

The Genomes of 2000 year old Ancient Judean Date Palms Sequenced and Germinated – A Spiritual Insight

By MATSATI - May 29, 2021



In the Proceedings of the National Academy of Science of the United States of America researchers have recently published a paper on the gene sequencing of ancient Judean date palms dating from 2000 years ago. [1] These researchers did not just sequence the genome of these date palms, they also revived the biological material through the process of germination from archaeological and paleontological sites. These seeds were received from the Southern Levant. The purpose of the research was to demonstrate how hybridization was occurring by human intervention as far back as ~2200 years ago.

References

1. *Muriel Gros-Balthazard et al., "The genomes of ancient date palms germinated from 2,000 y old seeds," PNAS (2021).*
<https://www.pnas.org/cgi/doi/10.1073/pnas.2025337118>

The NYU Abu Dhabi's Center for Genomics and Systems Biology performed the work of sequencing the genome of extinct date palm varieties that lived some 2000 years ago. The scientists germinated these seeds, and from the germinated plants they sequenced the DNA. This is the first kind of this type of research which has sequenced the genomes of plants from ancient germinated seeds. The gene sequencing enables the researchers to study the hybridization that has occurred over the centuries. The way they did this was by comparing / studying the increasing level of genes from other species that exist today. The other species (*Phoenix theophrasti*) grows also in Crete and some of the Greek islands and southwestern Turkey. These results show the increasing influence of the Roman Empire in the Middle East region. The tools that are available in modern day genetics enables us to study the genetics of past species, and it is remarkable the date palm seeds are capable of

growing when approximately 2000 years old. The researchers used single-nucleotide polymorphism data to examine the genetics of these previously extinct Judean date palms. The findings suggest that the Judean seeds are most related to the modern West Asian date varieties. Those seeds from the 2nd to the 4th century CE showed increasing genetic affinities as compared to the present day North African date palms. Genome sequencing has been accomplished using other extinct species, such as Neanderthals (*Nature* 507, 354–357 (2014)), mammoths (*Nature* 456, 387–390 (2008)), horses (*Science* 360, 111–114 (2018)), grapes (*Nat. Plants* 5, 595–603 (2019)), and maize / corn (*Science* 362, 1309–1313 (2018)). Some of the shortcomings of gene sequencing ancient DNA is related to the degradation of the molecules due to chemical modification by the environment. Plants do not have the protective bone tissue found in vertebrates that help in preserving ancient DNA. This was why the date palm seeds need germination first prior to their sequencing. Note that of the 35 well-preserved date palm seeds received from archeological sites, all 35 seeds were initially planted, and only seven were successfully germinated. The research paper provides key insights into the evolution of domesticated date palms and illustrates the impact that specific hybridization plays in the domesticated crop species. (*Proc. Natl. Acad. Sci. U.S.A.* 116, 1651–1658 (2019))

It is interesting this publication uses the term Resurrection. In the scientific community, Resurrection carries two meanings, (i) to bring back from the dead and (ii) to bring back something into existence something that had disappeared or ended. The use of the term "resurrection" in this study as referring to revived biological material derived from ancient sources is nothing new and has been discussed by others over the last few years in both of these contexts. Having the ability to revive extinct species using genetic material from long-dead individuals has generated much interest as a way to bring back lost taxa (*Conserv. Biol.* 34, 303–313 (2020)). This resurrection approach has been described as a method to understand biological questions in the context of contemporary and/or experimental evolution and ecology (*Evol. Appl.* 11, 17–28 (2017)). In this paper, the term resurrection denotes reviving dormant biological material (seeds, microbes, etc.), and it is in this context that the term resurrection genomics was implemented as an approach to studying the genomes of organisms that have lived hundreds to thousands of years in the past, and specifically, the date palm.

The Spiritual Insights that we receive from this type of research is related to resurrection. Both the Bible and the Rabbinic literature contain a lot of information on resurrection. The concept of the resurrection of the dead is ancient concept going as far back as the beginning of the Torah and the faith of Abraham. (see [Bereshit / Genesis 22:1-14](#), [Hebrews 11:17-19](#)) In [Bereshit / Genesis 22](#), we read of Abraham offering his son, and the author of Hebrews wrote that Abraham believed God was able to raise his son back to life. From these things the rabbis have a fully developed belief in the power of God to raise one from the dead, as we read according to the [Mishnah Pirkei Avot 4.22](#).

MISHNAH PIRKEI AVOT 4.22

הוא הֵיָה אֹמֵר, הַיְלֻדִּים לָמוּת, וְהַמֵּתִים לְחַיִּוֹת, וְהַחַיִּים לְדָוָן. לֵידַע לְהוֹדִיעַ
וּלְהוֹדִיעַ שֶׁהוּא אֵל, הוּא הַיּוֹצֵר, הוּא הַבּוֹרֵא, הוּא הַמְבִּיֵן, הוּא הַדִּין, הוּא עֵד, הוּא
בַּעַל דִּין, וְהוּא עֹתִיד לְדוֹן. בְּרוּךְ הוּא, שֶׁאֵין לָפְנוֹי לֹא עוֹלָה, וְלֹא שִׁכְחָה, וְלֹא מִשְׁאֵ
פָּנִים, וְלֹא מִקֶּחַ שִׁחַד, שֶׁהִכֵּל שְׁלוֹ. וְדַע שֶׁהִכֵּל לְפִי הַחֲשׁוֹבֹן. וְאֵל יִבְטִיחֶךָ יִצְרָךְ

שֶׁהָשָׂאֹל בֵּית מְנוּס לָךְ, שְׁעַל כָּרְחֶךְ אֶתָּה נּוֹצֵר, וְעַל כָּרְחֶךְ אֶתָּה נּוֹלֵד, וְעַל כָּרְחֶךְ
 אֶתָּה חַי, וְעַל כָּרְחֶךְ אֶתָּה מֵת, וְעַל כָּרְחֶךְ אֶתָּה עֹתִיד לָתֵן דִּין וְחֶשְׁבּוֹן לִפְנֵי מֶלֶךְ
 מַלְכֵי הַמַּלְכִּים הַקְדוּשׁ בְּרוּךְ הוּא:

HE USED TO SAY: THE ONES WHO WERE BORN ARE TO DIE, AND
 THE ONES WHO HAVE DIED ARE TO BE BROUGHT TO LIFE, AND
 THE ONES BROUGHT TO LIFE ARE TO BE JUDGED; SO THAT ONE
 MAY KNOW, MAKE KNOWN AND HAVE THE KNOWLEDGE THAT HE
 IS GOD, HE IS THE DESIGNER, HE IS THE CREATOR, HE IS THE
 DISCERNER, HE IS THE JUDGE, HE THE WITNESS, HE THE
 COMPLAINANT, AND THAT HE WILL SUMMON TO JUDGMENT.
 BLESSED BE HE, BEFORE WHOM THERE IS NO INIQUITY, NOR
 FORGETTING, NOR RESPECT OF PERSONS, NOR TAKING OF
 BRIBES, FOR ALL IS HIS. AND KNOW THAT ALL IS ACCORDING TO
 THE RECKONING. AND LET NOT YOUR IMPULSE ASSURE THEE
 THAT THE GRAVE IS A PLACE OF REFUGE FOR YOU; FOR AGAINST
 YOUR WILL WERE YOU FORMED, AGAINST YOUR WILL WERE YOU
 BORN, AGAINST YOUR WILL YOU LIVE, AGAINST YOUR WILL YOU
 WILL DIE, AND AGAINST YOUR WILL YOU WILL GIVE AN ACCOUNT
 AND RECKONING BEFORE THE KING OF THE KINGS OF KINGS.
 THE HOLY ONE, BLESSED BE HE.

We note how [Pirkei Avot 4.22](#) describes the reason there is a resurrection, so that we may know, make known, and have the knowledge that He is God, creator, and Lord over all. The rabbis maintain that the resurrection of the dead will occur in the messianic Era and be resurrected in Israel. Those buried outside Israel would be resurrected and brought to Israel. It was preferred to be buried in Israel, this is one of the reasons there is a graveyard at the eastern gate in Jerusalem, where a burial plot costs 1 million dollars starting price. These things also explain why Joseph wanted his bones to be taken from Egypt to Israel (see [Bereshit / Genesis 49:29-33](#), [Shemot / Exodus 13:19](#), [Hebrews 11:22](#)). The bodily resurrection of the dead is a major doctrine of both Christianity and Judaism. In fact, the second blessing of the Amidah (Gevurot), recited no less than three times a day by observant Jews, clearly references the resurrection of the dead.

The belief in the resurrection of the dead is evidence of eternal life. [Romans 6:9-10](#) states, ט אֲנַחְנוּ יוֹדְעִים כִּי הַחַיִּים, לְאַחַר שְׁקָם מִן הַמָּוֶת, לֹא יָמוּת עוֹד; הַמָּוֶת לֹא יוֹסִיף לְשַׁלֵּט בּוֹ. י הָרִי בְּמוֹתוֹ מֵת "We know that Messiah being raised from the dead will never die again, death no longer has dominion over Him. The death He died to sin once for all, but the life He lives, He lives to God." The resurrection demonstrates God's victory over death itself. ([Acts 2:24-32](#)) The conclusion of the rabbis according to [Pirkei Avot 4.22](#), which states that those who die will be brought back to life and judged, isn't without biblical precedent. We find [Daniel](#) stating something very similar according to [Daniel 12:2](#): "And many of those who sleep in the dust of the ground will awake, these to everlasting life (לְחַיֵּי עוֹלָם), but the

others to disgrace and everlasting contempt or abhorrence (לְדָרְאֹן עוֹלָם)." In addition, Maimonides' final principle of Jewish faith is the belief in the bodily resurrection of the dead in the olam haba (world to come): יֵגְ [אֲנִי מַאֲמִין בְּאַמּוּנָה שְׁלֵמָה, שֶׁתְּהִיָּה תְּחִית הַמֵּתִים בְּעֵת שְׁיִעְלָהּ: רָצוֹן מֵאֵת הַבּוֹרָא יִתְבָּרַךְ שְׁמוֹ וְיִתְעַלֶּה זְכוֹר וְלִנְצַח נְצָחִים *"I believe with perfect faith that there will be a resurrection of the dead at the time that the Creator His name be blessed desires, and forever his presence will be known."* We note how faith is connected to resurrection and it was firmly rooted in the Torah-Judaism of Yeshua's. This suggests for us that resurrection imparts God's justification which comes by our faith in Him. This also speaks to us concerning the need to be prepared, to be ready to meet our maker!

If you were to die at this very moment, would you be prepared to stand before a holy and righteous God? Would you measure up to the Torah? Paul wrote according to [Romans 2:12](#) saying, וְכָל אֲשֶׁר חָטְאוּ בְּלִי תוֹרָה גַּם יֵאָבְדוּ בְּלִי תוֹרָה, וְכָל אֲשֶׁר חָטְאוּ וַיֵּשׁ לָהֶם תוֹרָה, עַל-פִּי הַתּוֹרָה, וְשָׁפְטוּ: *"For all who have sinned without the Law will also perish without the Law, and all who have sinned under the Law will be judged by the Law."* Notice what Paul writes following [Romans 2:12](#):

אגרת שאול אל הרומים פרק ב

יג הרי לא שומעי התורה צדיקים לפני אלהים, אלא המקימים את התורה הם אשר יצדקו -- יד גוים שאין להם תורה והם מקימים את דברי התורה כדבר מובן מאליהם, הם תורה לעצמם אף שאין להם תורה. טו הם מראים שפעל התורה כתוב בלבם, שכן מצפונם מעיד בהם ומחשבותיהם מסיבות או מזכות אותם -- טז ביום שישפט אלהים את תעלומות בני אדם על-ידי ישוע המשיח, כדבר בשורת.

ROMANS 2:13-16

13 FOR IT IS NOT THE HEARERS OF THE LAW WHO ARE RIGHTEOUS BEFORE GOD, BUT THE DOERS OF THE LAW WHO WILL BE JUSTIFIED. 14 FOR WHEN GENTILES WHO DO NOT HAVE THE LAW INSTINCTIVELY PERFORM THE REQUIREMENTS OF THE LAW, THESE, THOUGH NOT HAVING THE LAW, ARE A LAW TO THEMSELVES, 15 IN THAT THEY SHOW THE WORK OF THE LAW WRITTEN IN THEIR HEARTS, THEIR CONSCIENCE TESTIFYING AND THEIR THOUGHTS ALTERNATELY ACCUSING OR ELSE DEFENDING THEM, 16 ON THE DAY WHEN, ACCORDING TO MY GOSPEL, GOD WILL JUDGE THE SECRETS OF MANKIND THROUGH CHRIST JESUS. (NASB)

Notice how Paul writes about righteousness and judgement due to sin in relation to the Torah. Notice Paul says, *"these that establish (המקימים) the Torah (התורה), they are those that are righteous."* Note then what Paul says about the nations, *"the nations (גוים) that do not have the law (שאיין להם תורה), they establish (מקימים) the words of the Torah (דברי התורה)." Even those who do not know or have not been given the Torah, Paul makes a reference to the nations as establishing certain basic principles in the Torah, and will be judged based upon these*

basic principles. This is why we read that Yeshua was delivered for our offenses and raised again for our justification. (Romans 4:25) We note how resurrection denotes justification in the sense of eternal life through faith. Those who are not faithful, the situation will be like what Daniel describes as being raised to everlasting condemnation. These things delineate the importance of being made right with God before we meet Him face to face. Many people, both in the Torah-Judaism of Yeshua's day and today, believe in the resurrection, whereas our faith in the resurrection of Yeshua denotes justification through atonement in the Messiah before God in heaven. (Romans 10:9) The parallel is to the faith of one who lays his hand upon the head of the burnt offering according to Vayikra / Leviticus 1:4, "He shall lay his hand on the head of the burnt offering, and it shall be accepted for him to make atonement for him" (וַיִּנָּחֵם לוֹ לְכַפֵּר עָלָיו). When we place our faith in Yeshua, we are literally saying "by His Life," that is, the resurrected life of the Messiah (Romans 5:10) we have atonement with God in Heaven. We note again what Pirkei Avot says "Blessed be He, before Whom there is no iniquity (בְּרוּךְ הוּא, שְׁאֵין לִפְנֵי לֹא עוֹלָה), nor forgetting, nor respect of persons, nor taking of bribes, for all is His." He is no respecter of persons, and there is no way to buy your way out of judgment, the reason there is no means is because all things belong to God in heaven, the creator of all! What could one possibly bring to the Lord to make payment before a holy and righteous God before whom there is no iniquity? This is a reality check for us in our dependence upon the Lord which is attested to in the resurrection of Yeshua. Yeshua said, אָמַר לָהּ יֵשׁוּעַ: "אֲנִי הִתְחַיֵּה וְהַחַיִּים. הַמַּאֲמִין בִּי יִחְיֶה גַם אִם יָמוּת. וְכָל חַי נֶשְׁחִי, אָמַר לָהּ יֵשׁוּעַ: "I am the resurrection and the life; he who believes in Me shall live even if he dies, and everyone who lives and believes in Me shall never die. Do you believe this?" (John 11:25-26). We note God our Father in heaven is the Living God, He is God of the Living who imparts a new kind of life to His people. (Matthew 22:23-33) This is part of the reason for the Lord giving His Torah to His people, as a new way of life, to live for the Lord in holiness, righteousness, justice, and truth. The Power of God in our lives is what transforms us from the inside out, supernaturally, via the resurrected life as Paul describes according to Philippians 3:10. This is what it means to be "in the Messiah," a בְּרִיאָה הַדְּשָׁה (new creation) where the old has passed away, behold – all things are made new (2 Corinthians 5:17). Paul wrote so much on this topic saying, being united with the Messiah through the power of the resurrection is what enables us to wall in the newness of life. (Romans 6:4)

Something to note about the scientific research. These researchers did not just sequence the genome of these date palms, they also revived the biological material through the process of germination obtained from the archaeological and paleontological sites. This is what the Almighty Lord God of Israel does in our lives. This isn't simply an esoteric exercise of the mind! This is the powerful work of God in our lives to transform our way of life to something new! This is how Paul wrote saying, the very power that raised Yeshua from the dead dwells in you (Romans 8:11). The miracle of new life is literally the presence of God in our lives, the very Gospel Message being taught to the people in the wilderness according to the Torah! Ultimately the goal of salvation and deliverance was not simply to save us from sin and death, but to bring us into relationship with God in love. This very idea of resurrection demonstrates that God is Lord over all, He is Lord over even the physical laws of Chemistry and Physics, sin and death, and the judgment of sin. The Messiah is said to have rendered death powerless and defeated him who has the power of death. (the evil one, Hebrews 2:14) The resurrection speaks to our destiny and future, depending upon what one does by faith, either to glorification and everlasting life with God, or eternal

condemnation and death. Yeshua said *לָכֵן אֲנִי חַי וְגַם אֶתְּכֶם תְּחַיֶּה* *"Because I live, you shall live"* (John 14:19) the resurrection restores the faithful to righteousness and Holiness in the world to come. Life in Yeshua enables us to live by *חֹק רוּחַ הַמַּיִים שֶׁבְּקוֹשֵׁי יֵשׁוּעַ* *"the law of the Spirit of life that is in the Messiah Yeshua"* and be set free *מִחֹק הַחֲטָא וְהַמָּוֶת* *"from the law of sin and death,"* and this by the power and presence of God in our lives through the power of the resurrection. These Truths are what we are reminded of when laying the scientific research down alongside of the Scriptures! The Power of God in our lives if we believe by faith, and the love of God as sending His only begotten Son, Yeshua. As the Scriptures say, whomsoever believes in him shall have eternal life! (John 3:16)

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