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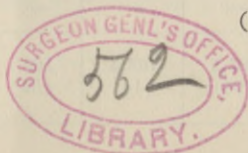
ANTHROPOMETRICAL OBSERVATIONS ON THE MISSION INDIANS OF SOUTHERN  
CALIFORNIA. By Dr. FRANZ BOAS, New York, N. Y.

DURING the past winter I visited the Mission Indians of southern California in order to study the distribution of types in that region. I was enabled to carry on this work by the aid of a grant of the American Association for the Advancement of Science.

The region under discussion is inhabited by tribes belonging to three distinct stocks: the Shoshonean, the Yuman and Mariposan. To the first named stock belong the Coahuila, Serano, Agua Caliente, San Luis Rey; the San Diego Indians belong to the Yuman and the Tule River Indians to the Mariposan. The Tule River call themselves TêXunê'ny.<sup>1</sup> The San Diego call themselves Tekuma/k; they call the Coahuila, Kau'i'a; the San Luis Rey, Oxô'é; the Agua Caliente, Xagua'tc; the Yuma, Gutcâ'n. The Serano call themselves Mâ'ringayam. The Agua Caliente call the San Diego, Gîtçâ'mkôtçem (cf. Gutcâ'n above); the San Luis Rey, Qawi'qôtçem; the Coahuila, Tâ'mikôtçem; and the Serano, Tamâ'nqamyam.

The accompanying short vocabulary will be sufficient to show the relationships of these dialects and languages.

<sup>1</sup> The vowels have their continental sounds; e obscure; ê = e in fell; î = i in hill; ô = o in German *voll*; â = aw in law; ü as in German *Bär*; ' pause; q velar k; x German ch in *ach*; x' German ch in *ich*; X intermediate between x and x'; L dorso apical l; c = sh; ñ = ng in sing.



It appears from these lists that the Serano is less closely related to the other Shoshonean dialects than these are among themselves.

The following tables contain the results of the measurements taken by me. Besides these I have a number of measurements of statures which were taken by Mr. A. J. Street in 1892. I have embodied these in the tables which form the basis of our discussions.

The measurements of statures of the various tribes of this region give the following results :

STATURE OF MEN 20-60 YEARS OF AGE.

cm.	Coahuila.	Agua Caliente.	San Luis Rey.	Serano.	Tule River.	Total.
154	—	—	1	—	—	1
155	—	—	—	—	1	1
156	—	—	—	—	1	1
157	—	—	1	—	—	1
158	1	—	1	1	—	3
159	—	—	—	—	1	1
160	1	—	1	—	—	2
161	1	—	1	—	—	2
162	2	1	4	—	—	7
163	2	1	—	—	—	3
164	3	—	3	1	—	7
165	—	1	3	1	1	6
166	1	—	4	—	1	6
167	3	1	1	—	1	6
168	2	3	3	1	1	10
169	2	2	2	1	—	7
170	4	1	2	4	2	13
171	—	2	5	4	—	11
172	3	—	1	4	1	9
173	1	2	3	1	1	8
174	—	—	4	—	1	5
175	—	—	4	—	1	5
176	—	—	—	1	1	2
177	—	—	—	2	1	3
178	—	—	1	2	1	4
179	2	—	2	—	—	4
180	—	—	1	—	—	1
181	—	—	1	—	—	1
182	—	—	—	1	—	1
183	—	—	3	—	—	3
184	—	—	—	—	—	—
Average Cases	167.5 (28)	168.4 (14)	169.7 (52)	171.5 (24)	168.8 (16)	169.3 (134)

## STATURES OF WOMEN 17-59 YEARS OF AGE.

cm.	Coahuila.	Agua Caliente.	San Luis Rey.	Serano.	Tule River.	Total.
145	—	—	2	—	—	2
146	—	—	—	—	—	—
147	—	1	1	—	1	3
148	—	1	—	—	1	2
149	—	—	—	—	2	2
150	1	—	—	—	1	2
151	—	1	—	—	—	1
152	—	—	1	—	2	3
153	3	3	3	—	—	9
154	3	—	4	—	1	8
155	2	2	2	—	1	7
156	2	2	2	—	—	6
157	2	1	5	—	1	9
158	4	1	4	1	—	10
159	2	1	2	—	—	5
160	1	3	2	—	1	7
161	—	1	4	—	1	6
162	—	1	3	—	—	4
163	—	—	3	—	2	5
164	—	1	2	—	—	3
165	1	1	—	—	—	2
166	3	—	1	—	—	4
167	—	—	1	—	—	1
168	—	—	—	—	—	—
169	1	—	—	—	—	1
170	—	—	—	—	1	1
Average Cases	158.0 (25)	156.7 (20)	157.6 (42)	158.0 (1)	155.3 (15)	157.2 (103)

This table shows that the statures of the tribes are nearly the same. The number of observations for each tribe is so small that the small variations in distribution may well be due to accidental causes. This is the more probable as the order of average statures is not the same in men and women of the various tribes. The conclusion seems justified that all these tribes are tall, the average stature of the men being nearly 1700 mm. The average stature of the women is 92.8% of that of the men. The distribution of statures, reduced to per cent, is given in the following table:

FREQUENCY OF STATURES.

Statures in cm.	Men.	Women.
144.5 — 146.4	—	1.9
146.5 — 148.4	—	4.9
148.5 — 150.4	—	3.9
150.5 — 152.4	—	3.9
152.5 — 154.4	0.8	16.5
154.5 — 156.4	1.5	12.6
156.5 — 158.4	3.0	18.5
158.5 — 160.4	2.2	11.7
160.5 — 162.4	6.7	9.7
162.5 — 164.4	7.5	7.8
164.5 — 166.4	9.0	5.8
166.5 — 168.4	12.0	1.0
168.5 — 170.4	14.9	1.9
170.5 — 172.4	14.9	—
172.5 — 174.4	9.7	—
174.5 — 176.4	5.2	—
176.5 — 178.4	5.2	—
178.5 — 180.4	3.7	—
180.5 — 182.4	1.5	—
182.5 — 184.4	2.2	—

The material is also sufficiently large to give a fair idea of the mode of growth of these Indians. For purposes of comparison I give a table showing the growth of the Indians of southern California, of tall Indian tribes, Halfbreeds and Whites, the latter being observations taken in Worcester, Mass.<sup>1</sup> The number of observations is given in parentheses.

<sup>1</sup>G. M. West. *Anthropometrische Untersuchungen über die Schulkinder in Worcester, Mass.* Archiv für Anthropologie, 1893, p. 35.

AVERAGE STATURES.

Boys.

Girls.

Ages, years.	Boys.				Girls.			
	Mission Indians.	Tall Indian Tribes.	Halfbreeds.	Schoolchildren of Worcester, Mass.	Mission Indians.	Tall Indian Tribes.	Halfbreeds.	Schoolchildren of Worcester, Mass.
5	111.7 (3)	115.4	106.1	109.7	103.0 (3)	107.8	104.8	107.4
6	115.7 (9)	116.0	113.1	112.7	115.3 (6)	116.1	109.8	111.3
7	122.1 (16)	121.4	117.8	117.0	119.3 (13)	119.2	117.0	117.5
8	129.3 (21)	125.7	123.7	122.3	124.5 (12)	123.6	124.5	121.6
9	134.1 (22)	132.7	127.2	127.0	125.8 (14)	130.0	126.1	126.6
10	136.1 (14)	135.3	133.3	134.0	138.7 (9)	134.0	132.4	132.8
11	138.3 (15)	141.2	141.0	138.8	143.1 (10)	139.1	136.9	137.0
12	148.1 (28)	143.0	141.9	142.9	143.9 (17)	144.0	141.2	144.7
13	153.3 (13)	147.9	148.5	147.6	152.5 (17)	146.9	150.3	147.9
14	160.2 (13)	153.6	153.1	154.3	156.9 (18)	150.6	153.4	153.7
15	163.4 (18)	158.0	160.2	162.2	153.9 (16)	153.6	155.4	157.0
16	167.8 (21)	164.9	163.4	165.8	158.9 (16)	156.1	157.5	158.4
17	167.5 (19)	166.9	169.1	168.5	156.3 (12)	157.7	159.8	159.4
18	173.8 (9)	170.1	172.7	170.0	157.4 (16)	159.5	159.8	159.1
19	175.0 (6)	170.7	172.4	171.3		158.4	--	
20		172.2	171.8					
21		172.3	173.6					
Adult.	169.3 (134)	171.2	172.7	171.6	157.2 (103)	158.7	159.8	159.2

It appears from these tables that, although the adult white is taller than the Mission Indian, the reverse phenomenon is observed during the period of growth. The growing Indian child is throughout taller than the growing white child. The Halfbreeds take an intermediate position in this respect. The cause of this phenomenon lies in the fact that many Indian children reach the adult stage much earlier than white children. It seems that this acceleration depends on both race and climate, because the Mission Indians who inhabit a warm climate show the phenomenon much more distinctly than the tall Indians, who live mostly in northern latitudes.

The cause of the difference of the laws of growth for both races becomes particularly clear when we consider the variability of stature for each year. I have shown on a former occasion (*Science*, Vol. 19, p. 257) that, at the period when the amount of typical annual growth begins to diminish, the variability, which has been increasing up to that time, suddenly drops to much lower values. This drop in variability is, therefore, a better indication of approaching maturity than are the average statures, which, as I have shown at the place mentioned, cannot be considered typical values for the ages of growth. Among white children this sudden drop in variability occurs in the case of boys between the 15th and 16th years; in the case of girls between the 14th and 15th years. The following table will show that the sudden drop occurs among the Mission Indians in the case of boys between the 13th and 14th year, among girls between the 9th and 11th year.

AVERAGE VARIATION OF STATURE. CM.

Age, years.	Boys.	Girls.
5	5.7	3.3
6	2.3	3.1
7	6.1	4.5
8	4.8	6.5
9	4.9	11.0
10	5.6	7.6
11	8.4	4.3
12	5.9	5.6
13	7.1	4.5
14	3.8	3.3
15	4.9	4.5
16	3.4	3.2
17	2.7	2.7
18	3.1	4.1

It appears from these tables that the average age of maturity is from two to three years less than that of the Whites of the northern states. At the same time the variability in the time of reaching maturity seems to be greater, as otherwise it would be impossible that growth should continue as long as is expressed in the average values. This will appear still more clearly when the growth of the head measurements is considered.

I have also noted how many girls of different ages conveyed the general impression of being perfectly mature.

At 9 years,	1 among 9
“ 10 “	0 “ 5
“ 11 “	0 “ 7
“ 12 “	0 “ 10
“ 13 “	3 “ 7
“ 14 “	9 “ 13
“ 15 “	4 “ 7

As might be expected, the period during which girls are taller than boys occurs very early, namely, during the tenth and eleventh year.

The following table shows the growth of a few head measurements and indices which seem to be of interest. In these tables I have combined the years by twos as the number of observations for each year singly is too small.

AVERAGE MEASUREMENTS.

Ages, years.	Length of Head.		Breadth of Head.		Breadth of Face.		Facial Index.		Index of Finger-reach.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
6 and 7	176.4 (9)	169.4 (9)	143.7 (9)	139.3 (9)	122.4 (9)	120.1 (9)	80.4 (9)	81.7 (9)	100.9 (9)	102.4 (9)
8 “ 9	176.3 (19)	173.3 (17)	146.2 (19)	142.1 (17)	127.8 (19)	123.0 (17)	82.3 (19)	83.7 (17)	102.8 (19)	102.6 (17)
10 “ 11	175.4 (14)	176.8 (12)	145.1 (14)	145.5 (12)	127.1 (14)	130.6 (12)	82.5 (14)	82.4 (12)	102.3 (14)	103.5 (11)
12 “ 13	179.5 (21)	177.4 (17)	148.5 (22)	147.0 (17)	133.8 (22)	133.7 (17)	83.8 (22)	85.0 (17)	103.4 (22)	104.5 (17)
14 “ 15	181.8 (14)	178.5 (20)	152.8 (14)	147.2 (20)	140.0 (13)	134.2 (20)	86.8 (14)	84.7 (20)	105.0 (14)	103.9 (20)
16 “ 17	187.1 (22)	185.1 (12)	152.4 (22)	150.0 (12)	141.5 (22)	140.0 (12)	85.8 (22)	83.4 (12)	104.5 (20)	104.1 (12)
18 “ 19	191.1 (7)		153.7 (7)		145.3 (7)		85.4 (7)		106.4 (7)	

All these figures emphasize the result which was obtained above, namely, that many more individuals reach maturity at an early age than is the case among the northern Indians and still more than among the Whites of northern latitudes. It is a result of the very rapid development of the female sex that, at the age of 10 and 11 years, it exceeds in all its measurements the male sex. This phenomenon is not observed among the Whites of northern latitudes, where the head measurements of boys are always greater than those of girls, although an approach between the two takes place in the 12th year.

I have treated the head measurements of all these tribes together, as there are no appreciable differences of form. This is shown by the following table of length-breadth indices of the various tribes.

## FREQUENCY OF LENGTH-BREADTH INDICES.

Length-Breadth Index.	Coahuila.	Agua Caliente.	San Luis Rey.	Serano.	San Diego.	Tule River.	Total.	Per cent.
71	—	—	—	1	—	—	1	0.5
72	—	—	—	—	—	—	—	—
73	—	—	—	—	—	—	—	—
74	—	—	—	—	—	—	—	—
75	2	—	1	—	—	—	3	1.6
76	2	—	1	—	1	—	4	2.1
77	4	—	1	—	—	1	6	3.1
78	8	2	5	—	4	—	19	9.9
79	7	—	5	1	3	—	16	8.4
80	7	—	4	1	3	—	15	7.8
81	9	2	2	5	1	—	19	10.0
82	9	2	11	3	2	2	29	15.2
83	5	1	5	2	7	1	21	11.0
84	8	—	4	1	6	2	21	11.0
85	2	—	2	3	5	—	12	6.3
86	5	1	1	2	2	—	11	5.8
87	4	—	1	—	1	—	6	3.1
88	1	1	—	—	—	—	2	1.0
89	3	—	—	—	—	—	3	1.6
90	1	—	—	—	—	—	1	0.5
91	—	—	—	—	—	—	—	—
92	1	—	—	—	—	—	1	0.5
93	1	—	—	—	—	—	1	0.5
Average Cases	82.5 79	82.6 9	81.7 43	82.5 19	82.8 35	82.5 6	82.3 191	

The most frequent index is 82, corresponding very nearly to that of the Yuma and Mojave. The Indians differ therefore entirely in type from the former inhabitants of Santa Barbara and of the islands of Southern California. The difference in type between these two neighboring peoples could hardly be greater than it is: the Mission Indians, tall, brachycephalic, with rather large and broad faces; the Indians of the islands, short, extremely dolichocephalic, with narrow faces and noses. It is of interest to note that a secondary maximum of frequency of the length-breadth index of the Mission Indians is found at 79, and that it is most strongly



developed among the Indians of San Luis Rey, who lived in the closest proximity to the long-headed islanders. It is quite probable that this maximum may be due to intermixture.

It is worth remarking that the Mission Indians whom we found to belong to one and the same physical type, belong to three distinct linguistic stocks, and that other members of the Shoshonean stock belong to quite distinct physical types. We have, therefore, in this region, another excellent instance of the fact that the same language may be spoken by people representing quite distinct types, and that people belonging to the same type may speak quite distinct languages, that is to say, that linguistic classification and racial classification are by no means identical.

It remains to say a few words on the general appearance of the Indians. Their skin is very dark. I marked it generally as 33l or 33m of Radde's standard colors, but found the tint 33 not sufficiently reddish. Children show very frequently a certain degree of epicanthus which gives the eye a mongoloid appearance, but this feature is not as strong as I found it to be in British Columbia. The nose is very often concave, rather short, but wide with thick alæ. The lips are not as heavy as among the Indians who live near Columbia River. The lobe of the ear is better developed than among the Indians of Oregon and Washington. It is generally round and often detached. The hair turns gray very early. I recorded the cases in which there was a very strong mixture of white hair among the black, and found the following numbers:

Age, years.	Boys.	Girls.
7	—	1 among 7
8	—	—
9	2 among 10	—
10	—	—
11	—	—
12	1 among 17	—
13	—	—
14	2 among 9	—
15	3 among 4	—
16	3 " 9	2 among 3
17	3 " 13	—
18	2 " 5	—
19	1 " 2	1 among 1

Possibly the arid air of the desert may cause the hair to split and thus to turn gray, but as I have not made a microscopical examination of specimens, I am unable to tell with certainty the cause of the phenomenon.



VOCABULARY.

ENGLISH.	COAHUILA.	AGUA CALIENTE.	SAN LUIS REY.	SERANO.	SAN DIEGO.	TULE RIVER.
man	na/xanic	naxa/nic	yaa/c pl. ya'yicem	wudjri'tetc	igu'f'c	na'nó pl. nānē'g
old woman	nē'eluwīl	nawē'kat	cūngā'pl eu'cnelem	ne'ret	sīny	ka'-ina pl. kava'ne
woman	nē'tcīl	pulyi'nic	kéhá't pl. kaketem	kwagē't	elma'm	wīrē'm pl. wīpepe'us
child, baby	ké'at	ki'm dī	hīngā'mēl pl. hīngā'melem	djidjé'ut	elma'm i'gn'f'c	na'tó
boy	a'gucmel	nawf'cmadl netā'ta	nawf'temel	nā'tet	elma'm sīny	ka't'ó
girl	nē'ucmel	pā'yó	nē'na	nī'na	pata't (his—)	nó'póp
my father	nē'na'	nēba'ema	nēbā'c	nēbā'r	pata'y (his—)	nó'óm
my mother	nī'yī	ga'mash	nēbā't	nēbr'i	patcama'y (his—)	né'pīs
my elder brother	né'pōs	neqē'sma	nēbā't	nege'r	pasu'y (his—)	nā'ac
my younger brother	nī'u'īl	nawa'xali	nēbē't	nēbē't	patcā'ny (his—)	nā'at
my elder sister	nē'qīs	ō'yo	nī'yū' (my—)	nī'xu	pasā'n (his—)	nó'ót
my younger sister	nēwā'xīl	ō'pu	nēpu'c (my—)	nī'rayu'	alta'	ā'tser, ā'tō
head	yu'deluga	o'mu	nēmo'be (my—)	nī'pī'r (my—)	hēyē'u	ā'tser. ā'tō
hair	yu'delugal	pōcī'ī	nēbu'c (my—)	nēmo'kpe (my-axo')	hēyē'u	
face	hé'mo	ca'īl	nēma'q (my—)	nē'qar (my—)	ha'mai.	
nose	hé'pus	mal	nēma'	nī'xēlka		tcinī'k
eye	na'q'a	ta'yil	nē'	nē'uma		sa'sa
ear	ta'm'a	hō'tcīl	nē'	nī'tcā'q		tuk
mouth	hé'nāh	bu'ma sa'stiash	ayó'	nī'nabro		sa'na
tongue	ku'spi	ō'cri'ā	nēcīa (my—)			ta'lxat
tooth	qī'dīe	a'wul	ōla'			tēl, tē'ix.
neck	hētau'	ī'īl	wā'so			ākt
nape	tē'é	kic	ke'tca			
chest	hé'na	po'kil	popō'k			
belly	hé'ma	kot	kut			
arm	hé'ma					
hand	hé'ma					
leg	hé'é					
foot						
finger						
thumb						
nail						
blood						
bone						
house	kic pl. kī'kic	paā'u'a pal	paā'ō pal	ne'wate	silyéxwa'o	xā'sfx
door	kut			rī'tctc	haxu'ót	pa'-īx
fire	tu'kuac			re'tc	haq	ts'ix.
knife	teu'kinapis			gītc	awā'	te pl. tewē
bow	hō'yal			agī'tcaun	āu	ó'cēt
arrow	yu'īl			kut		
pipe	pi'wat					
tobacco	qa'nc					
stone	mé'todatō					
a pile of stones	qa'nc					
mountain	pal	paā'u'a pal	paā'ō pal	qa'-ītc bāt	amtēté'i	ló'mit
water	pal				axā'	īl'k
lake	pal					paā'cē
river	wa'nīc					īl'k
rain	wī'vunic					
snow	yu'yat	ayuwl'a'	yū'yīt	wurlt	hala'p	ma'yik
large	a'mnaut	al'anīc	yōt	yuā't	īgō'	gō'tē
small	ē'nīcīl	agu'sē	kēkō't	an'tci	ast'k	
good	atē'ā'tea					
bad	ēlē'guic					
many	ma'tewīt					
black	tō'lektic					
white	te'ncnektic					
red	sa'lektic					
blue	tu'ksnīc					
I	nē					
thou	é					
he	é					
we	teēm					
ye	hēm					
they						
one	su'pli					
two	wī					
three	pā					
four	wī'tu					
five	nameqoa'na					
six	kunsō'pēlē					
seven	kunwī'					
eight	kunwī'tcu					
nine	namten'me					
ten	nowa'yīq					
I eat	nesē'semqa					
I laugh	nēgō'pqa					
I sleep	nīngā'ñqa					
I cry	uē'na	netā'ta	nēna'			
my father					nyatā't	nīm tē my house
thy "	é'na	e'na'	ēna'		metā't	mēn tē thy house
his "	hé'na	awatpe'ua	puna'		batā't	mayin tē our house
our "	te'e'mna	teamtēmtā'ta	teumna'		eniyawapātā't	mēn kē tē your house
your "	é'mna	emumē'mna	umna'		nīmyawapātā't	
their "	hé'mna	xoateimbe'mna	pōmna'		bōpatā't	
is that your father?	été'na					mā'gin tē our two
is that his father?	péhé'na					po's. selects' house
						pl. po's nim po'swē wa'tukt
						dog
						my dogs who is that?



I. COAHUILA.

(1)

I. MALES.

Number . . . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Tribe . . . . .	Coahuila.	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Name . . . . .	Mariano Chuchinat	Epifania Lugo	Francisco Chuchinat	José Carea	Stephen Chaparosa	Stephen Saubel	Dolorous Norte	Nazareo Lugo	Marcus Segundo	Juan Barthol	Benancino Siva	Miguel Williams	Feliz Rios	Hippolyte Chiardora	Santos Lubo	Manuel Chaparosa	Henrico Morenos	Santiago Saubel	Ramon Carea	Benancio Segundo	Antonio Siva	Ignacio Augustin	Alonzo Joaquin
Age . . . . .	6	6	7	7	7	8	8	8	9	9	9	9	9	9	9	10	11	12	12	12	12	12	12
Height standing . . . . .	1,170 <sup>1</sup>	1,135	1,292 <sup>2</sup>	1,303 <sup>3</sup>	1,298 <sup>4</sup>	1,330 <sup>5</sup>	1,294 <sup>6</sup>	1,305	1,410 <sup>7</sup>	1,377	1,401	1,370 <sup>8</sup>	1,324 <sup>9</sup>	1,362	1,326	1,442 <sup>10</sup>	1,450	1,464 <sup>11</sup>	1,508 <sup>12</sup>	1,467 <sup>13</sup>	1,511	1,552	1,527
Height of shoulder . . . . .	928	902	1,045	1,033	1,050	1,060	1,030	1,063	1,118	1,102	1,137	1,085	1,064	1,096	1,059	1,187	1,177	1,200	1,212	1,217	1,233	1,248	1,524
Length of arm . . . . .	501	478	550	551	566	593	575	603	588	594	624	590	582	612	573	627	652	651	643	682	665	676	665
Finger-reach . . . . .	1,140	1,127	1,278	1,300	1,330	1,390	1,328	1,368	1,400	1,390	1,418	1,383	1,370	1,445	1,353	1,440	1,495	1,530	1,513	1,530	1,500	1,629	1,530
Height sitting . . . . .	633	618	695	678	660	683	696	683	727	710	740	734	687	698	680	745	750	725	816	700	781	810	768
Width of shoulders . . . . .	256	248	281	277	275	291	295	283	306	305	291	308	272	298	290	294	324	318	316	302	323	372	331
Length of head . . . . .	183	179	176	185	176	182	182	173	179	178	173	177	171	172	174	170	183	184	188	172	184	179	168
Breadth of head . . . . .	147	141	153	148	148	145	145	138	147	154	148	158	144	151	143	149	150	148	147	137	154	145	151
Height of face . . . . .	97	98	100	106	99	104	108	103	107	112	105	113	104	103	94	98	110	102	118	115	112	117	114
Breadth of face . . . . .	122	120	130	127	124	129	122	121	130	137	134	135	124	132	133	138	135	132	137	124	137	140	132
Height of nose . . . . .	38	38	38	42	41	42	42	39	43	42	41	44	42	42	37	38	47	40	50	47	45	48	45
Breadth of nose . . . . .	31	31	35	31	31	35	33	33	33	36	33	37	33	35	35	35	36	35	39	35	36	39	36
Index of finger-reach . . . . .	97.5	98.9	99.1	100.0	102.3	104.5	103.0	105.2	99.3	100.7	101.3	101.0	103.8	106.2	101.7	100.0	103.1	104.8	100.2	104.8	99.3	105.1	100.0
Index of arm . . . . .	42.8	41.9	42.6	42.4	43.5	44.6	44.6	46.4	41.7	43.0	44.6	43.1	44.1	45.0	43.1	43.5	45.0	44.6	42.6	46.4	44.0	43.6	43.5
Index of height, sitting . . . . .	54.1	54.2	53.9	52.2	50.8	51.4	54.0	52.5	51.6	51.4	52.9	53.6	52.0	51.3	51.1	51.7	51.7	49.7	54.0	47.6	51.7	52.3	50.2
Index of breadth of shoulders . . . . .	21.9	21.8	21.8	21.3	21.2	21.9	22.9	21.8	21.7	22.1	20.8	22.5	20.6	21.9	21.8	20.4	22.3	21.8	20.9	20.5	21.4	24.0	21.6
Length-breadth index . . . . .	80.3	78.8	86.9	80.0	84.1	79.7	79.7	79.8	82.1	86.5	85.5	89.3	84.2	87.8	82.2	87.6	82.0	80.4	78.2	79.7	83.7	81.0	89.9
Facial index . . . . .	79.5	81.7	76.9	83.5	79.9	80.6	88.5	85.1	82.3	81.8	78.4	83.7	83.9	78.1	70.7	71.0	81.5	77.3	86.2	92.8	81.8	83.6	86.4
Nasal index . . . . .	81.6	81.6	92.1	73.8	75.6	83.3	78.6	84.6	76.7	85.7	80.5	84.1	78.6	83.3	94.6	92.1	76.6	87.5	78.0	74.5	80.0	81.2	80.0

<sup>1</sup> Brother of Nos. 3, 44. <sup>2</sup> Brother of Nos. 1, 44. <sup>3</sup> Brother of No. 19. <sup>4</sup> Brother of No. 16. <sup>5</sup> Brother of Nos. 18, 59, 73. <sup>6</sup> Brother of Nos. 45, 57. <sup>7</sup> Brother of No. 20. <sup>8</sup> Brother of Nos. 25, 39, 49. <sup>9</sup> Brother of No. 51. <sup>10</sup> Brother of No. 5. <sup>11</sup> Brother of No. 6, 59, 73. <sup>12</sup> Brother of No. 4. <sup>13</sup> Brother of No. 9.



I. COAHUILA.—Continued.

(2)

I. MALES.—Continued.

Number . . . . .	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Tribe . . . . .	Coahuila	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Name . . . . .	Juanito Charles	Joaquin Williams	Alessandro Tortes	Ignacio Guanache	Hickman Ramon	Patricio Lugo	Waleo (?) Antonio	Pablo Siva	Calverio Quate	Jeff	Crispin Pablo	Hilario Calario	Theofilo Robles	Assidro Lugo	Alessandro Lugo	Jesus Maria Williams	Antonio Lubo	Silvas Lubo	Francisco Lugo	Camillo Modesto	Nicolas Chuchinat	José Norte	Silverio Churack
Age . . . . .	12	12	12	13	14	14	14	14	14	15	15	15	16	16	16	16	16	16	17	17	17	17	17
Height standing . . . . .	1,522	1,577 <sup>14</sup>	1,390 <sup>15</sup>	1,455	1,575	1,590 <sup>16</sup>	1,590	1,620	1,624 <sup>17</sup>	1,645	1,654	1,612	1,600	1,693	1,687	1,672 <sup>18</sup>	1,753	1,703 <sup>19</sup>	1,670 <sup>20</sup>	1,668 <sup>21</sup>	1,678 <sup>22</sup>	1,723 <sup>23</sup>	1,640
Height of shoulder . . . . .	1,235	1,270	1,131	1,215	1,277	1,307	1,303	1,316	1,308	1,333	1,323	1,332	1,310	1,404	1,378	1,367	1,431	1,383	1,373	1,335	1,353	1,435	1,333
Length of arm . . . . .	664	695	631	638	694	724	719	733	725	716	741	724	737	723	746	731	781	769	753	719	739	753	708
Finger-reach . . . . .	1,592	1,640	1,420	1,506	1,602	1,695	1,678	1,723	1,715	1,685	1,773	1,684	1,781	—	1,745	1,735	1,847	1,802	1,767	1,737	1,728	1,785	1,712
Height sitting . . . . .	758	800	712	740	830	826	838	873	840	862	884	855	823	878	873	865	897	899	864	873	880	896	867
Width of shoulders . . . . .	334	361	274	322	339	356	360	385	360	384	406	356	400	388	381	395	418	391	382	397	381	378	397
Length of head . . . . .	172	178	178	170	179	184	173	181	184	171	177	179	190	180	190	178	199	200	185	188	187	180	183
Breadth of head . . . . .	160	153	148	154	148	156	147	168	152	154	144	154	154	161	154	159	150	151	145	153	157	149	148
Height of face . . . . .	113	117	108	107	115	120	120	121	122	117	127	113	127	121	124	124	125	130	131	119	115	114	113
Breadth of face . . . . .	144	140	128	137	133	142	139	149	140	139	139	140	148	144	144	140	147	142	133	141	148	141	138
Height of nose . . . . .	47	45	40	43	43	49	47	49	49	50	49	46	50	55	49	54	50	52	57	47	46	50	45
Breadth of nose . . . . .	37	42	35	35	35	41	40	41	44	38	42	41	39	42	42	42	42	40	40	44	39	40	40
Index of finger-reach . . . . .	104.7	103.8	102.9	103.2	102.0	106.6	105.5	106.4	105.9	102.1	107.5	104.6	111.3	—	103.3	103.9	105.6	106.0	105.8	104.0	102.9	103.8	104.4
Index of arm . . . . .	43.7	44.0	45.7	43.7	44.2	45.5	45.2	45.2	44.8	43.4	44.9	45.0	46.0	42.8	44.1	43.8	44.6	45.2	45.1	43.1	44.0	43.8	43.2
Index of height, sitting . . . . .	49.9	50.6	51.6	50.7	52.9	52.0	52.7	53.9	51.9	52.2	53.6	53.1	51.4	52.0	51.7	51.8	51.3	52.9	51.7	52.3	52.4	52.1	52.9
Index of breadth of shoulders . . . . .	22.0	22.8	19.9	22.0	21.6	22.4	22.6	23.8	22.2	23.3	24.3	22.1	25.0	23.0	22.5	23.7	23.9	23.0	22.9	23.8	22.7	22.0	24.2
Length-breadth index . . . . .	93.0	86.0	83.1	90.6	82.7	84.8	85.0	92.8	82.6	90.0	81.4	86.0	81.1	89.4	81.1	89.3	75.4	75.5	78.4	81.4	84.0	82.8	80.9
Facial index . . . . .	78.5	83.6	84.4	78.1	86.5	84.5	86.4	81.2	87.1	84.2	91.3	80.7	85.8	84.0	86.1	88.6	85.0	91.5	98.5	84.4	77.7	80.9	81.9
Nasal index . . . . .	78.7	93.3	87.5	81.4	81.4	83.7	85.1	83.7	89.8	76.0	85.7	89.1	78.0	76.4	85.7	77.8	84.0	76.9	70.2	93.6	84.8	80.0	88.9

<sup>14</sup> Brother of Nos. 12, 39, 49. <sup>15</sup> Brother of Nos. 50, 69. <sup>16</sup> Brother of No. 42. <sup>17</sup> Brother of No. 70. <sup>18</sup> Brother of Nos. 12, 25, 49. <sup>19</sup> Brother of No. 83. <sup>20</sup> Brother of No. 29. <sup>21</sup> Brother of Nos. 65, 67, 76. <sup>22</sup> Brother of Nos. 1, 3. <sup>23</sup> Brother of No. 7, 57.





I. COAHUILA.—Continued.

(3)

I. MALES.										II. FEMALES.													
Number . . . . .	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69
Tribe . . . . .	Coahuila.	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Name . . . . .	Ramon Barthol	Sam Ansonia	Hilario Williams	Calistro Tortes	Frank Rios	Ignacio Costo	Ventura Saubel	Isidor Costo	Epifanio Casero	Florida Penna	Regina Norte	Domingo Andreas	Cecilia Saubel	Tomasa Garra	Candelaria	Mary Lucy Norte	Maria Aurelia Matosa	Seraphina Andreas	Rosa Modesto	Emilia Quate	Louisa Modesto	Geneveva Siva	Zenobia Tortes
Age . . . . .	17	17	17	17	17	18	18	19	19	6	7	7	7	7	8	9	9	9	9	11	12	12	12
Height standing . . . . .	1,675	1,607	— <sup>24</sup>	1,677 <sup>25</sup>	1,636 <sup>26</sup>	1,811 <sup>27</sup>	1,747	1,712 <sup>28</sup>	1,710	1,153	1,206 <sup>29</sup>	1,123 <sup>30</sup>	1,180 <sup>31</sup>	1,230	1,197	1,364 <sup>32</sup>	1,360	1,253 <sup>33</sup>	1,290 <sup>34</sup>	1,468	1,503 <sup>35</sup>	1,543	1,497 <sup>36</sup>
Height of shoulder . . . . .	1,374	1,313	—	1,366	1,318	1,474	1,413	1,393	1,399	917	960	876	920	970	914	1,114	1,093	1,001	1,022	1,213	1,220	1,280	1,230
Length of arm . . . . .	752	736	—	762	720	796	790	757	775	485	518	474	518	525	485	593	587	567	574	649	680	688	685
Finger-reach . . . . .	1,754	1,702	—	1,753	1,693	1,932	1,860	1,841	1,832	1,164	1,252	1,180	1,223	1,287	1,197	1,388	1,392	1,335	1,346	1,538	1,587	1,615	1,571
Height sitting . . . . .	878	881	867	854	872	932	928	881	904	604	631	590	603	663	633	667	717	662	670	758	776	796	745
Width of shoulders . . . . .	394	378	423	382	385	450	415	420	395	253	272	248	262	275	260	300	302	277	294	312	344	353	327
Length of head . . . . .	194	193	181	189	190	204	186	194	191	171	170	164	172	166	163	177	175	162	176	163	178	169	173
Breadth of head . . . . .	160	151	149	149	148	157	148	163	149	141	136	141	134	145	137	140	146	143	135	143	145	158	144
Height of face . . . . .	122	121	116	119	122	132	118	131	121	101	101	94	93	98	101	105	102	102	105	105	116	117	111
Breadth of face . . . . .	150	140	145	138	143	151	142	157	144	124	124	119	117	126	121	122	133	124	123	132	133	144	130
Height of nose . . . . .	48	51	47	47	47	53	48	52	51	41	38	36	37	38	40	42	44	40	43	41	47	45	42
Breadth of nose . . . . .	43	40	42	42	40	47	39	46	41	33	30	32	30	31	31	30	32	33	31	33	35	35	38
Index of finger-reach . . . . .	105.0	105.7	—	104.4	103.2	106.7	106.3	107.7	107.1	101.2	103.5	105.4	103.7	104.6	100.0	102.1	102.4	106.8	104.4	104.6	105.8	104.9	104.7
Index of arm . . . . .	45.0	45.7	—	45.4	43.9	44.0	45.1	44.3	45.3	42.2	42.8	42.3	43.9	42.7	40.4	43.6	43.2	45.4	44.5	44.2	45.3	44.7	45.7
Index of height, sitting . . . . .	52.6	54.7	—	50.8	53.2	51.5	53.0	51.5	52.9	52.5	52.1	52.7	51.1	53.9	52.8	49.1	52.7	52.9	51.9	51.6	51.7	51.7	49.7
Index of breadth of shoulders . . . . .	23.6	23.5	—	22.7	23.5	24.9	23.7	24.6	23.1	22.0	22.5	22.1	22.2	22.4	21.7	22.1	22.2	22.2	22.8	21.2	22.9	22.9	21.8
Length-breadth index . . . . .	82.5	78.2	82.3	78.8	77.9	77.0	79.6	84.0	78.0	82.5	80.0	86.0	77.9	87.4	84.0	79.1	83.4	88.3	76.7	87.7	81.4	93.5	83.2
Facial index . . . . .	81.3	86.4	80.0	86.3	85.3	87.4	83.1	83.4	84.0	81.5	81.5	79.0	79.5	77.8	83.5	86.1	76.7	82.3	85.4	79.5	87.2	81.2	85.4
Nasal index . . . . .	89.6	78.4	89.4	89.4	85.1	88.7	81.2	88.5	80.4	80.5	78.9	88.9	81.1	81.6	77.5	71.4	72.7	82.5	72.1	80.5	74.5	77.8	90.5

<sup>24</sup> Brother of Nos. 12, 25, 39. <sup>25</sup> Brother of Nos. 26, 69. <sup>26</sup> Brother of No. 13. <sup>27</sup> Brother of Nos. 54, 82. <sup>28</sup> Brother of Nos. 52, 82. <sup>29</sup> Sister of Nos. 7, 45. <sup>30</sup> Sister of No. 64.  
<sup>31</sup> Sister of Nos. 6, 18, 73. <sup>32</sup> Sister of No. 80. <sup>33</sup> Sister of No. 58. <sup>34</sup> Sister of Nos. 43, 67, 76. <sup>35</sup> Sister of Nos. 43, 65, 76. <sup>36</sup> Sister of Nos. 26, 50.



I. COAHUILA—Continued.

II. SERANO.

(4)

Number . . . . .	II. FEMALES.														I. MALES.								
	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92
Tribe . . . . .	Coahuila	"	"	"	"	"	"	"	"	"	"	"	"	"	Serano	"	"	"	"	F. Serano M. San Luis Rey.	Serano	"	"
Name . . . . .	Marie Quate	Seraphina Lugo	Louisa Lugo	Jane Saubel	Florence Ringlaro	Cinciona Lubo	Catharina Modesto	Aleno Casero	Mary Lubo	Polonia Arenas	Arcadia Norte	Solida Lubo	Rosa Costo	Samona Lubo	Peter Morongo	Joseph Morongo	Henry Pina	John Gabriel	Juan Morongo	Valantino Santiago	Rosinda Nevaro	Peter Salvadero	Willy Gabriel
Age . . . . .	13	14	14	14	14	14	15	16	17	17	18	18	18	19	5	8	8	8	10	10	10	12	12
Height standing . . . . .	1,525 <sup>37</sup>	1,614	1,566	1,643 <sup>38</sup>	1,582	1,560 <sup>39</sup>	1,571 <sup>40</sup>	1,549	1,598 <sup>41</sup>	1,531	1,577 <sup>42</sup>	1,578 <sup>43</sup>	1,595 <sup>44</sup>	1,563 <sup>45</sup>	1,086 <sup>46</sup>	1,278 <sup>47</sup>	1,228	1,302	1,367 <sup>48</sup>	1,427	1,345	1,426	1,447
Height of shoulder . . . . .	1,238	1,340	1,293	1,346	1,303	1,292	1,278	1,251	1,319	1,263	1,300	1,306	1,317	1,271	837	1,003	974	1,032	1,118	1,172	1,072	1,160	1,180
Length of arm . . . . .	678	732	699	733	707	692	694	641	713	668	695	743	689	704	467	546	536	564	601	656	574	645	665
Finger-reach . . . . .	1,632	1,711	1,625	1,668	1,615	1,618	1,618	1,552	1,668	1,620	1,643	1,673	1,627	1,633	1,092	1,320	1,250	1,340	1,380	1,524	1,344	1,503	1,530
Height sitting . . . . .	790	806	807	856	820	828	830	815	827	788	805	812	872	820	577	661	644	703	673	743	708	746	764
Width of shoulders . . . . .	356	381	349	358	353	340	352	359	354	358	369	354	371	370	253	292	273	290	277	300	287	314	320
Length of head . . . . .	180	183	176	180	171	188	192	187	186	177	185	192	186	188	172	179	173	184	175	179	177	194	174
Breadth of head . . . . .	146	148	148	147	148	156	146	149	146	150	146	154	152	146	149	148	141	154	142	146	146	138	149
Height of face . . . . .	116	124	115	112	112	119	120	103	121	120	113	122	119	118	100	107	103	106	108	115	107	109	113
Breadth of face . . . . .	138	139	133	130	133	144	135	137	138	140	137	148	143	143	118	123	122	130	125	129	124	126	129
Height of nose . . . . .	44	48	45	44	45	47	47	41	46	48	46	47	51	49	36	42	41	43	44	47	48	45	45
Breadth of nose . . . . .	37	33	34	36	40	38	36	39	35	36	33	38	40	36	31	33	33	34	35	35	34	37	36
Index of finger-reach . . . . .	107.4	106.3	103.5	101.7	102.2	103.7	103.1	100.0	104.2	105.9	104.0	105.9	102.3	104.7	100.5	103.1	101.6	103.1	100.9	106.6	100.0	105.7	105.5
Index of arm . . . . .	44.6	45.5	44.5	44.7	44.7	44.4	44.2	41.4	44.6	43.7	44.0	47.0	43.3	45.1	42.8	42.7	43.6	43.4	43.9	45.9	42.8	45.4	45.9
Index of height, sitting . . . . .	52.0	50.1	51.4	52.2	51.9	53.1	52.9	52.6	51.7	51.5	51.0	51.4	54.8	52.6	52.9	51.6	52.4	54.1	49.1	52.0	52.8	52.5	52.7
Index of breadth of shoulders . . . . .	23.4	23.7	22.2	21.8	22.3	21.8	22.4	23.2	22.1	23.4	23.4	22.4	23.3	23.7	23.2	22.8	22.2	22.3	20.2	21.0	21.4	22.1	22.1
Length-breadth index . . . . .	81.1	80.9	84.1	81.7	86.5	83.0	76.0	79.7	78.5	84.7	78.9	80.2	81.7	77.7	86.6	82.7	81.5	83.7	81.1	81.6	82.5	71.1	85.6
Facial index . . . . .	84.1	89.2	86.5	86.2	84.2	82.7	88.9	75.2	87.7	85.7	82.5	82.4	83.2	82.5	84.8	87.0	84.5	81.5	86.4	89.2	86.3	86.5	86.3
Nasal index . . . . .	84.1	68.8	75.5	81.8	88.9	80.9	76.6	95.1	76.1	75.0	71.7	80.9	78.4	73.5	86.1	78.6	80.5	79.1	79.5	74.5	70.8	75.5	80.0

<sup>37</sup> Sister of No. 32. <sup>38</sup> Sister of Nos. 6, 18, 59. <sup>39</sup> Sister of Nos. 78, 81. <sup>40</sup> Sister of Nos. 43, 65, 67. <sup>41</sup> Sister of Nos. 75, 81. <sup>42</sup> Sister of No. 62. <sup>43</sup> Sister of Nos. 75, 78. <sup>44</sup> Sister of Nos. 52, 54. <sup>45</sup> Sister of No. 41. <sup>46</sup> Brother of Nos. 85, 88, 94. <sup>47</sup> Brother of Nos. 84, 88, 94. <sup>48</sup> Brother of Nos. 84, 85, 94.



## II. SERANO—Continued.

## III. AGUA CALIENTE.

## IV. SAN LUIS REY. (5)

Number . . . . .	I. MALES.				II. FEMALES.						I. MALES.						II. FEMALES.				I. MALES.			
	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	
Tribe . . . . .	Serano	"	"	"	"	"	"	"	"	"	Agua Caliente	"	"	"	"	"	"	"	"	San Luis Rey	"	"	"	
Name . . . . .	Christensen Garcia	Miguel Morongo	Manuelito Chino	Jim Morongo	Rosinda Juan	Jona Lass	Pearl Juan	Ella Morongo	Marinciana Sebachio	Annie Morongo	Mariana Blackfoot	Mauricio Laws	James Quate	Valentin Laws	Estaven Owlinguish	Pilar Lechuse	Esperancia Severcoat	Stephana Owlinguish	Juliana Chutnicat	Joseph Chapule	Jeronymo Flores	Cornelius Pinna	William Wasec	
Age . . . . .	12	14	17	17	8	8	12	12	13	16	12	13	14	16	16	10	14	15	17	6	7	8	10	
Height standing . . . . .	1,427	1,575 <sup>49</sup>	1,698	1,703	1,193 <sup>50</sup>	1,188	1,442 <sup>51</sup>	1,432 <sup>52</sup>	1,483	1,645 <sup>53</sup>	1,590	1,585	1,552	1,683	1,613 <sup>54</sup>	1,525	1,500	1,592 <sup>55</sup>	1,583	1,158	1,183	1,341	1,412 <sup>56</sup>	
Height of shoulder . . . . .	1,154	1,276	1,393	1,405	937	912	1,172	1,152	1,210	1,364	1,302	1,290	1,294	1,385	1,296	1,233	1,253	—	1,322	914	922	1,098	1,150	
Length of arm . . . . .	624	686	762	735	517	520	656	627	642	714	702	690	694	731	704	652	673	—	682	507	501	598	606	
Finger-reach . . . . .	1,460	1,621	1,790	1,774	1,264	1,207	1,545	1,470	1,508	1,690	1,639	1,630	1,620	1,732	1,668	1,540	1,590	1,644	1,655	1,203	1,212	1,374	1,427	
Height sitting . . . . .	729	805	893	873	656	622	753	730	797	880	833	825	792	867	861	785	823	838	823	614	645	678	728	
Width of shoulders . . . . .	321	346	373	395	273	258	325	318	315	378?	356	367	329	402	375	330	344	—	353	261	254	317	294	
Length of head . . . . .	171	177	195	189	180	174	178	174	183	184	185	191	184	180	178	179	173	177	183	174	170	181	182	
Breadth of head . . . . .	140	149	159	150	155	145	147	148	148	157	146	155	153	159	147	148	149	144	143	137	141	141	151	
Height of face . . . . .	101	119	130	127	101	100	114	106	118	121	112	121	120	117	115	104	109	117	120	95	98	108	106	
Breadth of face . . . . .	126	136	144	138	131	120	131	132	138	148	136	142	143	145	133	129	138	134	136	119	116	128	130	
Height of nose . . . . .	43	51	53	50	44	41	45	43	48	46	49	47	50	50	47	43	44	43	53	37	37	44	43	
Breadth of nose . . . . .	32	39	42	38	33	33	34	37	38	41	40	40	40	41	38	35	41	35	39	28	34	33	35	
Index of finger-reach . . . . .	102.8	102.6	105.3	104.4	106.2	101.4	107.3	102.8	101.9	103.0	103.1	103.2	104.5	103.1	103.6	101.3	106.0	103.4	104.7	103.7	102.7	102.5	101.2	
Index of arm . . . . .	43.9	43.4	44.8	43.2	43.4	43.7	45.6	43.8	43.4	43.5	44.2	43.7	44.8	43.5	43.7	42.9	44.9	—	43.2	43.7	42.5	44.6	43.0	
Index of height, sitting . . . . .	51.3	51.0	52.5	51.4	55.1	52.3	52.3	51.0	53.9	53.7	52.4	52.2	51.1	51.6	53.5	51.6	54.9	52.7	52.1	52.9	54.7	50.6	51.6	
Index of width of shoulders . . . . .	22.6	21.9	21.9	23.2	22.9	21.7	22.6	22.2	21.3	23.1?	22.4	23.2	21.2	23.9	23.3	21.7	22.9	—	22.3	22.5	21.5	23.7	20.9	
Length-breadth index . . . . .	81.9	84.2	81.5	79.4	86.1	83.3	82.6	85.1	80.9	85.3	78.9	81.1	83.2	88.3	82.6	82.7	86.1	81.4	78.1	78.7	82.9	77.9	83.0	
Facial index . . . . .	80.2	87.5	90.3	92.1	77.1	83.3	87.0	80.3	85.5	81.8	82.4	85.2	83.9	80.7	86.5	80.6	79.0	87.3	88.3	79.9	84.5	84.4	81.5	
Nasal index . . . . .	74.4	76.5	79.2	76.0	75.0	80.5	75.5	86.0	79.2	89.1	81.6	85.1	80.0	82.0	80.9	81.4	93.2	81.4	73.6	75.7	91.9	75.0	81.4	

<sup>49</sup> Brother of Nos. 84, 85, 88. <sup>50</sup> Sister of No. 99. <sup>51</sup> Sister of No. 97. <sup>52</sup> Sister of No. 102. <sup>53</sup> Sister of No. 100. <sup>54</sup> Brother of No. 110. <sup>55</sup> Sister of No. 107. <sup>56</sup> Brother of No. 124.



## IV. SAN LUIS REY.—Continued.

(6)

Number . . . . .	I. MALES.														II. FEMALES.								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138
Tribe . . . . .	San Luis Rey.	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Name . . . . .	Perfecto Placentio	Ben Lechuga	Christopher Carlos	Hieronimo Gonzales	John Majal	Cypriano Pachito	Louis Pasinado	Daniel Subish	Feliciano Wasec	Albert Ardilla	Felice Guavish	Antonio Toba	Bonicio Soto	José Rezvaloso	Bridgit Alvarez	Magdalena Osnn	Filista Leo	Maria Molido	Valeria Majal	Joaquina Segundo	Bernardina Subish	Nazaria Garcia	Rosalia Alvarez
Age . . . . .	10	10	11	12	12	13	14	14	15	15	16	17	18	18	7	7	7	8	8	8	8	9	9?
Height standing . . . . .	1,253	1,492	1,211	1,341 <sup>57</sup>	1,533	1,574	1,596	1,725	1,728 <sup>58</sup>	1,737	1,665 <sup>59</sup>	1,715	1,744	1,698	1,214 <sup>60</sup>	1,150	1,175 <sup>61</sup>	1,154 <sup>62</sup>	1,172	1,271	1,410	1,237 <sup>63</sup>	1,600 <sup>64</sup>
Height of shoulder . . . . .	995	1,214	926	1,064	1,252	1,279	1,300	1,411	1,430	1,431	1,353	1,434	1,455	1,373	959	907	923	912	930	1,019	1,157	982	1,312
Length of arm . . . . .	542	642	512	567	671	701	722	761	787	763	725	752	789	768	504	497	493	497	517	565	615	556	681
Finger-reach . . . . .	1,248	1,533	1,180	1,365	1,563	1,640	1,693	1,822	1,796	1,853	1,708	1,749	1,814	1,814	1,192	1,178	1,181	1,178	1,165	1,326	1,445	1,234	1,624
Height sitting . . . . .	634	749	657	693	798	826	825	860	906	878	897	880	903	938	625	575	624	635	625	638	702	657	843
Width of shoulders . . . . .	274	331	270	274	352	335	328	395	405	399	380	392	397	418	268	258	262	264	250	275	268	262	348
Length of head . . . . .	174	175	170	171	180	187	189	188	191	188	183	185	189	191	169	163	173	173	168	167	175	176	180
Breadth of head . . . . .	143	148	143	146	151	154	149	158	150	157	147	152	151	154	141	134	136	144	145	138	139	134	148
Length of face . . . . .	102	105	95	98	110	118	120	130	127	128	128	120	124	124	94	105	101	98	99	104	112	100	114
Breadth of face . . . . .	125	131	116	124	140	132	138	136	140	144	133	138	134	141	118	113	120	125	122	121	118	120	135
Height of nose . . . . .	45	42	40	41	45	48	49	54	52	55	56	45	55	53	43	43	37	38	39	42	42	41	46
Breadth of nose . . . . .	32	36	31	31	37	35	44	41	40	41	35	35	39	40	28	30	32	32	30	32	32	32	34
Index of finger-reach . . . . .	99.8	102.9	97.5	101.9	102.2	104.5	105.8	105.9	103.8	106.5	102.9	102.3	104.2	106.7	98.5	102.4	101.0	102.4	99.6	104.4	102.4	100.0	101.5
Index of arm . . . . .	43.4	43.1	42.3	42.3	43.9	44.6	45.1	44.2	45.5	43.9	43.7	44.0	45.4	45.2	41.7	43.2	42.1	43.2	44.2	44.5	43.6	44.8	42.6
Index of height, sitting . . . . .	50.7	50.3	54.3	51.7	52.1	52.6	51.6	50.0	52.4	50.5	54.0	51.5	51.9	52.2	51.7	50.0	53.3	55.2	53.4	50.2	49.8	53.0	52.7
Index of width of shoulders . . . . .	21.9	22.2	22.3	20.4	23.0	21.3	20.5	23.0	23.4	22.9	22.9	22.9	22.8	24.6	22.1	22.4	22.4	23.0	21.4	21.7	19.1	21.1	21.7
Length-breadth index . . . . .	82.2	84.6	84.1	85.4	83.9	82.4	78.8	84.0	78.5	83.5	80.3	82.2	79.9	80.6	83.4	82.2	78.6	83.2	86.3	82.6	79.4	76.1	82.2
Facial index . . . . .	81.6	80.1	81.9	79.1	78.6	89.4	87.0	95.6	90.7	88.9	96.3	87.0	92.5	87.9	79.7	92.9	84.2	78.4	81.2	85.9	95.0	83.3	84.5
Nasal index . . . . .	71.1	85.7	77.5	75.6	82.2	72.9	89.8	75.9	76.9	74.5	62.5	77.8	70.9	75.5	65.1	69.8	86.5	84.2	76.9	76.2	76.2	78.0	73.9

<sup>57</sup> Brother of No. 147. <sup>58</sup> Brother of No. 115. <sup>59</sup> Brother of No. 149. <sup>60</sup> Sister of No. 138. <sup>61</sup> Sister of No. 139. <sup>62</sup> Sister of No. 140. <sup>63</sup> Sister of No. 142. <sup>64</sup> Sister of No. 130.





IV. SAN LUIS REY.—Continued.

V. SAN DIEGO. (7)

Number . . . . .	II. FEMALES.																I. MALES.						
	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161
Tribe . . . . .	San Luis Rey.	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	San Diego	"	"	"	"	"	"
Name . . . . .	Magdalena Leo	Carolina Molido	Virginia Flores	Anita García	Margarita Pughla	Rosinda Verdugo	Virginia Avilla	Mary Majal	Gregoria Gonzales	Rosaria Segundo	Maria Guavish	Leonida Pauval	Adela Majado	Filomena Subish	Filomena Subiranas	Queteria Majado	Innocencio Lachopp	Arthur Charlie	Richard Nejo	Antonio Lechuza	Juan Quilp	Clement Estrado	John Domingo
Age . . . . .	9	10	10	11	13	13	14	14	14	14	14	15	15	15	15	20	6	7	8	8	9	9	9
Height standing . . . . .	1,303 <sup>65</sup>	1,324 <sup>66</sup>	1,400	1,392 <sup>67</sup>	1,613	1,537	1,680	1,574	1,506 <sup>68</sup>	1,565	1,597 <sup>69</sup>	1,572	1,569 <sup>70</sup>	1,545	1,565	1,536 <sup>71</sup>	1,135 <sup>72</sup>	1,200	1,364	1,272 <sup>73</sup>	1,378 <sup>74</sup>	1,320 <sup>75</sup>	1,264
Height of shoulder . . . . .	—	1,060	1,140	1,121	1,320	—	1,343	1,302	1,250	1,280	1,312	1,295	1,314	1,260	1,306	1,291	892	928	1,092	1,003	1,115	1,053	1,013
Length of arm . . . . .	—	570	620	621	686	—	754	702	669	700	695	710	683	698	704	683	497	526	594	565	617	593	563
Finger-reach . . . . .	1,343	—	1,478	1,427	1,643	1,630	1,754	1,626	1,573	1,600	1,655	1,636	1,623	1,626	1,642	1,602	1,150	1,227	1,392	1,330	1,445	1,372	1,273
Height sitting . . . . .	680	703	748	720	824	812	862	847	812	797	850	833	823	794	833	825	615	645	713	627	724	657	658
Width of shoulders . . . . .	293	291	318	300	385	—	358	358	335?	345	369	353	347	333	352	363	269	252	303	291	304	292	264
Length of head . . . . .	185	173	179	178	184	186	180.5	180	176	171	175	184	178	178	182	180	171	174	176	170	173	168	184
Breadth of head . . . . .	139	142	147	143	150	148	146	158	150	145	145	147	139	147	144	145	142	136	146	145	147	141	141
Height of face . . . . .	109	104	114	104	115	113	106	118	105	113	117	119	107	117	114	106	95	97	107	101	109	103	99
Breadth of face . . . . .	127	128	131	128	136	134	129	142	132	135	132	130	129	130	134	134	120	124	129	123	131	121	125
Height of nose . . . . .	39	43	42	46	50	48	45	47	42	40	53	51	42	49	49	42	39	41	40	40	42	40	39
Breadth of nose . . . . .	33	33	38	34	36	36	32	39	39	36	32	36	34	33	37	34	27	31	34	33	33	33	32
Index of finger-reach . . . . .	103.3	—	105.6	103.4	102.1	105.8	107.6	103.5	104.2	102.6	103.4	104.2	103.4	105.6	105.3	104.0	101.8	102.3	102.4	104.7	104.7	103.9	101.0
Index of arm . . . . .	—	43.2	44.3	45.0	42.6	—	46.3	44.7	44.3	44.9	43.4	45.2	43.5	45.3	45.1	44.4	44.0	43.8	43.7	44.5	44.7	44.9	44.7
Index of height, sitting . . . . .	52.3	53.3	53.4	52.2	51.2	52.7	52.9	54.0	53.8	51.1	53.1	53.1	52.4	51.6	53.4	53.6	54.4	53.7	52.4	49.4	52.5	49.8	52.2
Index of width of shoulders . . . . .	22.5	22.0	22.7	21.7	23.9	—	22.0	22.8	22.2?	22.1	23.1	22.5	22.1	21.6	22.6	23.6	23.8	21.0	22.3	22.9	22.0	22.1	21.0
Length-breadth index . . . . .	75.1	82.1	82.1	80.3	81.5	79.6	81.1	87.8	85.2	84.8	82.9	79.9	78.1	82.6	79.1	80.6	83.0	78.2	82.9	85.3	85.0	83.9	76.6
Facial index . . . . .	85.8	81.3	87.0	81.3	84.6	84.4	82.2	83.1	79.5	83.7	88.7	91.5	82.9	90.0	85.1	79.1	79.2	78.3	82.9	82.1	83.2	85.1	79.2
Nasal index . . . . .	84.6	76.7	90.5	73.9	72.0	75.0	71.1	83.0	92.9	90.0	60.4	70.6	81.0	67.3	75.5	81.0	69.2	75.6	85.0	82.5	78.6	82.5	68.0

<sup>65</sup> Sister of No. 132. <sup>66</sup> Sister of No. 133. <sup>67</sup> Sister of No. 137. <sup>68</sup> Sister of No. 119. <sup>69</sup> Sister of No. 126. <sup>70</sup> Sister of No. 154. <sup>71</sup> Sister of No. 151. <sup>72</sup> Brother of No. 163. <sup>73</sup> Brother of No. 187. <sup>74</sup> Brother of No. 164. <sup>75</sup> Brother of No. 166.



V. SAN DIEGO.—Continued.

(8)

Number . . . . .	I. MALES.										II. FEMALES.												
	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184
Tribe . . . . .	San Diego	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Name . . . . .	Vicento Lechusa	Alexandro Lachapp	Valentino Quilp	Frank Beltran	John Estrada	Francisco Altuck	Ramon Charlie	Juan Prieto	Cervante Chapula	Marcellina Rodriguez	Carida Guiljilipi	Rosalla Nej	Evelina Guachena	Mauricia Banegas	Magdalena Cucurro	Alice Guachena	Stephana Nej	Rosa Nej	Constancia Ybarra	Scholastica Quisquis	Luisa Ancj	Andrea Guachena	Victoria Rivera
Age . . . . .	10	10	11	11	11	12	13	13	18	9	9	10	11	11	11	11	12	12	12	12	13	13	13
Height standing . . . . .	1,257	1,234 <sup>76</sup>	1,463 <sup>77</sup>	1,337	1,148 <sup>78</sup>	1,485	1,550	1,662	1,748	1,116	1,055	1,478	1,442 <sup>79</sup>	1,353	1,583	1,448 <sup>80</sup>	1,238 <sup>81</sup>	1,493 <sup>82</sup>	1,542	1,480 <sup>83</sup>	1,546 <sup>84</sup>	1,580	1,567
Height of shoulder . . . . .	1,004	965	1,184	1,062	903	1,208	1,240	1,377	1,443	875	827	1,203	1,164	1,084	1,306	1,167	994	1,213	1,278	1,193	1,277	1,282	1,285
Length of arm . . . . .	567	533	651	590	501	658	685	764	798	489	452	663	651	586	689	622	544	621	691	656	690	707	698
Finger reach . . . . .	1,327	1,280	1,550	1,390	1,158	1,532	1,593	1,758	1,856	1,148	1,080	1,560	1,487	1,378	1,643	1,487	1,266	1,483	1,650	1,594	1,595	1,663	1,630
Height sitting . . . . .	649	658	748	680	573	752	770	860	904	567	578	774	737	712	817	771	640	794	806	783	850	852	847
Width of shoulders . . . . .	285	279	312	312	251	329	331	372	408	257	247	336	305	301	328	334	272	329	364	358	354	344	368
Length of head . . . . .	171	175	183	176	166.5	174	183	183	183	169	171	177	169	175	180.5	180	170	177	177	184	176	175	179
Breadth of head . . . . .	147	142	144	141	140	148	143	152	154	144	136	147	146	147	142	145	135	140	147	148	154	150	148
Height of face . . . . .	102	103	111	104	100	113	120	110	118	98	93	114	112	106	115	105	100	112	111	115	115	119	122
Breadth of face . . . . .	128	124	131	124	120	131	134	140	148	116	111	130	131.5	129	136	131	117	125	134	135	134	138	143
Height of nose . . . . .	40	43	42	46	40	50	51	45	47	40	34	47	45	43	46	41	41	45	49	48	50	47	48
Breadth of nose . . . . .	35	30	36	34	30	41	41	40	37	31	29	34	33	33	36	34	33	34	34	34	32	37	37
Index of finger-reach . . . . .	105.3	104.1	106.5	103.7	100.7	102.8	102.8	105.9	106.1	102.5	102.9	105.4	103.3	102.1	104.0	102.6	102.1	99.5	107.1	107.7	102.9	105.3	103.8
Index of arm . . . . .	45.0	43.3	44.6	44.0	43.6	44.2	44.2	46.0	45.6	43.7	43.1	44.8	45.2	43.4	43.6	42.9	43.9	41.7	44.9	44.3	44.5	44.7	44.5
Index of height, sitting . . . . .	51.5	53.5	51.2	50.7	49.8	50.5	49.7	51.8	51.7	50.6	55.0	52.3	51.2	52.7	51.7	53.2	51.6	53.3	52.3	52.9	54.8	53.9	53.9
Index of width of shoulders . . . . .	22.6	22.7	21.4	23.3	21.8	22.1	21.3	22.4	23.3	22.9	23.5	22.7	21.2	22.3	20.8	23.0	21.9	22.1	23.6	24.2	22.8	21.8	23.4
Length-breadth index . . . . .	86.0	81.1	78.7	80.1	84.3	85.1	78.1	83.1	84.2	85.2	79.5	83.0	86.4	84.0	78.9	80.6	79.4	79.1	83.0	80.4	87.5	85.7	82.7
Facial index . . . . .	79.7	83.1	84.8	83.9	83.3	86.3	89.6	78.6	79.7	84.5	83.8	87.7	85.5	82.2	84.6	80.1	85.5	89.6	82.9	85.2	85.8	86.3	85.3
Nasal index . . . . .	87.5	69.8	85.7	73.9	75.0	82.0	80.4	88.9	78.7	77.5	85.3	72.4	73.3	76.7	78.3	82.9	80.5	75.5	69.4	70.8	64.0	78.7	77.1

<sup>76</sup> Brother of No. 155. <sup>77</sup> Brother of No. 159. <sup>78</sup> Brother of No. 160. <sup>79</sup> Sister of No. 177. <sup>80</sup> Sister of No. 174. <sup>81</sup> Sister of No. 179. <sup>82</sup> Sister of No. 178. <sup>83</sup> Sister of No. 185. <sup>84</sup> Sister of No. 188.



## V. SAN DIEGO.—Concluded.

## VI. TULE RIVER. (9)

	II. FEMALES.					I. MALE.	II. FEMALES.				
	185	186	187	188	189	190	191	192	193	194	195
Number . . . . .	185	186	187	188	189	190	191	192	193	194	195
Tribe . . . . .	San Diego	"	"	"	"	Tule River (Mariposa)	"	"	"	"	"
Name . . . . .	Raimunda Quisquis	Tricolina Chapula	Rosalía Lechuza	Dolores Nejo	Frances Lachapa	Rosando Ellis	Nasaria Alfonso	Frances Lawrence	Evelina Manuel	Viviana Chololo	Delia Matthews
Age . . . . .	14	14	15	16	18	12	6	8	10	11	12
Height standing . . . . .	1,572 <sup>85</sup>	1,543	1,283 <sup>86</sup>	1,588 <sup>87</sup>	1,645	1,365	1,216	1,358	1,443	1,415	1,410
Height of shoulder . . . . .	1,275	1,263	1,034	1,313	1,370	1,085	922	1,118	1,190	1,125	1,128
Length of arm . . . . .	678	697	584	726	750	583	475	587	636	635	618
Finger-reach . . . . .	1,603	1,584	1,328	1,660	1,745	1,443	1,233	1,394	1,476	1,460	1,476
Height sitting . . . . .	818	775	637	843	897	697	638	694	734	722	727
Width of shoulders . . . . .	361	343	286	356	365	298	258	294	302	315	312
Length of head . . . . .	177	177	172	190	183	176	177	175	181	187	173
Breadth of head . . . . .	149	147	145	158	154	148	146	147	151	145	142
Height of face . . . . .	117	113	100	121	120	105	95	104	105	103	110
Breadth of face . . . . .	140	140	126	141	139	133	120	122	133	129	131
Height of nose . . . . .	52	47	41	50	47	40	40	41	40	40	42
Breadth of nose . . . . .	36	33	32	37	37	33	33	33	34	36	33
Index of finger-reach . . . . .	102.1	102.9	103.7	104.4	106.4	106.1	101.1	102.5	102.5	103.5	104.7
Index of arm . . . . .	43.2	45.3	45.6	45.7	45.7	42.9	38.9	43.2	44.2	45.0	43.8
Index of height, sitting . . . . .	52.1	50.2	49.8	53.0	54.7	51.3	52.3	51.0	51.0	51.2	51.6
Index of width of shoulders . . . . .	23.0	22.3	22.3	22.4	22.3	21.9	21.1	21.6	21.0	22.3	22.1
Length-breadth index . . . . .	84.2	83.0	84.3	83.2	84.2	84.1	82.5	84.0	83.4	77.5	82.1
Facial index . . . . .	83.6	80.7	79.4	85.8	86.4	78.9	79.2	85.3	78.9	79.8	84.0
Nasal index . . . . .	69.2	70.2	78.0	74.0	78.7	82.5	82.5	80.5	85.0	90.0	78.6

<sup>85</sup> Sister of No. 181. <sup>86</sup> Sister of No. 158. <sup>87</sup> Sister of 182.





