

Cherokee DNA
by Donald Yates

Epilogue

Anyone undertaking to set himself up as judge in the field of truth and knowledge is sure to be shipwrecked by the laughter of the gods.

—Albert Einstein

So, what is the big picture? A modal profile was constructed from 33 Enrolled Cherokee samples from North Carolina included in the classic 2016 Globalfiler study by J. Ng et al.¹ Below are the most commonly reported STR alleles on 15 loci, hence the modal DNA fingerprint of a North Carolina Cherokee. Because of their autosomal nature, the scores reflect equally the maternal and paternal contributions to ancestry.

Reassuringly, both authors of this study (Donald and Teresa Yates) independently match Enrolled Cherokees in their top world results, as do many other participants in the three phases of Cherokee DNA Studies conducted since 2006.

Loci	Alleles		Range
D8S1179	13	14	7 - 24
D21S11	29	30	12 - 41.2
D7S820	10	11	5 - 17
CSFIPO	10	12	6 - 18
D3S1358	15	16	9 - 21.1
TH01	7	9.3	4 - 13.3
D13S317	9	12	5 - 17
D16S539	11	12	4 - 20
D2S1338	23	23	10 - 28
DI9S433	14	15	7 - 19.2
VWA	17	18	8 - 24
TPOX	8	8	5 - 16
D18S51	14	14	7 - 31
D5S818	11	11	6 - 17
FGA	24	25	6 - 48.2

Modal Profile for Reference Population U.S. Cherokee Enrolled (n=33).

This genetic profile of an average Cherokee in the Eastern Band of Cherokee Indians was input into DNA Consultants' database, the STR frequency program behind its Cherokee DNA Test and Basic American Indian DNA Test, as well as the company's standard autosomal offering, the DNA Fingerprint Plus. First of all, it was apparent that the Cherokee, despite all the disbelief and suspicion aimed at them, are very Native American. They have only small indications of non-Indian DNA. The reference population in the study (N=533) comes in at position no.16. In terms of megapopulations (aggregate ethnicities) Cherokees' strongest admixture is American Indian. This is three times stronger than the next contenders, Central Asian, Iberian American and North Asian. Jewish hardly appears in any of the results, seemingly suggesting that it is of minor importance—a sufficient, but not necessary condition.

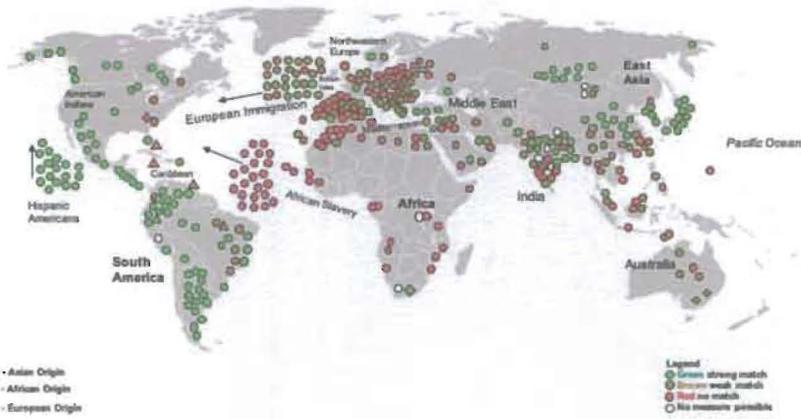
TOP FIFTY POPULATIONS MATCHING CHEROKEE		
(14 loci basis)		

1 J. Ng et al, "Native American Population Data Based on the Globalfiler® Autosomal STR loci," *Forensic Science International: Genetics* 24:e12-e13. Online, see abstract and references: [https://www.fsigenetics.com/article/S1872-4973\(16\)30115-6/fulltext](https://www.fsigenetics.com/article/S1872-4973(16)30115-6/fulltext).

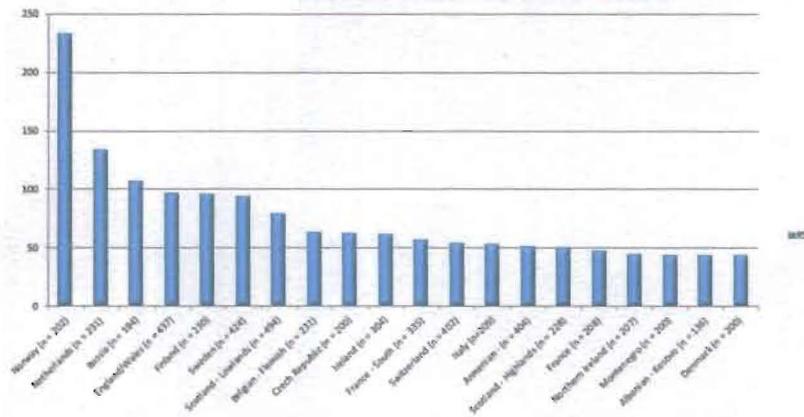
Rank	World Population Matches	Random Match Probability
1	U.S. Cherokee Enrolled (n = 33)	4.456E+09
2	Mexico (Central) - Nahau, Atocpan, Otomi, Cuetzalan Indians (n = 11)	8.928E+09
3	Mexico & U.S. - Kumeyaay/Diegueno and PaiPai Indians (n = 27)	8.977E+09
4	Ecuadorian - Kichwas (n = 115)	1.365E+10
5	Native American - Northern Ontario (n = 129)	1.641E+10
6	California - Miwok Indians (n = 33)	1.818E+10
7	Mexico & U.S. - Kumeyaay/Diegueno Indians (n = 15)	2.546E+10
8	Native American - Saskatchewan (n = 105)	3.285E+10
9	Mexican - Hidalgo - Metztitlan (n = 180)	4.731E+10
10	Native American - Choles - Chiapas, Mexico (n = 109)	4.822E+10
11	North American Native Americans (n = 533)	4.865E+10
12	Mexico - Nayarit and Jalisco - Huichol (n = 30)	6.217E+10
13	Russia - Tofa Turkic (n = 35)	6.318E+10
14	U.S. Apache and Mojave Indians (n = 88)	6.934E+10
15	Argentinian - Salta (n = 83)	8.790E+10
16	Peruvian - Mesa Redonda Lima (n = 151)	1.033E+11
17	U.S. Creek/Muskogean Indians (n = 6)	1.087E+11
18	Native American - Minnesota (n = 203)	1.101E+11
19	Ecuadorian (n = 150)	1.325E+11
20	Mexican-Southern Mexico (Guerrero) Mestizo (n = 251)	1.383E+11
21	Bolivian	1.411E+11
22	Mexico- Tarahumaras, Chihuahua (n=204)	1.556E+11
23	Guatemalan - Mestizo (n = 200)	2.356E+11
24	U.S. Chippewa Indians (n = 22)	2.953E+11
25	Argentinian - Patagonian - Rio Negro (n = 593)	3.039E+11
26	Mexico- Huichols- Jalisco (n=117)	3.293E+11
27	Colombian - South Andean Occidental (n = 125)	3.469E+11
28	Mexico - Baja California - Cochimi Indians (n = 25)	3.709E+11
29	Argentinian - Neuquen province (n = 111)	3.845E+11
30	Mexico- Mayo- Sonora (n=45)	3.963E+11
31	Argentinian - Patagonian - Chubut (n = 320)	4.065E+11
32	Mexican - Northeastern - Mestizo (n = 143)	4.373E+11
33	El Salvadoran (n = 228)	4.479E+11
34	Paraguayan (n = 168)	4.481E+11
35	Chilean (n = 732)	4.648E+11
36	Argentinian - Corrientes (n = 43)	5.040E+11
37	El Salvadoran (n = 296)	5.101E+11
38	Arizona - Hualapai and Yavapai Indians (n = 52)	5.115E+11

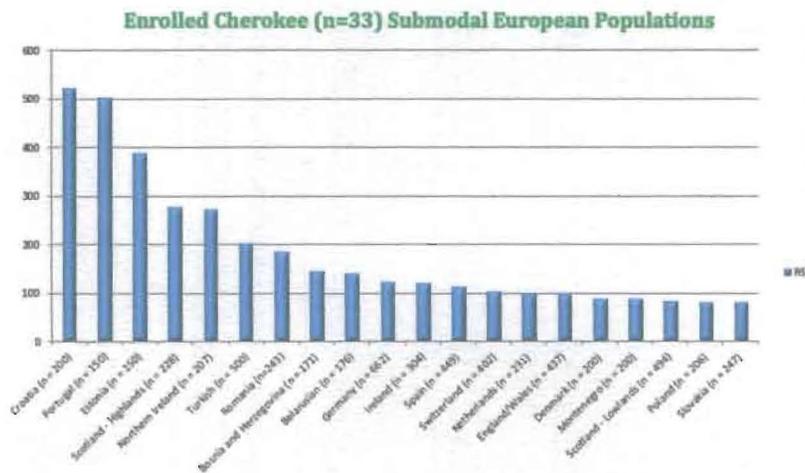
39	Russia - Altai Turkic (n = 68)	5.629E+11
40	Colombian - Bogata (n = 150)	6.234E+11
41	Russia - Tuva (n = 80)	6.445E+11
42	Native America- Salishan - British Columbia (n = 104)	6.580E+11
43	Colombian - Andean, Amazonian, & Orinoquian (n = 846)	6.584E+11
44	Mexican - Chihuahua (North Central) (n = 161)	6.727E+11
45	Costa Rican (n = 260)	7.043E+11
46	Colombian - Boyaca (n = 120)	7.265E+11
47	Mexico- Coras- Nayarit (n=85)	7.613E+11
48	Mexico- Huichols- Durango (n=57)	8.116E+11
49	Argentinian - Chaco (n = 56)	8.261E+11
50	Russia - Khaka (n = 51)	8.511E+11
TOP FIFTY POPULATIONS MATCHING CHEROKEE (9 loci basis)		
Rank	World Population Matches	Random Match Probability
1	Mexico & U.S. - Kumeyaay/Diegueno and PaiPai Indians (n = 27)	2.784E+06
2	Mexico & U.S. - Kumeyaay/Diegueno Indians (n = 15)	8.463E+06
3	Ecuadorian - Kichwas (n = 115)	1.476E+07
4	California - Miwok Indians (n = 33)	2.515E+07
5	U.S. Creek/Muskogean indians (n = 6)	2.610E+07
6	U.S. Cherokee Enrolled (n = 33)	3.019E+07
7	Native American - Choles - Chiapas, Mexico (n = 109)	3.199E+07
8	Native American - Saskatchewan (n=105)	3.354E+07
9	U.S. Apache and Mojave Indians (n = 88)	3.411E+07
10	Mexico (Central) – Nahau, Atocpan, Otomi, Cuetzalan Indians (n = 11)	3.576E+07
11	Native American - Northern Ontario (n = 63)	3.588E+07
12	Native American - Northern Ontario (n=129)	3.767E+07
13	Native American - Saskatchewan (n = 40)	3.788E+07
14	Native American - Arizona - Apache (n = 99)	4.555E+07
15	Mexican - Hidalgo - Metztitlan (n = 180)	6.043E+07
16	North American Native Americans (n = 533)	6.099E+07
17	Bolivian	6.743E+07
18	Mexico - Nayarit and Jalisco - Huichol (n = 30)	7.965E+07
19	Peruvian - Mesa Redonda Lima (n = 151)	8.411E+07
20	Ecuadorian (n = 150)	9.903E+07
21	Argentinian - Salta (n = 83)	1.006E+08
22	Native American - Minnesota (n = 191)	1.080E+08
23	Native American - Minnesota (n = 100)	1.084E+08
24	Russia - Tofa Turkic (n = 35)	1.119E+08
25	Native American - Minnesota (n = 203)	1.200E+08

World Ancestry of Enrolled Cherokee



Enrolled Cherokee European Populations





Here are some other findings:

- Thirty-eight of the top 50 autosomal matches are to other Indian tribes.
- Cherokee are most like Mexican Indians, for instance the Diegueño of California and Baja California and various Huichol groups in West Mexico.
- They are little separated in genetic distance from the Creek Indians (nos. 5 and 6).
- Cherokees have high matches to Guatemalan Mestizos and other Central American populations with high quotients of Maya in them.
- In addition to Mexican Indians and Mayas, Cherokees also have strong matches to Ecuadorian Kichwas (no. 3) and other South American Indians (Bolivian, Peruvian, Argentinian Colombian).
- In terms of European matches, Norway is far and away the strongest, followed at a distance by Netherlands, Russia, England/Wales, Finland, Sweden and Scotland
- Notice that in terms of megapopulations, Iberian American (Hispanic) and Iberian (Spanish-Portuguese) occupy the third and fifth highest positions—an admixture that makes sense in that the Cherokee are from a region of the country, the Southeast, that was colonized and first populated by Spaniards and Portuguese people (16th-17th century). Jewish registers as 9th in the top 10. African American is near the bottom (no. 20), suggesting Cherokees do not have much black admixture.

The European results seemingly bear out the prominent influence of the “pre-Viking Vikings,” Iberian, Atlantic Islanders and “pre-Celtic Celts” in early Native America. They also appear to show more recent admixture from Croatians (No. 1 on sub-modal basis), Scots-Irish, Portuguese and Turkish, as we have seen in historical records. Richard Thornton’s theories about the importance of Maya and other Mexican, Central American and South American Indians in North Georgia are amply supported by this analysis. On the other hand, the Cherokee have no high matches to Asiatic peoples like the Chinese or Japanese. Neither do they seem to be related to Mediterranean or North African peoples, at least from a modal perspective, and they exhibit no Sub-Saharan African ties.

If we can say nothing else we can say that the Cherokees possess an ethnic identity that appears to be quite ancient and fairly stable. Their most pronounced Asiatic matches are with the Turkic tribes of Central Asia. This same region is believed to be the source of the Lenape migrations of the Walam Olum. We have seen how the Cherokee began to be associated with Algonquian Indians on the Great Plains and in the midlands of America. Eventually the two groups went separate ways. Matches 11-13 link Cherokees with the Algonquians of Canada. Finally, it is evident that the Cherokees have a rather high, though not the highest, affinity with the Chippewa, or Anishnabe, the oldest Indians in Eastern North America (nos. 22, 23, 31).

In sum, the Cherokee have been, and still are, a complex confederation of cultures, clans and lineages, like the Creeks, only very different. “British diplomats, dealing with the Cherokees, had to bring with them at least four translators, so the various bands of the Cherokee could communicate with each other.”² In chasing down our participants’ stories from Phase III and evaluating scattered pieces of historical and scientific evidence we have just scratched the surface. It has been far from our intention to write a new history of the Cherokee Indians. We have exposed the most obvious myths and considered the most glaring contradictions in the genetic, linguistic and archeological records. It is hoped others will be encouraged to follow up critically and positively with a host of exciting new studies that do the amazing Cherokee people and their descendants justice.

Much of what we have been looking at is not only tentative but tenuous. In genetics, particularly since the advent of ancient DNA, the ground constantly shifts beneath us.

No one had Armenians even on their radar before DNA Consultants added four populations to their database. Overnight, Armenian matches were coming out of the woodwork. Their unmistakable genetic signature was traced to Ottoman, Safavid, Croatian and Hapsburg policies in the Old Southeast. Several other mysteries have also been laid to rest—or at least placed on the table. In addition to Jews and crypto-Jews, our follow-up research brought into focus many different Christian and Muslim groups. Who would have expected such a large Scandinavian background? Or Greek, Iberian and Libyan influences? Or so many ties to the Apalache, Caribbean Indians, Huichol, Maya and other Central and South American tribes?

Who would have guessed that Sequoyah, Nancy Ward, Moytoy, Attakullakulla, Black Fox and most of the earliest figures we read about in books were probably not even Cherokee in a strict sense, and that standard Cherokee genealogies based on war department rolls and Emmet Starr are almost all corrupted and mendacious?

We did not set out to ambush the most revered icons in Cherokee history and kill them off in cold blood. As in previous phases of the project, we intended simply to analyze mitochondrial DNA haplotypes and see how the mother-to-daughter lines compare with genealogies which participants reported as Cherokee. We felt we owed it to the project members and public to pursue the truth, wherever that might lead us.

This search led us through some of the uninhabited wilds and eerie battlegrounds of American Indian history. The field was more a minefield than anything else. Who were the Moundbuilders? What was an Iberian sun-temple doing underneath three Creek mounds in Georgia? Or a Viking iron furnace under an Adena mound in Ohio? Did Virginia Dare’s mother really travel around the Southeast leaving messages for her father and marry an Apalache Indian chief and was she ultimately buried in Georgia? What was the “old language” Cherokees spoke before their present one?

Often our only proof of discovery was a single ancient inscription, a single antiquated work, a single foreign-accented voice, a single obscure customer case. We wish we could have written more on each argument, but we had to be necessarily brief and to the point. Despite the scorn heaped upon such arguments by geneticists, anthropologists and others—or perhaps because of that scorn—we persisted. It was *our* story, *our* ancestry, *our* DNA test, not theirs, and by “our” we mean all the volunteers and participants in a bold project.

People want to know their real ancestors. They do not want a quasi-scientific connection to an estimated, probable or theoretical ancestry. Think of paternity tests. When a person takes one, they do not want to get results in the form of a lineup of possible dads. Their search, in the case of ancestry as well as parents, is more of a spiritual quest for an identity, a family, a sense of belonging. As so many of the testimonials in this book adduce, a DNA test is for scientific validation of something one seems to know in their heart, to feel in their marrowbone. In furtherance of that goal we have attempted to provide hard evidence for everything we arrived at. Everything in this study is documented. Identity is a serious matter.

² Richard Thornton, personal communication, 19 April 2020.

Not many people know it but two words in everyday use today among Americans are Cherokee. We refer to *uhn-uhn* (also written *uh-huh*), meaning yes, and wow, the interjection.³ Go ahead, Google it. The origin of neither is clear. The underlying languages are older than Greek or English. It doesn't mean you are Cherokee if you say the words, but they do testify to an ancient, deep-seated American Indian habit in most of us, particularly Southerners. It comes out in moments of affirmation and community. And it's coming back.

As Cyclone Covey remarked in the early 1990s, when evidence for the multicultural origins of American Indians first began to accumulate:

Recognizing what is unknown and how supercilious old theories fail to interpret the known may be the most salutary development of the last two decades. We had to discard an arrogant conviction of innate inferiority of Indians as well as of their unrelatedness to the same Old World ethnic groups we encounter in Eurasian and African history. We grossly underestimated both earliness and lateness of overseas migrations, their scale and impact. We did not appreciate how deeply traditions carried across both Atlantic and Pacific hybridized in the duress of regressive adaptation. Realization of false assumptions generated new discovery as discovery outmoded false assumptions. When baffled to despondency, we can contrast present grasp with that of the obsolete 70s and anticipate staggering evidence about to emerge.⁴

Has anything changed since then? Maybe.

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³ "Ung-Ungh – Yes" and "Wāwh." *Payne-Butrick Papers 1, 2, 3*, pp. 96, 219.

⁴ "The Implausible Union of Ankh and Thunderbird," in: Joseph B. Mahan, *North American Sun Kings: Keepers of the Flame* (Columbus: ISAC, 1992), 19.