<u>Introducing GEDmatch</u>
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<u>Introduction</u>

GEDmatch is a third-party DNA site designed to compare autosomal DNA data submitted by its users. What do we mean by "third-party?" GEDmatch does not sell DNA kits or provide tree-building or document research services. GEDmatch was established as a site to which DNA testers could upload their raw DNA data and find new DNA matches. Because GEDmatch accepts transfer of DNA data from all the testing companies, it serves as a sort of clearing house where genetic genealogists can find matches who have tested at companies other than the one(s) where the researcher has tested. Uploaded data is assigned a letter code to indicate the DNA testing company of origin. In addition, users can compare the results of their own DNA tests from different companies. The site is also helpful for adoptees searching for birth families. The site has more than 1.4 million users as of July, 2021.

GEDmatch offers an array of analytical tools that can help genetic genealogists determine how they connect with their DNA matches. GEDmatch offers both a free version and a subscription version. The free version permits the upload of DNA and some basic analytical tools. Users can upload their raw DNA data from every company where they have tested; and users may see different names on the DNA match list at GEDmatch, depending on which testing company's data at GEDmatch was used. The subscription version offers additional and more robust analytical tools. GEDmatch users can GEDcom their tree to their DNA profile at GEDmatch or link to their profile at WikiTree.

Users may opt in to allow law enforcement agencies to compare their DNA to DNA samples related to police investigations; the default is for the user's DNA data not to be available for law enforcement use. In December of 2019, GEDmatch was acquired by Verogen, Inc., a sequencing company dedicated to forensic science. A new version of the existing site currently in development will focus on solving crimes using the more than 1.2 million DNA profiles hosted on GEDMatch's platform.

GEDmatch tools

One-to-Many DNA Comparison - - The One-to-Many comparison is a good place
to begin. This tool compares the user's DNA profile to all the other profiles at
GEDmatch, and provides a list of the matches. The list provides e-mail addresses
by which GEDmatch users contact each other. This tool allows users to easily sort
and filter their matches, and to see which DNA matches might be of greatest
interest to explore further. There are two versions of the One-to-Many tool; use
the "Beta" version. This is a free tool.

One-to-One Autosomal DNA Comparison - - The One-to-One autosomal DNA
comparison tool enables users to compare two DNA profiles using specific
centimorgan ranges. Users can employ GEDmatch's default centimorgan ranges,
or can manually choose a specific threshold. It is useful to manually choose a
higher minimum cM threshold if dealing with endogamy. The threshold used can
suggest how far back in time the user will find the most recent common ancestor.
Results include a list of shared segments and their location on the chromosome,
and shows results on a chromosome browser. This tool is easy to use; just enter
two GEDmatch kit numbers to see the comparison. This is a free tool.

Admixture - - The admixture tool provides an ethnicity estimate, displayed in
percentages on a pie chart. There are several calculators users can employ to see
more specialized results for specific ethnicities. Users who have tested at several
DNA companies can upload their DNA data from each company to GEDmatch.
Since a person's ethnicity estimate at one company may vary dramatically to that
same person's ethnicity estimate at a different company, the admixture tool might
show interesting results. A user's admixture breakdown can be downloaded as a
spreadsheet. This is a free tool.

Are Your Parents Related - - The Are Your Parents Related tool examines whether
or not a user's DNA shows evidence that his parents may have shared a common
ancestor. Using this tool helps genealogists to determine if they may have
problems sorting their paternal DNA matches from their maternal DNA matches.
Most people do not face this issue. This is a free tool.

People Who Match Both, or 1 of 2 Kits - - This tool provides a method for sorting
DNA matches into groups. Users can use this tool with 2nd, 3rd and 4th cousin
matches by identifying one shared match in the group in order to identify other
matches who are related to the same line of the user's tree. This is a free tool.

Recommended chronology for using GEDmatch tools - - Andrew Lee of Family
History Fanatics recommends that beginners at GEDmatch use four tools. Andrew
advises users to begin with the Are Your Parents Related tool and get that question
out of the way. Then employ the One-to-Many tool to identify your closest
matches and choose the ones you want to investigate further. Next, use the People
Who Match Both, or 1 of 2 Kits tool as a way of sorting your matches into groups.
Then use the One-to-One Autosomal Comparison tool to discover specific details
that will help confirm the DNA match's relationship to a specific ancestor.

advantages of a Tier 1 subscription

Tier 1 GEDmatch subscription - - The Tier 1 subscription membership costs $10
per month and includes the tools listed above. In addition, Tier 1 subscribers can
unlock advanced applications and have access to enhancements of the free tools.

Enhanced versions of the free tools - - the One-to-Many Comparison tool can be
used for free to view the first 3,000 DNA matches. With Tier 1, you can view up
to 100,000 DNA matches, or as many are available at the threshold you set.

Segment Search - - the Segment Search tool allows users to search their top
matches for segments that overlap with each other, allowing users to research
groups of matches that theoretically share a common ancestor. This tool can be
used to search a thousand or more matches for overlapping segments.

Phasing - - With the GEDmatch Phasing tool, a user can compare her kit with one
or both of her parents in order to create new, phased kits. Phased DNA kits are
"new" kits that include only DNA segments that were inherited from one or the
other parent and should not contain DNA segments that might be found to be
"identical by state" to your DNA matches. This tool helps to find "identical by
descent" matches, that is, they are true matches.

Triangulation - - The GEDmatch Triangulation tool helps users create
triangulation groups by comparing their DNA to other GEDmatch members, and
then comparing those DNA matches with each other. Sorting by segment position
can help identify common ancestors among groups, and perhaps help solve family
mysteries.

My Evil Twin - - This tool creates a "dummy" kit that contains all of the DNA
information that the user did not inherit from either of her parents. This tool

requires that at least one parent has done a DNA test, and that the parent's DNA information is on GEDmatch. It is most effective when both parents have tested because the Evil Twin kit will contain all of the DNA information that a user did not inherit from either of her parents.

Combine Multiple Kits into One Superkit - - If a user has done multiple DNA tests and has all of his kits on GEDmatch, all of those kits can be combined into one "superkit." This might be of interest to users who are mystified at great variations in ethnicity estimates from one company to another.

How to access to Tier 1 tools on GEDmatch - - It is easy to sign up for the Tier 1 tools. At the bottom of the main GEDmatch dashboard, there is an option to join Tier 1 either for a set time period or on a monthly auto-renewal basis. Payment is made via PayPal. One approach is to sign up for Tier 1 access one month at a time. That way, users can use the site heavily during one month, and not have to pay for months when they are busy with other things. Users can skip several months, then resubscribe for another month later.

Learn more about GEDmatch - - On the GEDmatch home page, click on the "Education" tab in the top toolbar. That brings up a page of short YouTube videos and blog posts about the various GEDmatch tools and how to use them effectively.

<div align="center">Sources</div>

1. GEDmatch - - https://www.gedmatch.com/

2. Wikipedia - - https://en.wikipedia.org/wiki/GEDmatch

3. Who Are You Made Of blog - - https://whoareyoumadeof.com/blog/what-is-tier-1-on-gedmatch/

4. ISOGG - - for additional information - - https://isogg.org/wiki/GEDmatch

5. Kitty Cooper's blog - - for additional information and resources - - https://blog.kittycooper.com/other-blogs-and-resources/downloads/