是黑人。
GT	Guatemalan	危地马拉人	共83例男性，无女性。危地马拉国近年来的法医标本。
CH	Chinese	中国人	共80例男性，无女性。来自香港大学收藏的尸体标本。这些遗体卒于20世纪70年代。
J	Japanese	日本人	共84例男性和58例女性。均属出生于20世纪的日本人样本。

注：缩写名后加M表示男性（male），加F表示女性（female）

附表5 Ancestrees方法所用数据 (单位: mm)

标本编号		颅骨最大长	颅高	颅骨最大宽	额骨最大宽	额骨最小宽	颞点间宽	耳点间宽	上颌齿槽弓宽	枕骨最大宽	上面高n-pr	面底长	颅基底长
Howells代号		GOL	BBH	XCB	XFB	FMB	ZYB	AUB	MAB	ASB	NPH	BPL	BNL
男	BM13:1	183.00	137.00	139.00	113.14	92.21	137.10	128.91	65.50	111.69	73.88	97.44	106.00
	BM41					87.70			64.51		70.81		
	M10:2	190.00		132.00		91.77				112.32			
	M11:2	178.00	144.00	149.00	112.32	93.85	146.88	137.39	70.23	116.54	77.63	116.89	110.00
	M14	186.00	136.00	138.00	110.07	95.87	138.16	135.47	62.57	113.81	70.39	93.79	98.00
	M24	183.00	139.00	131.00	102.25	90.07	135.72	123.52	66.50	103.24	69.40	104.26	109.00
	M27:2	188.00	142.00	138.00	109.83	92.46			66.97	106.59			106.51
	M31	175.00	136.00	139.00	110.20	96.69	139.25	125.33	67.03	109.39	71.07	97.25	101.00
	M35	192.00	138.00	147.00	113.36	91.02	133.16	125.92	68.28	114.64	70.36	101.62	105.00
	M39	177.00		131.00		90.44		125.82					
	M40:1	171.00	139.00	145.00	109.69	93.70	143.08	129.54	67.08	113.68	64.69	86.59	95.00
	M40:2	186.00	138.00	142.00	106.57	96.61	141.91	129.93	66.57	115.10	71.45	97.89	103.00
	M45			137.00					67.72				
	M46		133.00	146.00		94.23		135.62		108.74			
	M8:2	190.00	134.00	149.00	109.65	93.92		138.67	68.87	115.68	78.89	94.88	103.00
	佚号3	181.00	132.00	144.00	117.77	90.78	139.21	132.77	64.58	115.75	70.31	101.82	107.00
	佚号6	186.00		141.00		97.14		136.84					
	佚号5	176.00	140.00	137.00	110.15	93.76	134.00	121.36	66.92	106.60	61.42	98.87	99.00
女	BM15	171.00	133.00	133.00	108.81	90.14			70.65	104.15	73.29	98.84	104.00
	M1:2								66.22		69.31	92.90	96.00
	M10:1	186.00	139.00	136.00	110.81	97.01	130.07	127.87	62.77	115.43	69.94	95.96	98.00
	M11:1	165.00	133.00	142.00	106.91	92.39		126.05	65.89	112.66	64.40	89.00	95.00
	M11:3	170.00		131.00	101.20	95.23			55.76	104.32	64.93		
	M13:2	167.00	124.00	131.00	100.59	92.23	120.31	116.14	59.67	100.10	63.04	89.83	94.00
	M17:1	175.00	125.00	128.00	104.38	86.53	131.70	125.22	58.66	108.46	70.18	99.72	95.00
	M17:2			135.00		90.94		127.87		109.94			
	M17:3	183.00	131.00	139.00	107.46	100.81	135.08	125.06	62.64	106.82	75.23	97.99	104.00
	M18		138.00			89.89							104.48
	M2								62.88		65.72		
	M21	175.00	127.00	144.00	116.41	94.66	132.41	129.86	61.68	114.29	69.68	110.40	99.00
	M27:1	181.00	137.00	150.00		99.13	141.59	131.89	68.95	115.71	74.12	97.83	99.00
	M32							123.76	62.33	106.42			97.00
	M34	169.00	133.00	136.00	103.00	94.14	128.54	120.48		107.26			94.00
	M38	172.00	128.00	147.00		94.75		126.34	60.56		67.29	93.93	91.00
	M42		133.00					122.02		106.93			102.02
	M8:1	173.00	129.00	138.00	107.01	95.32		129.00	52.13	112.01	66.51	85.71	94.00
	M9:1	174.00		138.00	107.59	87.81	127.59		64.82		70.16		
	M9:2	178.00	132.00	134.00		96.37			68.43	110.83			99.35
	佚号1	168.00	132.00	142.00	107.30	83.39	127.79	116.94	61.03	103.22	66.82	92.52	95.00
	佚号2	174.00	128.00	137.00	101.82	90.14	125.90	126.65	62.65	104.83	65.27	93.39	97.00

鼻高	鼻宽	两眶宽	眶间宽	眶高L	眶宽d-ec L	额骨矢状弦	顶骨矢状弦	枕骨矢状弦
NLH	NLB	EKB	DKB	OBH	OBB	FRC	PAC	OCC
54.14	27.37	98.81	21.62	33.98	41.26	118.02		
51.45	24.44	98.57	18.91	33.64	40.70			
							103.82	
54.93	29.42	106.97	22.85	35.15	42.77	114.57	113.00	98.08
53.77	26.55	96.01	16.21	35.46	40.05	109.36	113.88	103.84
54.06	28.91	95.58	20.92	33.40	39.99	110.74	110.58	98.22
	24.65					114.61	115.15	109.88
55.96	29.41	94.95	20.08	33.18	38.62	119.20	108.36	
54.42	26.04	97.32	20.88	34.89	40.71	112.87	111.96	106.39
								97.24
51.70	27.32	99.91	20.93	33.94	41.22	115.60	109.00	94.54
57.77	27.98	101.42	21.63	35.48	41.51	112.12		
						118.24	129.47	103.14
	25.73						115.23	
54.53	28.22	101.64	23.64	34.08	40.03	107.46	111.11	112.00
53.18	24.97	99.31	20.77	35.83	41.17	112.28	102.31	94.37
	27.03					106.90	118.63	
48.64	28.21	99.31	23.88	31.41	35.83	103.06	123.55	93.11
53.92	26.50	98.34	21.62	35.32	40.32	109.60	101.40	91.62
51.59	28.21	97.01	20.31		39.47			
53.91	26.03	98.28	23.66	33.89	39.43	117.29	116.75	101.49
50.76	24.39	94.38	18.09	33.75	38.67	104.39	105.66	94.85
49.19	26.91	100.26	23.81	34.49	39.05	101.92	108.07	103.44
46.52	25.84	92.16	19.13	30.00	38.45	107.53	109.70	91.84
50.84	24.47	100.53	23.42	38.26	44.76	105.71	115.90	92.86
							104.58	97.71
57.79	28.36	101.61	23.35	35.34	43.28	114.03	108.41	88.61
						109.81	116.60	103.86
49.73	24.03	95.52	19.56	34.78	38.96			
55.02	24.83	98.37	21.96	34.40	40.43	123.00	102.00	125.00
55.95	29.17	101.23	23.89	35.94	41.20	119.76	114.07	99.36
			21.88		39.28			94.45
50.81	25.68	98.52	22.95	34.04	39.41	103.58	114.15	95.97
						108.11	117.57	95.07
			20.39			112.12		
		93.78	18.61	37.75	44.75	107.61	107.11	106.90
51.04	26.20		23.74		37.27	106.93	114.79	91.05
						114.87	106.95	99.19
50.11	26.01	93.81	18.45	34.18	39.24	105.09	102.39	102.67
48.37	25.77	93.78	21.27	34.29	37.40	107.29	98.47	103.09

附表6 Fordisc方法所用数据（长度单位：mm；角度单位：°）

标本编号	颅前最上径	颅全底径	颅高	颅前最上宽	颅前最上宽	颞点间宽	耳点间宽	枕骨最上宽	面底长	上面间宽	鼻高	鼻宽	上面间最宽	乳突高	眶高L	眶宽L	眶间宽	
Howells代号	GOL	BNL	BBH	XCB	XFB	ZYB	AUB	ASB	BPL	NPH	NLH	NLB	MAB	MDH	OBH	OBB	DKB	
与Howells数据库对	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
与FDB数据库对比时	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	
男	BM13:1	183.00	106.00	137.00	139.00	113.14	137.10	128.91	111.69	97.44	73.88	54.14	27.37	65.50	30.14	33.98	41.26	21.62
	BM41										70.81	51.45	24.44	64.51		33.64	40.70	18.91
	M10:2	190.00			132.00				112.32									
	M11:2	178.00	110.00	144.00	149.00	112.32	146.88	137.39	116.54	116.89	77.63	54.93	29.42	70.23	37.27	35.15	42.77	22.85
	M14	186.00	98.00	136.00	138.00	110.07	138.16	135.47	113.81	93.79	70.39	53.77	26.55	62.57	34.42	35.46	40.05	16.21
	M24	183.00	109.00	139.00	131.00	102.25	135.72	123.52	103.24	104.26	69.40	54.06	28.91	66.50		33.40	39.99	20.92
	M27:2	188.00	106.51	142.00	138.00	109.83			106.59				24.65	66.97	33.98			
	M31	175.00	101.00	136.00	139.00	110.20	139.25	125.33	109.39	97.25	71.07	55.96	29.41	67.03	29.69	33.18	38.62	20.08
	M35	192.00	105.00	138.00	147.00	113.36	133.16	125.92	114.64	101.62	70.36	54.42	26.04	68.28	27.29	34.89	40.71	20.88
	M39	177.00			131.00			125.82										
	M40:1	171.00	95.00	139.00	145.00	109.69	143.08	129.54	113.68	86.59	64.69	51.70	27.32	67.08	33.92	33.94	41.22	20.93
	M40:2	186.00	103.00	138.00	142.00	106.57	141.91	129.93	115.10	97.89	71.45	57.77	27.98	66.57	32.37	35.48	41.51	21.63
	M45				137.00									67.72				
	M46			133.00	146.00			135.62	108.74				25.73					
	M8:2	190.00	103.00	134.00	149.00	109.65		138.67	115.68	94.88	78.89	54.53	28.22	68.87	27.95	34.08	40.03	23.64
	佚号3	181.00	107.00	132.00	144.00	117.77	139.21	132.77	115.75	101.82	70.31	53.18	24.97	64.58	27.46	35.83	41.17	20.77
	佚号5	176.00	99.00	140.00	137.00	110.15	134.00	121.36	106.60	98.87	61.42	48.64	28.21	66.92	25.36	31.41	35.83	23.88
	佚号6	186.00			141.00			136.84					27.03					
女	BM15	171.00	104.00	133.00	133.00	108.81			104.15	98.84	73.29	53.92	26.50	70.65	30.55	35.32	40.32	21.62
	M1:2		96.00							92.90	69.31	51.59	28.21	66.22			39.47	20.31
	M10:1	186.00	98.00	139.00	136.00	110.81	130.07	127.87	115.43	95.96	69.94	53.91	26.03	62.77	29.07	33.89	39.43	23.66
	M11:1	165.00	95.00	133.00	142.00	106.91		126.05	112.66	89.00	64.40	50.76	24.39	65.89	27.60	33.75	38.67	18.09
	M11:3	170.00			131.00	101.20			104.32		64.93	49.19	26.91	55.76	30.16	34.49	39.05	23.81
	M13:2	167.00	94.00	124.00	131.00	100.59	120.31	116.14	100.10	89.83	63.04	46.52	25.84	59.67	23.33	30.00	38.45	19.13
	M17:1	175.00	95.00	125.00	128.00	104.38	131.70	125.22	108.46	99.72	70.18	50.84	24.47	58.66	27.57	38.26	44.76	23.42
	M17:2				135.00			127.87	109.94									
	M17:3	183.00	104.00	131.00	139.00	107.46	135.08	125.06	106.82	97.99	75.23	57.79	28.36	62.64	31.94	35.34	43.28	23.35
	M18		104.48	138.00														
	M2										65.72	49.73	24.03	62.88		34.78	38.96	19.56
	M21	175.00	99.00	127.00	144.00	116.41	132.41	129.86	114.29	110.40	69.68	55.02	24.83	61.68	27.81	34.40	40.43	21.96
	M27:1	181.00	99.00	137.00	150.00		141.59	131.89	115.71	97.83	74.12	55.95	29.17	68.95		35.94	41.20	23.89
	M28																	
	M32		97.00					123.76	106.42					62.33		33.75	39.28	21.88
	M34	169.00	94.00	133.00	136.00	103.00	128.54	120.48	107.26			50.81	25.68		32.02	34.04	39.41	22.95
	M38	172.00	91.00	128.00	147.00			126.34		93.93	67.29			60.56				
	M42		102.02	133.00				122.02	106.93									20.39
	M8:1	173.00	94.00	129.00	138.00	107.01		129.00	112.01	85.71	66.51			52.13	23.72	37.75	44.75	18.61
	M9:1	174.00			138.00	107.59	127.59				70.16	51.04	26.20	64.82		34.47	37.27	23.74
	M9:2	178.00	99.35	132.00	134.00				110.83					68.43				
	佚号1	168.00	95.00	132.00	142.00	107.30	127.79	116.94	103.22	92.52	66.82	50.11	26.01	61.03	25.58	34.18	39.24	18.45
	佚号2	174.00	97.00	128.00	137.00	101.82	125.90	126.65	104.83	93.39	65.27	48.37	25.77	62.65	26.32	34.29	37.40	21.27

注：SSS系用SSA和ZMB计算所得，表中所有角度型数值均为用长度测量值通过三角函数计算所得。由于这样一来角度型项目纳入分析后并未增加信息量，因此角度型项目均不计入。

中面宽	鼻额上点至 中面宽之点	两眼内宽	鼻额点到两眼 中面宽之点	两眼宽	额骨矢状弦	顶骨矢状弦	枕骨矢状弦	枕骨大孔长	面一用之 pr-n-ha	面一用之 pr-n-ha	面一用之 ba-pr	颧上颌角	鼻颧角
ZMB	SSS	FMB	NAS	EKB	FRC	PAC	OCC	FOL	NAA	PRA	BAA	SSA	NFA
√	√	√	√	√	√	√	√	√	√	√	√	√	√
√				√	√	√	√	√	√	√	√		
97.43	24.92	99.16	18.10	98.81	118.02			31.82	62.23	74.56	43.21	125.81	142.23
		98.46	15.20	98.57									
						103.82							
111.00	26.19	106.20	13.90	106.97	114.57	113.00	98.08	30.70	75.59	62.81	41.60	129.48	152.77
96.94	22.74	95.65	16.00	96.01	109.36	113.88	103.84	35.39	71.33	66.44	42.23	129.74	143.31
101.06	28.25	95.55	14.90	95.58	110.74	110.58	98.22	37.81	67.06	74.30	38.64	121.58	145.06
101.87	31.62				114.61	115.15	109.88	33.29				116.34	
102.08	29.44	91.47	14.20	94.95	119.20	108.36			67.33	69.38	43.29	120.05	147.44
102.64	28.68	96.16	19.00	97.32	112.87	111.96	106.39	39.41	65.98	73.56	40.46	121.60	137.26
							97.24	38.09					
93.90	23.64	101.23	14.00	99.91	115.60	109.00	94.54	34.05	61.62	76.40	41.98	126.55	153.77
105.21	22.88	102.24	15.20	101.42	112.12			38.72	65.83	71.91	42.26	132.99	151.06
					118.24	129.47	103.14						
						115.23							
101.80	21.95	102.39	14.50	101.64	107.46	111.11	112.00	34.73	64.70	69.88	45.42	133.35	145.00
104.58	23.27	100.39	17.30	99.31	112.28	102.31	94.37	35.40	65.16	75.00	39.84	132.02	142.39
103.86	24.13		18.90	99.65	103.06	123.55	93.11	36.41	70.83	72.47	36.70	130.16	139.77
		99.30			106.90	118.63							
110.02	24.84	96.51	14.70	98.34	109.60	101.40	91.62	33.34	65.27	71.71	43.02	131.39	149.51
97.40		94.24	15.30	97.01				34.67					
90.64	20.46	99.62	16.70	98.28	117.29	116.75	101.49	36.74	67.01	70.66	42.33	131.40	146.19
102.02	22.02	93.03	12.70	94.38	104.39	105.66	94.85	34.94	64.76	74.04	41.20	133.30	147.79
94.93	23.01	97.84	15.00	100.26	101.92	108.07	103.44					128.28	155.08
88.68	26.12	92.80	15.90	92.16	107.53	109.70	91.84	32.26	70.53	67.89	41.58	118.99	147.30
92.91	24.28	99.73	14.30	100.53	105.71	115.90	92.86	38.77	72.85	64.30	42.84	124.82	149.62
						104.58	97.71	36.83					
98.77		103.16	22.60	101.61	114.03	108.41	88.61	38.26					
		93.86	12.30		109.81	116.60	103.86	34.81					147.56
95.18	21.47	94.96	15.10	95.52								131.43	149.57
97.33	26.00	96.37	15.50	98.37	113.00	102.00	105.00	33.96	66.15	71.46	42.39	122.52	149.43
104.14	25.62	100.69	17.10	101.23	119.76	114.07	99.36	34.64	65.66	68.88	45.46	127.61	147.69
						100.48	96.77						
							94.45	37.52					
95.59	25.32	97.86	16.00	98.52	103.58	114.15	95.97	32.31				124.18	143.39
98.29	24.57	92.78			108.11	117.57	95.07	38.06	69.59	66.94	43.47	126.87	145.02
					112.12			38.46					
92.94	20.91	94.61	15.50	93.78	107.61	107.11	106.90	34.40	64.96	70.32	44.72	131.54	140.26
121.52		91.35	15.20		106.93	114.79	91.05						139.29
					114.87	106.95	99.19	37.84					
93.89	20.14	89.38	11.40	93.81	105.09	102.39	102.67	32.87	66.30	71.36	42.34	133.56	151.10
97.74	23.68	93.28	16.40	93.78	107.29	98.47	103.09	32.51	66.76	72.75	40.49	128.30	146.66

纳入分析的测量项目数量。

附表7 机器学习算法判断结果

Ancestrees方法						Fordisc方法								
个体编号	ancestralForest算法		tournamentForest算法		使用的测量项目数量	用FDB数据库对比			用Howells数据库对比					
	种群	概率	种群	概率					使用全部对比组		只选用欧洲和亚洲对比组		使用的测量项目数量	
						种群	概率	使用的测量项目数量	种群	概率	种群	概率		
BM13-1	Northern Asia & Arctic	31.74%	East Asia	56.53%	19	AM	67.80%	19	ANYM	0.25	ANYM	40.20%	24	
	North America	22.46%	Polynesia	43.46%		BM	11.00%		MORM	0.20	SJAM	22.50%		
	Polynesia	17.29%				CHM	9.80%		ARIM	0.14	NJAM	17.30%		
BM41	Northern Asia & Arctic	39.84%	East Asia	62.89%	9	JM	25.90%	7	ESKM	0.30	NJAM	29.80%	10	
	Polynesia	19.53%	Northern Asia & Arctic	37.11%		WM	16.60%		NJAM	0.15	SJAM	20.30%		
	Southeast Asia	12.70%				HM	16.40%		SJAM	0.10	ZALM	15.10%		
M10-2	Northern Asia & Arctic	36.04%	Polynesia	53.91%	5	BM	52.30%	4	ESKM	0.36	NORM	46.90%	5	
	North America	12.40%	Southwestern	46.09%		WM	16.90%		EASM	0.23	ZALM	13.00%		
	Northern & Central Europe	11.82%				AM	11.80%		NORM	0.10	SJAM	10.20%		
M11-2	Northern Asia & Arctic	33.69%	East Asia	100.00%	21	AM	70.40%	21	MOKM	0.86	ANYM	50.50%	26	
	Southeast Asia	25.29%	Polynesia	0.00%		JM	15.20%			GUAM	0.07	NJAM		29.70%
	Polynesia	22.56%				CHM	6.90%			MORM	0.05	PHIM		9.20%
M14	Northern Asia & Arctic	77.25%	Northern Asia &	99.61%	21	AM	34.30%	20	ARIM	0.63	HAIM	30.70%	25	
	North America	8.89%	North America	0.39%		JM	20.90%			GUAM	0.23	ZALM		26.70%
	Southeast Asia	4.00%				CHM	19.80%			PERM	0.05	ANYM		13.10%
M24	Polynesia	37.60%	Polynesia	97.66%	21	JM	47.90%	20	EASM	0.65	ANYM	76.10%	25	
	Southeast Asia	32.32%	East Asia	2.44%		CHM	41.00%			ANYM	0.16	SJAM		13.70%
	North America	9.08%				VM	5.40%			MOKM	0.08	HAIM		3.80%
M27-2	Polynesia	17.09%	Polynesia	92.19%	12	JM	70.30%	13	MORM	0.95	SJAM	69.80%	15	
	Northern Asia & Arctic	14.55%	East Asia	7.81%		CHM	19.90%			MOKM	0.03	NJAM		26.50%
	East Asia	11.82%				BM	3.20%			SJAM	0.01	ANYM		1.60%
M31	Polynesia	27.83%	Southeast Asia	99.22%	20	VM	56.20%	19	ANYM	0.78	ANYM	90.10%	24	
	Southeast Asia	27.83%	Polynesia	0.78%		CHM	34.20%			ARIM	0.07	HAIM		4.10%
	North America	12.40%				JM	6.30%			HAIM	0.04	ATAM		2.20%
M35	Northern Asia & Arctic	30.57%	Polynesia	64.45%	21	HM	36.90%	21	EGYM	0.35	ZALM	31.20%	26	

	North America	24.71%	East Asia	35.55%		JM	25.10%		MORM	0.30	SJAM	26.70%	
	Polynesia	14.16%				CHM	20.40%		SJAM	0.09	NORM	16.20%	
M39	Northern Asia & Arctic	23.83%	Northern & Central	54.69%	5	GTM	41.50%	5	ATAM	0.16	ATAM	35.60%	5
	South America	21.48%	South America	45.31%		HM	22.90%		ANYM	0.14	ANYM	30.10%	
	North America	19.34%				JM	12.90%		ESKM	0.14	HAIM	18.30%	
M40-1	Southeast Asia	32.71%	East Asia	72.66%	21	AM	41.90%	21	PHIM	0.33	PHIM	46.90%	26
	Polynesia	31.35%	Southeast Asia	27.34%		CHM	26.10%		NJAM	0.14	ANYM	25.20%	
	North America	11.13%				JM	14.20%		ANYM	0.14	NJAM	17.70%	
M40-2	Polynesia	33.89%	Polynesia	98.05%	19	AM	44.70%	19	GUAM	0.88	PHIM	40.20%	24
	Southeast Asia	30.47%	Southeast Asia	1.95%		CHM	29.40%		MOKM	0.03	ANYM	30.30%	
	Northern Asia & Arctic	14.36%				JM	20.50%		ANYM	0.02	NJAM	14.10%	
M45	Northeast Africa	19.34%	East Asia	72.27%	5	BM	45.00%	5	EASM	0.31	ANYM	32.30%	5
	Polynesia	12.30%	Sub-Saharan Africa	27.73%		WM	20.60%		ESKM	0.14	SJAM	23.20%	
	Southwestern Europe	11.91%				CHM	15.70%		ZULM	0.11	AINM	16.80%	
M46	Northern Asia & Arctic	39.84%	Northern Asia &	98.44%	7	AM	89.70%	6	ARIM	0.68	BURM	18.30%	6
	North America	21.19%	North America	1.56%		GTM	4.40%		MORM	0.17	BERM	14.90%	
	South America	12.70%				HM	2.50%		PERM	0.02	NORM	14.60%	
M8-2	Northern Asia & Arctic	45.21%	East Asia	99.61%	20	AM	83.90%	20	ANYM	0.57	ANYM	63.50%	25
	Polynesia	20.31%	Northern Asia &	0.39%		JM	8.50%		ARIM	0.14	NJAM	31.40%	
	North America	11.82%				CHM	4.40%		NJAM	0.13	HAIM	3.40%	
佚号3	Northern Asia & Arctic	70.21%	Northern Asia &	100.00%	21	AM	96.90%	21	ARIM	0.65	BURM	39.40%	26
	North America	10.84%	East Asia	0.00%		HM	2.10%		SANM	0.22	NORM	28.00%	
	Polynesia	7.13%				JM	0.70%		BURM	0.07	ZALM	15.80%	
佚号6	North America	27.93%	North America	72.66%	7	AM	90.30%	6	ARIM	0.80	ATAM	31.00%	7
	Northern Asia & Arctic	27.15%	East Asia	27.34%		GTM	4.40%		GUAM	0.07	ANYM	19.20%	
	South America	16.50%				HM	2.00%		MORM	0.02	SJAM	15.70%	
佚号5	Southeast Asia	26.76%	East Asia	100.00%	21	CHM	68.20%	21	HAIM	0.73	HAIM	65.00%	25
	Polynesia	24.12%	Southeast Asia	0.00%		JM	29.80%		PHIM	0.23	PHIM	29.20%	
	Australia & Melanesia	22.56%				VM	1.30%		ATAM	0.02	ATAM	3.90%	

附表8 无根邻接树分析所用数据 (单位 : mm)

性别	对比组	颅长	颅宽	颅高	最小额宽	颞宽	上面高 n-sd	眶高 (右)	眶宽d-ec (右)	鼻高	鼻宽
男	山普拉	188.48	137.55	140.23	95.70	131.65	74.96	33.05	39.68	54.38	25.03
	楼兰城郊	193.80	138.00	145.30	94.50	134.40	79.70	35.00	38.70	56.20	25.50
	克孜尔	185.42	134.36	130.60	95.13	124.61	69.70	31.28	41.92	49.50	24.78
	喀什晋唐	182.25	136.38	140.38	98.25	134.00	70.00	32.33	40.50	51.75	25.00
	阿拉沟 I	183.38	134.00	133.67	95.12	128.80	72.70	33.46	39.20	52.72	24.22
	米努辛斯克安德罗诺沃	187.20	142.40	138.70	100.90	141.50	68.30	31.70	42.20	50.50	26.10
	米努辛斯克阿凡纳茨沃	192.10	144.10	132.60	99.70	138.40	71.80	32.90	41.80	52.10	26.10
	古墓沟	184.25	137.95	137.54	93.07	136.20	68.68	31.50	41.11	50.87	26.16
	焉不拉克C	183.30	133.30	135.80	90.90	132.50	68.35	33.21	40.14	53.06	25.99
	尼雅	184.50	139.65	139.50	97.00	135.50	68.50	32.95	39.45	50.50	24.25
	吉林台库	177.55	145.88	134.83	96.00	137.38	73.12	33.54	41.08	53.30	25.36
	昭苏	179.90	150.50	135.10	98.70	139.20	73.40	33.77	41.34	55.24	27.20
	察吾呼三号墓地	180.50	138.70	142.10	94.20	134.20	74.70	34.70	40.40	54.10	25.90
	察吾呼四号墓地	183.40	136.50	135.80	94.20	131.10	70.70	31.80	39.00	51.30	24.80
	营盘	183.60	140.80	140.90	95.20	137.10	77.20	34.70	39.90	55.10	24.80
	恰甫其海	177.65	143.25	134.91	96.36	136.60	70.22	33.01	40.09	51.55	25.54
	蒙古匈奴合并组	183.70	147.40	130.10	93.50	140.00	75.20	34.60	42.30	53.10	26.40
	神木大保当	183.00	148.10	137.50	94.40	138.30	75.40	34.90	40.80	55.90	26.70
	南杨家营子	179.63	144.75	126.00	90.00	136.75	76.75	34.07	38.50	57.50	27.00
	扎赉诺尔A组	185.00	146.08	126.76	94.04	140.20	76.16	34.84	39.52	56.44	27.34
	扎赉诺尔B组	186.30	149.60	135.50	93.10	136.75	77.34	32.88	38.77	57.34	27.02
	朝阳鲜卑组	185.00	150.00	131.50	91.50	137.75	76.05	33.40	39.80	52.40	25.75
	三燕喇嘛洞	177.94	144.43	136.30	92.53	136.96	75.15	33.80	39.90	54.15	26.71
	大同东信广场蒙古人种	180.67	141.90	137.56	93.45	136.68	73.92	35.06	39.58	52.83	27.13
	西宁陶家寨	183.98	140.32	135.56	90.42	137.73	75.91	35.75	40.57	54.43	26.59
	郑州汉墓	179.90	141.20	138.50	93.46	142.94	75.40	35.79	44.32	54.76	27.33
	郑州唐墓	183.49	140.45	142.69	91.59	139.90	73.50	34.71	43.66	53.28	27.55
	宁夏中卫常乐欧罗巴人种	177.64	139.88	134.06	89.82	137.99	72.82	35.75	41.89	54.65	25.94
	宁夏固原九龙山-南塬	181.50	144.80	140.10	98.80	136.20	75.70	33.00	40.70	54.90	26.10
	大同东信广场欧罗巴人种	186.25	141.63	141.43	101.68	139.69	73.96	33.60	42.52	54.24	25.54
	大同二中M35	192.00	147.00	138.00	91.02	133.16	73.60	36.43	39.86	54.42	26.04
女	山普拉	182.89	136.97	135.87	96.35	126.69	70.40	32.24	38.94	52.03	23.56
	楼兰城郊	191.00	133.00	128.50	100.80	129.50	69.00	33.20	36.80	50.60	24.10
	喀什晋唐	165.00	139.93	131.50	95.67	124.00	72.30	30.60	36.90	52.00	23.00
	阿拉沟 I	180.33	135.07	133.33	89.73	122.23	69.97	32.93	37.13	52.53	22.93
	古墓沟	178.08	128.79	129.64	88.50	124.99	64.54	31.66	39.56	47.43	24.53
	吉林台库	169.53	142.42	130.14	94.52	127.72	67.21	33.40	39.37	50.30	24.47
	昭苏	166.75	142.33	128.63	91.30	128.28	71.16	32.78	38.55	50.84	25.42
	察吾呼四号墓地	177.50	133.20	131.70	94.40	124.00	68.80	32.70	38.70	50.00	23.80
	营盘	175.70	133.20	137.40	93.00	127.40	69.40	33.80	38.30	50.90	25.30
	恰甫其海	171.62	142.25	128.36	95.13	129.50	71.27	34.02	38.40	51.43	25.18
	神木大保当	170.80	141.90	128.20	89.40	129.70	70.80	34.40	39.40	53.40	26.60
	南杨家营子	175.00	136.70	128.00	82.75	123.75	68.00	34.10	38.55	52.75	25.50
	扎赉诺尔A组	178.00	138.25	117.58	89.42	129.17	73.90	35.12	39.47	54.57	25.85
	扎赉诺尔B组	180.50	145.50	127.00	89.50	132.50	74.20	32.20	38.20	55.00	26.50
	三燕喇嘛洞	173.24	140.78	131.73	90.48	129.96	72.69	33.72	39.06	52.34	25.99
	大同东信广场	174.78	138.36	132.47	91.51	128.43	69.36	34.78	38.34	50.30	26.80
	西宁陶家寨	177.16	135.47	129.96	88.59	129.14	71.43	34.85	39.24	51.74	26.00
	郑州汉墓	174.44	138.08	133.94	90.09	132.55	72.14	34.03	40.83	51.43	26.86
	郑州唐墓	175.44	134.48	136.60	89.02	123.00	66.96	34.19	39.75	50.19	25.40
	宁夏固原九龙山-南塬	174.40	136.50	134.50	91.90	125.30	70.50	33.50	39.40	52.80	25.10
	大同二中M13-2	167.00	131.00	124.00	92.23	120.31	64.97	28.41	37.34	46.52	25.84
	大同二中M8-1	173.00	138.00	129.00	95.92	144.38	67.46	38.33	42.46	47.74	27.10
	大同二中M38	172.00	147.00	128.00	94.75	138.21	69.85	38.87	39.59	50.50	26.00

注：表中标红数据系通过线性回归方法插补所得数值。

附图1—存在欧罗巴人种特征的颅骨：



图 1: a M35 颅骨



图 1: b M8-1 颅骨



图 1: c M13-2 颅骨

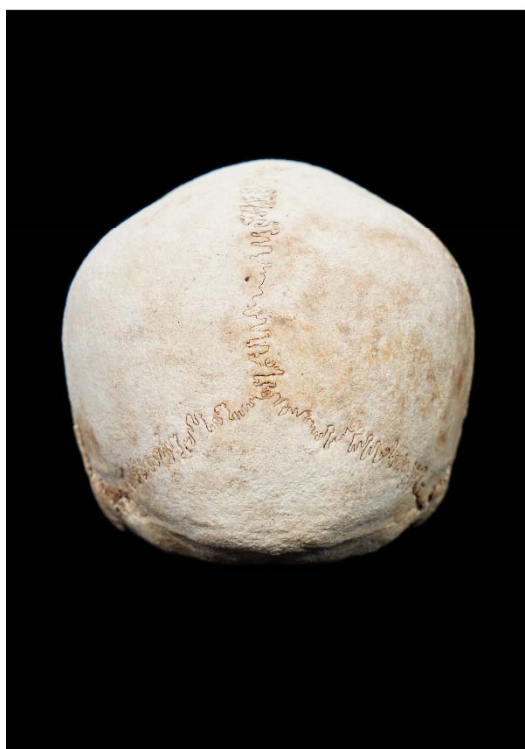


图 1: d M38 颅骨