

Heirloom Beads and Bronze Plates  
of the Burmese Chin

Their links to the ancient Qiang people and Proto-Indo-Europeans originating in  
Anatolia/The Levant spreading West and East via the cultures of Yarmukian, Vinca,  
Cucuteni, LBK, Greece, Ur, Bactria, Hongshan, Daxi, Majiayao, Qijia, Shang, Zhou, Qin  
and Han Dynasties

6000 BC to the present day

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PART 9

## **How did the motifs from Anatolia/the Levant reach Neolithic China?**

If we follow received wisdom that Indo-Europeans reached China approximately four thousand years ago, would this account for the motifs appearing during the cultures previously mentioned regarding the beads and the bronze belts (i.e. 6000–4500 BC)? We may take 3000 BC as a date for the Early Bronze Age. The answer is looking to be in the affirmative.

The following quotes and maps are taken from: Evidence that a West-East admixed population lived in the Tarim Basin as early as the early Bronze Age by Chunxiang Li et al 2010:

Background: The Tarim Basin, located on the ancient Silk Road, played a very important role in the history of human migration and cultural communications between the West and the East. However, both the exact period at which the relevant events occurred and the origins of the people in the area remain very obscure.

In this paper, we present data from the analyses of both Y chromosomal and mitochondrial DNA (mtDNA) derived from human remains excavated from the Xiaohe cemetery, the oldest archeological site with human remains discovered in the Tarim Basin thus far.

Results: Mitochondrial DNA analysis showed that the Xiaohe people carried both the East Eurasian haplogroup (C) and the West Eurasian haplogroups (H and K), whereas Y chromosomal DNA analysis revealed only the West Eurasian haplogroup R1a1a in the male individuals.

Conclusion: Our results demonstrated that the Xiaohe people were an admixture from populations originating from both the West and the East, implying that the Tarim Basin had been occupied by an admixed population since the early Bronze Age. To our knowledge, this is the earliest genetic evidence of an admixed population settled in the Tarim Basin.'

Radiocarbon measurement ( $^{14}\text{C}$ ) dates the lowest layer of occupation to around  $3980 \pm 40$  BP (personal communications; calibrated and measured by Wu Xiaohong, Head of the Laboratory of Accelerator Mass Spectrometry,

Peking University), which is older than that of the Gumugou cemetery (dated to 3800). To date, these are the oldest human remains that have been excavated in the Tarim Basin.

Fifteen individuals' AMG amplicons were obtained from the 20 Xiaohe individuals (whose mtDNA was successfully amplified), among which seven individuals were identified as male and eight as female. The Y chromosome haplogroup of the seven males were all assigned to haplogroup R1a1a...

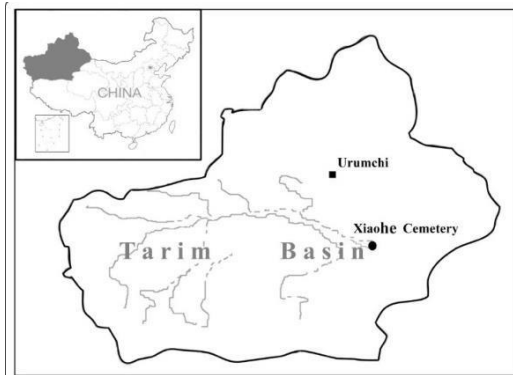


Figure 1 The geographical position of Xiaohe cemetery. The larger map shows Xinjiang, shown also in the shaded section of the map of China.

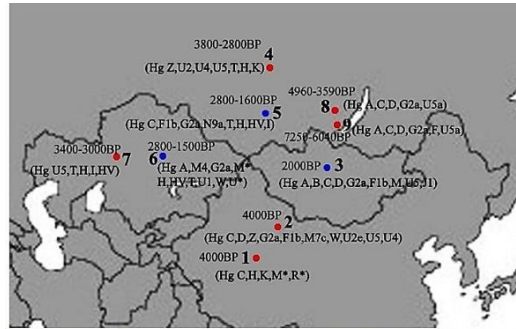


Figure 5 Map of Eurasia, showing ancient populations from the Tarim Basin and surroundings. Number 1 represents Xiaohe cemetery, data from this study; number 2 represents Xinjiang, Hami cemetery, data not published; Number 3 represents ancient Xinjiang, data from reference 46; Numbers 4 and 5 represent ancient South Siberian people, data from reference 38; Numbers 6 and 7 represent ancient Central Asians, data from reference 41; Numbers 8 and 9 represent ancient Lake Baikal people, data from reference 45. The red colour represents that the data was generated from samples from about Bronze Age and/or the prehistory era, while blue represents that the data was generated from samples from Iron Age.

Figure 1000. Maps from Chunxiang Li et al 2010

Was quartz available for the Qiang to use as weapons and tools?

In our study we felt it incumbent to search for evidence to support our theory that the ancient Qiang used quartz as weapons and tools. This would add weight to the origins of the Qiang worship of the 'white stone' i.e. white quartz, otherwise known as 'firestone'. We put forward the evidence from the following article that quartz was available:

New Paleolithic site in Gansu Province: A joint team of the Institute of Vertebrate Paleontology and Paleoanthropology (IVPP), Chinese Academy of Sciences, and the Gansu Provincial Institute of Archaeology found a new paleolithic site at Xujiacheng village, Wanquan Town, Zhuanglang County, Gansu Province on June 29, 2009, and excavation was carried out later on in an area of about 15m<sup>2</sup>. The Xujiacheng paleolithic site was buried in the Malan Loess overlying the second terrace of the Shuiluo River. Nine stratigraphic layers were identified, with total thickness of more than 6.5m. Four cultural layers were identified and more than 5500 stone artifacts and 550 fossils were unearthed.

Researchers reported their findings in the latest issue of *Acta Anthropologica Sinica* 2012. Archaeological materials were mainly unearthed from the 4th and 5th layers of the Xujiacheng paleolithic site. The stone assemblage included manuports (N=385), cores (N=140), flakes (N=1341), chunks (N=688), debris (N=2689) and retouched tools (N=176)

The stone artifacts from four different cultural layers showed roughly similar features. Lithic materials exploited at the site were locally available from the ancient riverbed with more than eight kinds of raw materials utilized in core reduction and tool manufacture. They are granite, quartz, conglomerate, diorite, marble, quartzite, gabbro and amphibolite. Quartz and granite were the dominant raw materials used for producing stone artifacts at this site.

The principal flaking technique was direct hammer percussion without core preparation, and occasional use of bipolar technique. Most stone artifacts were small and medium in size. Only five types of retouched tools were identified, namely side scrapers, points, drills, choppers, and notches. Denticulates,

endscraper, drill scrapers, notched scrapers may have existed. Major blanks for tools were flakes, followed by chunks, and pebble blanks were rare.

Based on stratigraphic observations and AMS14C dating, researchers suggested that the main cultural layers of this site are formed about 36000-43000 years ago.

"The stone tool assemblage of this site shows close ties with the Flake Tool Industry (Main Industry) of North China. It provides new materials to discuss human adaptive behavior, migration, and interaction with environment in this area", said first author LI Feng of the IVPP.

<https://phys.org/news/2012-09-paleolithic-site-gansu-province.html>

Authors' comment: it is quite possible that some of the quartz is actually petrified wood in its quartz-like state. All sizes shown here could have been used to fashion a bead which vary from 6mm–18mm for round ones, up to 20mm x 20mm for square ones (the 'Leiwen' bead is the exception at 25mm x 25mm), and 10mm–50mm for barrel shapes.

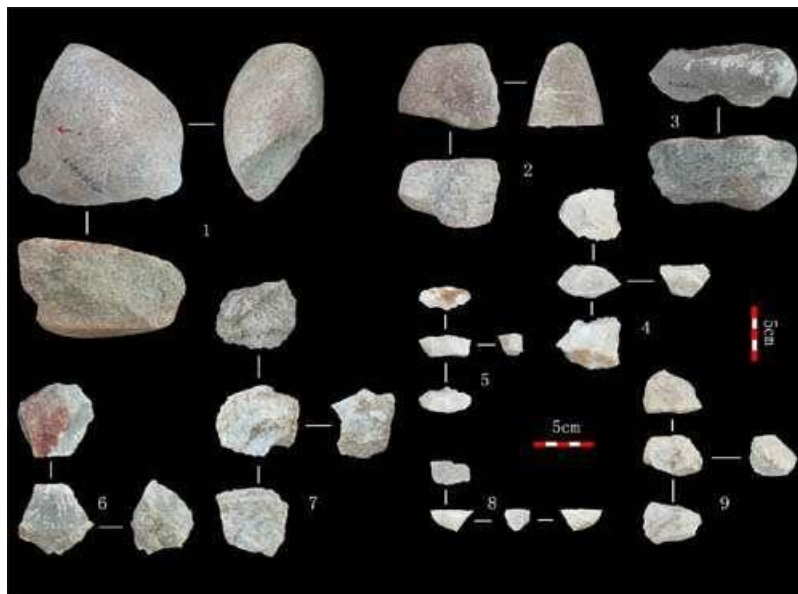


Figure 1001. Cores from cultural layer 4B at the Xujiacheng site. Credit: LI Feng. <https://phys.org/news/2012-09-paleolithic-site-gansu-province.html>

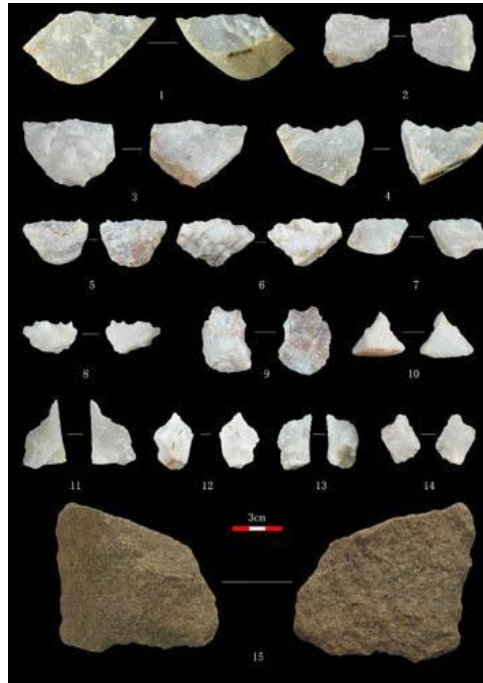


Figure 1002. Retouched tools from cultural layer 4B at the Xujiacheng site. 1-7, Sidescrapers 8, Denticulate; 9, Notch; 10, Point; 11-14, Drills; 15, Chopper. Credit: LI Feng. <https://phys.org/news/2012-09-paleolithic-site-gansu-province.html>

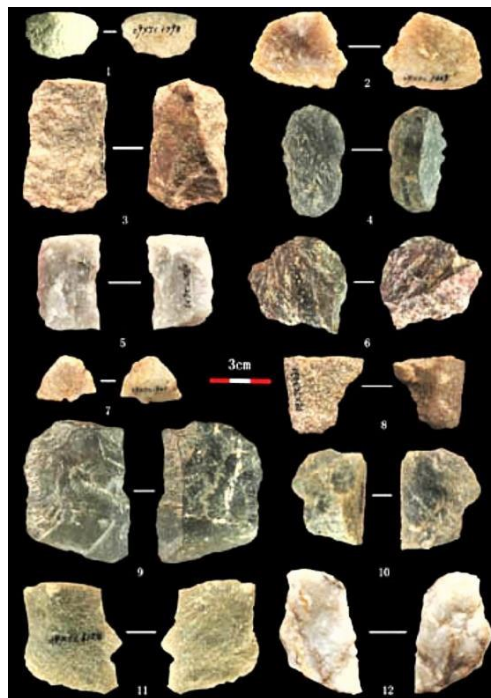


Figure 1003. <https://phys.org/news/2012-09-paleolithic-site-gansu-province.html#jCp>

## The Qiang and the Muzhu Bead Goddess Myth

<http://www.xuehuile.com/thesis/a428090d763d467b86c9463b1c026c0f.htm>

A translation of the thesis into English, via Google translation, which is far from perfect, follows the original Chinese text. We have tried to make the translation more sensible.

由木姐珠神话看羌族木姐珠崇拜

摘要：木姐珠神话乃是羌族的创世神话，而由该神话发源而来的木姐珠崇拜广泛存在于民间。

本文主要从女神崇拜，生殖观念等多重视域并结合羌族的社会文化语境探讨了木姐珠崇拜的广泛存在，进而对木姐珠崇拜得出了自己的理解。

关键词：木姐珠崇拜；女神崇拜；生殖观念；在民间 中图分类号：I2 07.9 文献标识码：A 文章编号：1006-026X（2011）09-0000-02

羌人自称“尔玛”，尔为人，玛为天，即他们认为自己是天人的后代，这种说法的由来源自羌族的创世神话《木姐珠与斗安珠》（以下简称木姐珠神话）。

木姐珠神话讲述了一个人神相恋的绝美爱情故事：天神的三女儿木姐珠恋上了凡间的青年斗安珠，但却遭到了天神的强烈反对，天神出了多道难题考验斗安珠，结果都被木姐珠与斗安珠一一化解，最后，天神不得不同意这门婚事，两人结成连理。

结婚后两人共同繁衍后代，传播五谷。①在

羌族聚居的大部分地区，木姐珠与斗安珠被视作男女祖先神并受到普遍崇拜。

### 一、女神崇拜之木姐珠崇拜

人类社会形成初期，原始先民对自然力的不可控性与生命的不确定性大多会产生一种恐惧，在他们无法应对这些不可抗力所带来的变化时，他们惟有寄希望于神灵，而人类对母性的先天的爱戴与敬仰和依赖，使得母性因此被赋予神性并受到膜拜。

②在《圣杯与剑》中，作者认为在所有古代农业社会中，似乎最初崇拜的是女神。

他在很多农业发源的中心都发现了女性神化的证据，因为就女性的生物属性来说，她正如大地那样给予生命和食物。③母神作为一切生物乃至无机物之母，

是她生育出天地万物和人类。

这样一种女性创世主的神话可见于苏美尔、巴比伦、埃及、非洲、澳大利亚土著和中国。④而木姐珠这一女祖神话流传于羌族地区，必然迎合了女神崇拜的源起。

首先，我们就木姐珠神话的精神层面进行解读，我们须认识到木姐珠是一位创世女神，创世女神母题将创世与造人两大功能同时赋予一位女性，体现出人类将世界与人的起源本质上同一化的倾向。

有西方学者把这种创世女神与初民无意识的母性经验联系在一起，他指出女性原型在神话中，实质上是人对母性的直觉意识，它投射了人对世界和人的形象的间接经验，

人在童年阶段，几乎都依赖于母性的联系，而女性的基本特征永远具有一种“母性”的因素。

女性的“基本特征指的是女性作为大圆，大容器的形态，它倾向于包容万物，万物产生于它并围绕着它，就像一笔永恒的财富。产生于它的一切事物都属于它并且继续服从于它；即使个人逐渐独立了，女性原型也会把这种独立地相关地处理为她自身的永恒存在的另一种非本质形式。”简言之，就是在初民无意识所支配的自我和意识中，女人=身体=容器=世界。

⑤回到主题，羌人之所以会视木姐珠为女祖进行崇拜，羌人之所以会流传出木姐珠这一创世神话，究其根源，或许与羌人对母性经验的认识有关，是一种集体无意识的具体体现，也是羌人的神话思维的一种直接反映。而基于这种母体经验的认知，木姐珠被视为羌人的母亲而爱戴与信仰，她必然也会尽到母亲的责任保护她的子女们，在这一点上，我们可以从另一则羌族神话《羌戈大战》中找到佐证。

羌戈大战讲述了羌人与戈基人作战的故事，羌人原本生活在西北大草原，但因为战争及自然灾害，逼使羌人向西迁徙。

其中一支在首领白苟的带领下向南迁移，多亏了羌人始祖木姐珠的帮助，用白石变成了大雪山，才挡住了追兵，羌人继续南下……，⑥在羌

人遇到危险的时候，女神木姐珠保护了她的羌民们，这则神话充分展现出木姐珠所具有的母神关怀。其次，精神世界和社会结构总是难分难解地纠缠在一起。

美国学者金芭塔斯曾指出，作为万物之母的女神的崇拜，反映了当时极可能存在母系或从母亲属制度。⑦而中国学者陈春晖指出母神系父系社会出现以前人类所崇奉的最大神灵。

⑧而另一位美国学者爱斯勒则质疑母系制社会与父系制社会这种对立的区分，他更愿意用“圣杯”与“剑”这种伙伴关系与统治关系来描述人类社会的组织方式，而女神崇拜就产生于他笔下的“圣杯”时代的和谐平等的合作社会之中。

⑨结合上面的材料，我们可以清楚的看到无论是母系社会还是“圣杯”时代，产生女神崇拜的社会结构都与女性的社会地位不无关联。

事实上，古代羌族的社会组织中女性中心持续的时间很长，这也是古代羌族文化的最大的特点之一。从猎业发展起来的羌民族，直到公元第八世纪以前，都一直保存着女性中心的社会制度。

例如《唐书》中所云“东女国，西羌之别种，以西海中复有女国，故称东女焉。俗以女为王。”东女国世代以女子为王和朝官，统治该国的臣民。

我们可以大胆推测，大抵该地区女性中心社会在有社会组织的时候就存在。

另外，在羌塘和阿里地区，古史所记得“西王母”和“西海女国”皆源于此。



西王母在中国乃是名声显赫的一位女神，在《山海经》《穆天子传》中都有记载，一直到今天，民间也盛行对西王母的崇拜。

西王母崇拜从侧面佐证了该地区的确是女神崇拜生发的沃土。

于是，可以证明：这种社会制度在原始羌族时即已形成。

⑩综上所述，我们有理由相信，木姐珠这一创世女神的崇拜的产生与羌族女性中心持续较长时间的社会组织有密切关联。二、木姐珠崇拜：以女神为中心的偶生始祖崇拜

以上从女神崇拜的角度探讨了木姐珠崇拜的诸多问题，但我们细读木姐珠神话，可知木姐珠崇拜又不仅仅是女神崇拜的问题，木姐珠的女神形象是不同于其他民族的创世女神形象的。

比如中转土造人的女娲。

布依族的创世女神翁夏，苗族的创世女神罗迪，阿昌族的地母“遮米麻”等等。

这些女神都是在没有配偶的帮助下独立创世的，也就是说她们属于独生始祖女神。

而木姐珠是与斗安珠一起创世的，她是有配偶的女神，即木姐珠是偶生

始祖女神。虽然羌族将木姐珠与斗安珠共同视为羌族的民族祖先，但却以女性始祖为主角，是偶生始祖中居于优位者，所以我把对木姐珠的崇拜解读为以女神为中心的偶生始祖崇拜。

那么，偶生始祖崇拜是如何产生的呢？

我认为其中反映了人类生殖观念的变化，我们从人类生殖的文化史可知，原始先民对性与生育之间的因果关系的认识存在着从无知到有知、从蒙昧到自觉的过程。

英国学者马林洛夫斯基指出野蛮人很多不知道性交会生出孩子来，吃饭是营养身体的。

B1法国学者列维——布留尔也提出类似观点：这些土人并不认为怀孕实际上是取决于性交，所以他们连想也没想到有时就应当把不受胎的原因归结在受孕的参加者的另一方——男人身上。B1

2《活着的女神》一书中作者指出，在史前时期，女性身体被认为能够单性生殖的，在女性身体被视为造物女神的同时，整个世界则被视为女神的身体，总是生生不息地从自身孕育着新的生命B13，该观点也与前文中引用的大母神原型理论互为映证。

简言之，即原始先民“知其母，不知其父”，认为生育繁殖是一项与男性无关的事务，在生殖观念上对男性的“不在场”认知必然导致男性地位的低下。

而在此生殖观念下所支配的大量独生女神崇拜也是合乎情理的。

而生殖观念是在衍变的，当人类认识到新的生命是由男女共同创造的，男性神也就顺利的出场了。这种生殖观念的变迁是否意味着男性的社会地位也逐步提高呢。在笔者所搜集的资料中，大多数论文把偶生始祖崇拜定位于母系社会向父系社会过渡的阶段。

这与前文所提到的羌族女性中心持续时间很长并不相悖，笔者认为，木姐珠崇拜所产生的社会背景类似于艾斯勒所言的“圣杯”时代，女性是社会活动的中心，与男性的关系是一种协同合作的“伙伴关系”，所以在该阶段会出现偶生始祖崇拜，但女神崇拜仍然是该崇拜体系的中心。

大多数羌人在谈到木姐珠崇拜时，都会说“那是我们的木姐珠”“是我们羌人的祖先”。

从这些地方性表述可以显见木姐珠的出场与斗安珠的缺位。在众多材料中，都可以感觉到斗安珠是依附于木姐珠存在的，首先，在木姐珠神话中，斗安珠被天父木巴出题刁难，每次都是无计可施，只有在木姐珠的帮助下才得以顺利过关。

其次，木姐珠至少在《羌戈大战》中还出现过，体现出其有保护神的神功，而斗安珠没有在其他神话中再现，有学者把《燃比娃取火》里的燃比娃视作斗安珠，但是笔者认为燃比娃乃是神神之子，与凡人斗安珠并无直接关系。

### 三、木姐珠崇拜在民间

木姐珠崇拜在民间主要体现在羌民在家中供奉木姐珠与斗安珠为男女祖先神，以及在重大节庆中，羌族巫师以说唱释比经典的形式对其进行缅怀，用以传承古老的文化与增强民族意识与民族认同。

说到羌族巫师释比，其实他的产生与木姐珠也是有渊源的，传说释比也是来自天上的神，精通法术，天神木巴为了保证木姐珠下凡后的安稳生活，

便派释比下凡帮助人间祛灾解厄，驱赶不祥，繁荣山寨。B14

释比自此成为人神两界的传播者。

在每年的阴历十月初一，也就是羌历年的时候，释比就要吟唱

《木姐珠》，据说木姐珠神话用于神事的唱经时（也就是上坛经），需要吟唱48分48秒，是最长的一部经典。

如果在还原仪式中，配上羊皮鼓唱跳，时间又远远超过前文所述。

而在还家愿的仪式中，也就是每年农历的十月、冬月、腊月中举行的家庭祭祀仪式中会吟唱《木姐珠》，而在仪式的前几天先要有一个插旗仪式，就要以神龛中央的家神“角角神”开始，依次由男祖先神（斗安珠），女祖先神（木姐珠）依次展开，男女祖先神要插雄旗、雌旗各一根。B15 以上种种材料都体现出木姐珠崇拜一直存在并将持续存在于民间。

而且随着重大节日的祭拜行为会深化这种祖先记忆。

结语 在羌族地区流传的木姐珠神话以及木姐珠崇拜的产生的有其独特社会与文化语境。

本文想表达的主要观点在于，木姐珠崇拜是以女神为中心的偶生始祖崇拜。

诸如前文讨论的女神崇拜，以及由生殖观念演变而来的对偶神崇拜，最后落脚于存在于民间的祖先崇拜都处处蕴藏着木姐珠崇拜的多重神性崇拜特点。

行文至此，我感受到一个古老的神话故事的魅力之所在，即它能勾勒出从古至今的诸多景象，而人们在虔诚的崇拜行为中又一次次的把这种古老祖先的魅力传承下去，或许这种真实的感受才是我们持之以恒保持关注的动因所在吧。参考文献：

[1]

本文所用的木姐珠神话版本源于林向《羌族的“创世纪”神话——木姐珠与冉必娃》论文中的汶川版与茂汶版的综合版本。

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On the Worship of Muzhu Bead in Qiang Nationality from the Myths

Abstract: The myth of Muzhu bead is the creation myth of the Qiang people, and the worship of Muzhu bead originated from the myth is widespread in the folk. This paper explores the extensive existence of Muzhu beads worship from the perspective of worship of goddess and reproductive concept and the social and cultural context of the Qiang people, and then draws their own understanding of Muzhu beads worship.

Key words: Mu-jin-bead worship; goddess worship; reproductive concept; folk-ness in the Chinese literature Classification: I207.9 Document code: A Article ID: 1006-026X (2011) 09-0000-02

The Qiang people call themselves "Erma", Seoul man, Ma for days, that they think they are descendants of heaven and earth, this argument is derived from the creation of the myth of the Qiang "Mujie beads and bucket beads" (hereinafter referred to Muzhu beads myth). Muzhu beads myth tells a person God loves the perfect love story: the gods of the three daughters of wood Jiezhu fall in love with the mortal world of youth fighting beads, but was strongly opposed to the gods, the gods out of multi-channel problem test bucket beads, the results are Muzhu beads and fighting beads one by one resolve the tests, finally, the gods had to agree to this marriage, the two form a link. After the marriage of two people together they breed, spread grain. ①

In most areas of the Qiang people, Muzhu and Duan Anzhu are regarded as the ancestor gods of both men and women and are generally worshiped.

In the early days of human society, the uncontrollability of the primitive people to the natural forces and the uncertainties of life mostly produced a fear that, when they could not cope with the changes brought about by these force majeure, their only hope was in the gods, and human beings on the motherhood of innate love and admiration and dependence, making the maternity is thus given the divinity and worship. In the Holy Grail and the Sword, the author believes that in all

ancient agricultural societies, it seems that the goddess was originally worshiped. He found evidence of feminine deification at the heart of many agricultural origins, because, in the case of feminine biological attributes, she gave life and food as the earth did. ③ Mother God as the mother of all living things and even inorganic, she gave birth to all things and human beings. The myth of such a woman's creation can be found in Sumer, Babylon, Egypt, Africa, Aboriginal Australia and China. ④ The myth of Mu-zhu, the ancestor of the myth, is popular in the Qiang region and must meet the origin of goddess worship. First of all, when we interpret the spirit level of Muzhu beads, we must realize that Muzhu bead is a creation goddess, the creation goddess motif will create two functions at the same time to give a woman, the tendency of mankind to homogenize the world and the origin of mankind in essence. Western scholars have linked the creation goddess to the unconscious motherhood experience of the beginning. He points out that the feminine archetype is a kind of intuition of human being to the mother in myth, which projects the indirect experience of human being to the world and the person's image. In the childhood stage, almost all rely on the maternal connection, and women's basic characteristics will always have a "maternal" factor. The basic characteristic of women is the form of a woman as a great circle and a large container, and it tends to contain all things, and all things come from it and surround it, like an eternal wealth, and all things that come from it belong to it and continue to obey it; even if the individual gradually becomes independent, and female archetypes will be independent of this related to her own eternal existence of another non-essential form. "In short, is dominated by unconscious self-consciousness and consciousness, woman= body = container = world. ⑤ Back to the subject, the reason why the Qiang Mu Jizhu beads is the focal point for the worship of female ancestors, the reason why the Qiang people will spread the myth of the creation of the myth of the mother, the root may be related to the mother of the Qiang understanding of the experience , it is a concrete embodiment of the collective unconscious, but also a direct reflection of the mythology of the Qiang people.

On the basis of this maternal experience, Mujizhu is regarded as the mother and

loved by the Qiang people, and she must do her mother's responsibility to protect her children.

At this point, we turn to the Qiang myth "Qiang Ge war" to find evidence. The Qiang passed down the Qiang and Goki war stories, the Qiang had originally lived in the northwest prairie, but because of war and natural disasters, forced the Qiang migration to the west. One of the leaders in the white Gou led to the south migration, thanks to the ancestors of the Qiang with Muzhu beads help with white stone, into a big snow-capped mountains, blocking the pursuers, Qiang people continue southward ⑥ Secondly, the spiritual world and social structure is always inextricably tangled together. American scholar Kim Patas has pointed out that as the mother of all goddess worship, reflecting the possible existence of matrilineal or from the mother family system. ⑦ The Chinese scholar Chen Chunhui pointed out that the parent gods of the patriarchal society before the emergence of the largest human worship of the gods. ⑧ and another American scholar Aisi Le is the matrilineal system and patriarchal society that the opposing distinction, he is more willing to use the "Holy Grail" and "sword" this partnership and the ruling relationship to describe the organization of human society. While the goddess worship came from the harmony and equality of the "Grail" era. ⑨ combined with the above material, we can clearly see whether the matriarchal society or the "Holy Grail" era, the goddess worship of social structure and women are not unrelated to the social status. As a matter of fact, the female center of the ancient Qiang social organization lasted a long time, which is one of the greatest features of ancient Qiang culture. From the hunting industry developed the Qiang nation, until the eighth century AD, and have been kept in the female center of the social system. For example, "Tang" in the cloud, "East female country, the West Qiang of other species, in the West Sea in a female country, it is called the East female Yan.

Vulgar female king." East female country for women and the dynasty, rule the country's subjects. We can boldly speculate that the female centered society of the region is in existence at the time of social organization. In addition, in the Qiangtang and Ali areas, ancient history, remember the "Queen Mother

West" and "West Sea woman" are derived from this. Queen Mother of the West in China is a famous goddess, in the "Shan Hai Jing" "Mu Biography" are recorded, until today, the popular folk also worship the Queen Mother of the West. West Queen worship from the side to prove that the area is indeed fertile ground goddess worship of germinal. Thus, it can be proved: this social system in the original Qiang Shi has been formed. ⑩ In conclusion, we have reason to believe that the creation of the goddess worship of Muzhu has a close relationship with the social organization of the women's center of the Qiang for a long time. Second, the Muzhu beads worship: the Goddess as the center of the ancestor worship above from the goddess worship perspective of the Mujizhu worship has problems, but we read the myth of Muzhu beads, we can see the wood beads worship is not only goddess worship, the image of the goddess of beads is different from other goddess creation goddess image. For example, in the soil made Tuan Nu Wa. Buyi's creation goddess Weng Xia, Miao's creation goddess Luo Di, Achang's mother "cover Ma Ma" and so on. These goddesses are independent of the spouse with the help of creation, that is to say they belong to the only ancestor of Goddess. Muzhu beads with the creation of the fighting with the beads, she is the goddess of a spouse, that is, Muzhu beads is the birth of the first goddess. Although the Qiang Muzhu beads and Dou Anzhu are common as the Qiang national ancestors, but the female ancestor as the protagonist, is the ancestor of the living ancestors of those who live in excellent position, so I read the worship of wood beads for the goddess of God, the center of ancestor worship. Well, the question of ancestor worship is how to produce it? I think that reflects the change of human reproductive concept, we know from the cultural history of human reproduction, the original ancestors of the understanding of the causal relationship between sex and fertility from ignorance to knowledge, from ignorance to conscious process. British scholar Marlene Loveki pointed out that a lot of barbarians do not know that sexual intercourse to give birth to a child to eat is the nutritional body. B11 French scholar Levy - Bu Lier also made a similar point of view: these natives do not believe that pregnancy is actually depends on sexual intercourse, so they did not even think that sometimes the reason should

not be attributed to the conception of pregnant participants, the other - the man. B12 "Living Goddess," the author pointed out that in prehistoric times, the female body is considered to be parthenogenesis in the female body is considered the goddess of creation at the same time, the whole world is regarded as the goddess of the body, always life and life constantly bred from their own new life B13, the point of view with the previous reference to the prototype theory of the great mother of God mutual reflection. In short, the original ancestors "know their mother, I do not know his father," that reproductive reproduction is a matter unrelated to the affairs of men, in the reproductive concept of male "absent" cognition will inevitably lead to the low status of men. In this concept of reproduction dominated by a large number of goddess worship is also reasonable. While the reproductive concept is evolving, when the human realized that the new life is created by men and women together, the male god is also of smooth appearance. Does this change in the concept of reproduction mean that men's social status has gradually increased it. In most of the materials collected by the author, most of the essays focus on the duality of ancestor worship in the transition from a matriarchal society to a patrilineal society. This is not a contradiction to the long duration of Qiang women's center mentioned above. The author thinks that the social background of Mujizhu worship is similar to that of Eisler's "Holy Grail". Women are the center of social activities, The relationship with men is a kind of collaborative "partnership", so at this stage will appear even in ancestor worship, but the goddess worship is still the center of the worship system. Most of the Qiang people talking about Muzhu beads worship, will say, "That is our Muzhu beads" "is our Qiang ancestor." From these local expressions can be seen clearly the appearance of Mujizhu and the absence of bucket beads. In many materials, can be felt Dou Anzhu is attached to the existence of wood beads, first of all, in the myth of Muzhu beads, the bucket Anzhu was the father of Mu Pakistan to make things difficult, every time could not do anything, only with Mu Jie Zhu's help was able to successfully cross the border. Second, the Muzhu beads at least in the "Qiang ge war" also appeared, reflecting the protection of the gods with its magic, and Doosan did not reproduce in other myths, some scholars



to "fire Biehuohuo" in the fuel than the baby as the fighting Anzhu, but I believe that the daughter of God but the child than burning, and mortal fighting An Zhu is not directly related.

Third, the Muzhu beads worship in the folk Mu Zhu worship is mainly reflected in the Qiang people at home in the worship of wood beads and Dou An Zhu for men and women ancestors, and in major festivals, the Qiang shaman to release classical forms of its memory, for the transmission of ancient culture and enhance national consciousness and national identity. Speaking of the Witch Shibi of the Qiang people, in fact, his generation and the wooden sister is also a pearl origin, the legend of Shibi is also from the gods of heaven, proficient in magic, god Muba in order to ensure the stability of the wood after the mother, Down to earth to help people solve the disaster solution, drive ominous, prosperous cottage. B14 release than has since become the spread of people and divine circles. On the first day of the lunar month of the lunar calendar, which is the year of the lunar calendar, it is said that the mythology of Muzhu bead is used to sing the sutras of the gods, 48 seconds, is the longest of a classic. If in the reduction ceremony, accompanied by sheepskin drums to sing, time and far more than the previously mentioned. In the ceremony, which is also the home of the annual Lunar New Year in October, winter months, the twelfth lunar month in the family ritual will sing "Mujizhu", and in the first few days before the ceremony there is a flag ceremony, It is necessary to the shrine of the central gods "corner of God", followed by the male ancestor of God (Dou AnZhu), female ancestors of God (wooden sister beads) in turn, male and female ancestors to insert male flag, root. B15 above all kinds of materials reflect the mulberry beads worship has always existed and will continue to exist in the private sector. And with the major festivals of worship will deepen this ancestral memory.

Conclusion in the Qiang region of the myth of the spread of Muzhu beads and the worship of Mujie beads produced its unique social and cultural context. This paper wants to express the main point is that Muzhu beads worship is the Goddess as the center of the ancestor worship. Such as the goddess worship discussed above, and from the reproductive concept of the evolution of the duality of God

worship, and finally settled in the existence of the ancestors of worship are everywhere bears the worship of the multi-worship characteristics. At this point, I feel the charm of an ancient myth lies, that is, it can outline many scenes from ancient times, and people in the cult of worship again and again to the charm of this ancient ancestors passed down, Perhaps this real feeling is that we keep the motivation to stay focused on it.

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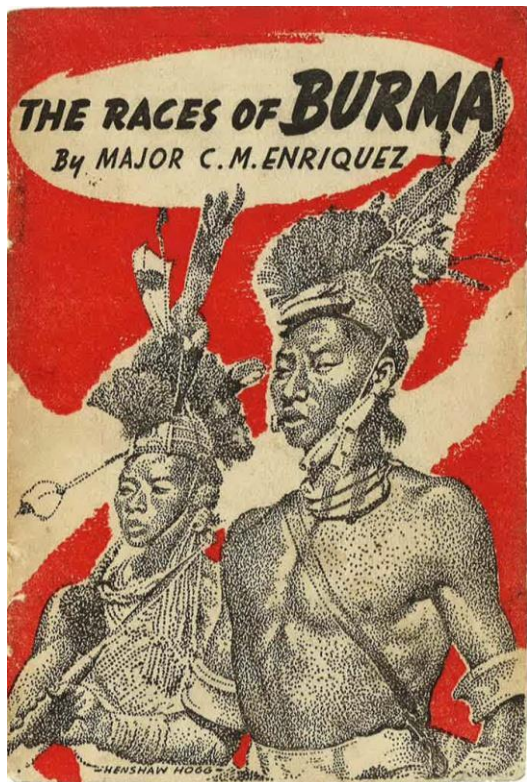
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## The Chin

Here we show excerpts from a restricted British Army report of 1942 on the capabilities of the Burmese Hill Tribes fighting skills, the Chin proving exceptional fighters and allies against the Japanese invaders.

Our proposal is that the Proto-Indo-Europeans traveled to ancient China 4000–3500 BC, became known as the Qiang and when the upheaval took place c. 221 BC in China, they moved to Burma and became the Chin.



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Figure 1004. 'The Races of Burma' by Maj. C M Enriquez

## THE RACES OF BURMA

(By Major C. M. ENRIQUEZ)

**B**URMA is one of those regions of the earth which is inhabited by a great variety of races. This has been brought about by a slow, long-drawn migration of Mongoloid tribes from some unidentified northern region, and these movements are still in progress both inside Burma, and into Burma from outside.

These shiftings of population have continued for many hundred years. The Burmese were well established and well developed by the eighth century A.D., and probably before that: and the Talaing, or Mon, immigration was earlier still. The position arrived at by about the eighth century was that the Talaings (now usually spoken of as Mon) had occupied the lower portions of the Irrawaddy Valley, while the Burmans had established themselves in the upper portions of the Irrawaddy Valley. The subsequent history of Burma is mainly that of the struggle of these two predominant races: a struggle which persisted till 1756 when the Burmese under Alaungpra overran Lower Burma, and founded the city of Yangon ("End of the Conflict") which we now call Rangoon, and destroyed for ever all traces of Mon supremacy. The whole Irrawaddy Valley thus became Burmese, with the Mon a submerged community; and in the succeeding century, when Lower Burma became British territory, the Burmese movement into it continued at an even accelerated rate because economic and political conditions were more favourable there.

We do not yet know whence these movements (and many others to be mentioned presently) originated: but the races of Burma being Mongoloid in type must have come from such regions as Tibet or Western China. We do not know why the movements were set going, but from the fact that they were slow and gradual, and not often sudden and violent, we may suppose that an increasing population in barren and inhospitable regions may have brought economic pressure to bear on growing communities decade by decade, and century by century. But it is certain that geographical features such as the

1

some extent absorbed into the local population. The name Talaing has become obsolete, and with the reawakening of some slight racial feeling after their crushing defeat of two hundred years ago, these people, whose language survives in the remote parts of Tenasserim, prefer to be called Mon.

### TIBETO-BURMANS

The main stream of immigration was that of the *Tibeto-Burmans* who are conveniently divided under three heads:—

- (a) *Burmese or Proto Burmese*, including Burmese, Kadu, Hpon, Maru, Lashi, Atsi, Nung, Danu, Taungyo, Taman, Yaw, Mro, Chaungtha and Arakanese.
- (b) *Chin-Kachins*, who include Chin, Kachin, Gauri, Sing-po, Duleng: and —
- (c) *Lolo*, who include Lolo, Lisu or Yawyin, Lahu, Muhso, Kwi, Moso, Kaw and Ako.

This stream penetrated and occupied, chiefly in the persons of the Burmese, the main valley of the Irrawaddy, penetrating, as noted, as far south as Prome in the eighth century, but consolidating later (tenth to twelfth centuries) into an imposing civilization at Pagan. After the destruction of this capital (1287) by the generals of Kublai Khan, the Burmese suffered a long eclipse. A number of small capitals, many of them contemporaneous, sprung up here and there over Upper Burma without achieving any stability till the rise of Alaungpra (eighteenth century) at Shwebo. Shwebo was, and still is, considered to be the "Home of the Burmese," and is associated with a number of succeeding capitals at Sagaing, Ava, Amarapura and Mandalay. These owed their existence to the custom of shifting the capital with each reign, or if the site became for any reason unpropitious: which again may have its roots in the restless migratory instinct which is inherent in a wandering people who have not yet had time to throw off their primitive urge. It is a very marked feature of all the people of Burma, without any exception whatever, that they have no feeling or affection for land, such as exists amongst races (like ourselves) whose environment

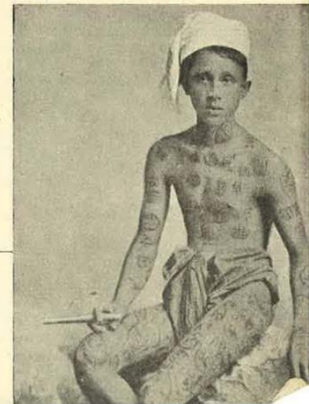
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direction of rivers, valleys and mountain ranges: and economic factors such as the existence of rich and comparatively empty spaces: and also political conditions, did modify the movements, and did condition their rate of progress. Throughout, the tendency has been to travel southward, until this has become a sort of instinct with these people.

The migrations may be likened to the advance of a trickle of water over dry dust which halts a while, creeps a little, and occasionally rushes for a short distance if the space ahead is favourable, or if the pressure of oncoming water behind is great.

### SCOPE OF THE MIGRATIONS

It is certain that the migrations into Burma should not be regarded at all as local phenomena, but should be viewed in wider perspective, and in relation to contemporary movements of Mongoloid races such as those of the Gurkhas towards Nepal, or the Tai towards Siam, or the Hakka towards south-west China. There are also smaller movements such as those of the Lolo tribes (to be mentioned later) which belong to the same general shifting of population. But these aspects of the migration can only be briefly referred to here, where we are concerned with the entry into Burma from the beginning of our era, and lasting up to this very day, of



OLD-TIME BURMESE. Till twenty years ago, the Burmese still tattooed the body profusely. The custom has now gone out of fashion; but tattooing is seen in remote villages, and amongst Shans, who still favour it.

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head. This distinguishes them from the Falams and Hakas whose hair is plied in a knot on top, or in front of the head, and who for that reason are known to the Burmese as *Baungshe* (*Paung* put on, and *She* front)

The *Central Chin Hills* (Falam) are inhabited by Tashon, Lomban, Lalzo, Kwangli, Whelngo and Yahow, who are known as *Lai Chins*, a distinction to which they attribute some importance. Chin villages in Falam are of very considerable size, and not infrequently contain four hundred houses covering a large area of hill side. Bamboo being scarce, timber is lavishly employed, with the result that the adjacent mountains tend to be severely denuded of trees. The people are rather naked, but the Haka weave beautiful and costly silk blankets in which the Chiefs and wealthy men drape themselves. It should be noted that the Chiefs in the true Chin Hills are men of consequence and power through whom the country is largely administered. Amongst the Kachins, and also amongst the Southern Chins of the Pakokku Hill Tracts, the Chiefs were overthrown as a result of a revolution (known still as the *Gumla*) and now have little influence: sometimes none at all.

The *Southern Chin Hills* (Haka) are the home of the Hsemtang, Zohtung, Lawhtu, Wantu, Yokwa, Klang Klang, Bwal, Kwalingtang and Haka. The last five are *Lai*, though the Haka (a group of about ten villages) claim to be the only true *Lai*.

The *Haka*, who number about 68,000, are good fighting men. As a whole the Chins have, like the Kachins, proved stout allies in their resistance to the Japanese invasion. It is worth noting that, with the exception of Putao in the far north, the main Chin Hills were the only fragment of Burma not overrun by the enemy throughout 1942, and till late in 1943. Like the Siyin, the Haka are intellectually superior to other Chins, but being remote, have not had the same advantages of outside contact as that enjoyed by the Central Chins. As a rule Chins are somewhat reserved, even surly, and they tend to be close with money: thus differing very markedly from their racial cousins the gay, spendthrift Kachins.

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Figure 1005. 'The Races of Burma' by Maj. C M Enriquez



Figure 1006



Figure 1007

Haka Chin man and women wearing pumtek necklaces. Note the lozenge pattern on the man's clothing.  
Figure 1006. Burma: Frontier Photographs 1918-1935: by James Henry Green, 2000  
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## THE ORIGIN OF THE CHIN

by Lian H. Sakhong

This paper is adapted from the first chapter of 'In Search of Chin Identity' and presented at the seminar 'Exploring History, Culture and Identity of the Chin' organized by Mizoram University and the Euro-Burma Office, October 2008. The paper was published as chapter two 'Chin: History, Culture and Identity' edited by K Robin, Mizoram University, 2009

### Migration Patterns

As highlighted already in previous sections, all sources of the Chin tradition maintain that the ancestors of the Chin people originated from the cave called ‘Chinlung’. However, in the absence of written documents, it is difficult to locate the exact place where Chinlung existed. Scholars and researchers therefore give various opinions as to the location of Chinlung.

K. Zawla, a Mizo historian from the India side of Chinram, or West Chinram, suggests that the location of Chinlung might be somewhere in modern China, and the “Ralte group [of the Mizo tribe] were probably one the first groups to depart from Chinlung.”[39] Here, Zawla quoted Shakespeare and accepted the Chin legend as historical fact. He also claimed that the Chin came out of Chinlung in about 225 B.C., during the reign of Shih Hungti, whose cruelty was then at its height at the time he constructed the Great Wall of China. Zawla relates the story of the Ch’ing ruling dynasty in Chinese history in a fascinating manner. He uses local legends known as Tuanbia (literally: “stories or events from the old-days”) and many stories which are recorded by early travelers and British administrators in Chinram, as well as modern historical research on ancient China.

Naturally, this kind of compound story-telling has little or no value in a historical sense, but is nevertheless important in terms of socially reconstructing collective memories as identity-creating-resources.

A number of other theories have been advanced in this connection, more noticeably by Sing Kho Khai and he mentions nothing about the Ch’ing. Chawn Kio.[40] Both of them believe that the Chin ancestors are either the Ch’ing or Ch’iang in Chinese history, which are “old generic designations for the non-Chinese tribes of the Kansu-Tibetan frontier, and indicate the Ch’iang as a shepherd people, the Ch’ing as a jungle people.”[41] Thus, according to Chinese history, both the Ch’iang and Ch’ing were regarded as “barbarian tribes.”[42] Gin Za Tuang—in a slightly different manner than Zawla, Sing Kho Khai, and Chawn Kio—claims that the location of ‘Chinlung’ was believed to be in Tibet.[43] Gin Za Tuang, nevertheless, maintains that the Chin ancestors were Ch’iang, but he mentions nothing about the Ch’ing.

In fact, Gin Za Thang simply follows Than Tun's and G H Luce's theory of the origin of Tibeto-Burmans and other groups of humans, who were believed to be the ancestors of the Southeast Asian peoples. According to Professors Than Tun and Gordon Luce,[44] the Ch'iang were not just the ancestors of the Chin but of the entire Tibeto-Burman group, and they "enjoyed a civilization as advanced as the Chinese, who disturbed them so much that they moved south." [45] Regarding this, Professor Gordon Luce says:

"With the expansion of China, the Ch'iang had either the choice to be absorbed or to become nomads in the wilds. It was a hard choice, between liberty and civilization. Your ancestors chose liberty; and they must have gallantly maintained it. But the cost was heavy. It cost them 2000 years of progress. If the Ch'iang of 3000 BC were equals of the Chinese civilization, the Burmans [and the Chin] of 700 AD were not nearly as advanced as the Chinese in 1300 BC.[46]" Before they moved to the wilderness, along the edges of western China and eastern Tibet, the ancient homelands of Ch'iang and all other Tibeto-Burman groups, according to Enriquez, lied somewhere in the Northwest, possibly in Kansu, between Gobi and northwestern Tibet.[47] Thus, it is now generally believed that the Tibeto-Burman group and other Mongoloid stock, who now occupy Southeast Asia and Northeast India, migrated in three waves in the following chronological order:

1. The Mon-Khmer (Talaing, Palaung, En Raing, Pa-o, Khasi, Annimite.)
2. The Tibeto-Burman (Pyu, Kanzas, Thet, Burman, Chin, Kachin, Naga, Lolo.)
3. The Tai-Chinese (Shan, Saimese, and Karen.)

The Tibeto-Burman group initially moved toward the West and thereafter subdivided themselves into several groups. They follow different routes, one group reaching northern Tibet, where some of them stayed behind, while others moved on until they reached Burma in three waves. These people were:

1. The Chin-Kachin-Naga group
2. The Burman and Old-Burman (Pyu, Kanzas, Thet) group
3. The Lolo group.[48]



### The Chin's Homeland of Chindwin

Professor Than Tun claims that Tibeto-Burman groups of the Burman came down into present Burma via the Salween and Nmai'kha Valleys, and reached the northern Shan State before AD 713. But before they were able to settle themselves in the delta area of Irrawady Valley, "the rise of Nanchao checked their movements soon after 713."<sup>[56]</sup> The Nanchao made continuous war with neighboring powers such as the Pyu who had founded the Halin Kingdom in central Burma. In 835 the Nanchao plundered the delta areas of Burma, and in 863 they went further east to Hanoi. However, by the end of the ninth century the Nanchao power collapsed, because according to Than Tun "they had exhausted themselves."<sup>[57]</sup> Only after the collapse of the Nanchao, were the Burman able to move further South into the plains of Burma.

The Chin, according to Professor Luce, descended from western China and eastern Tibet into the South via the Hukong Valley,<sup>[58]</sup> which is a completely different route than the Burman had taken. Thus, Lehman's theory is quite convincing that the ancestors of the Chin and the Burman were distinct from each other even when they first appeared in Burma. There is ample evidence that the Chin were the first who settled in the Chindwin Valley. The Pagan inscriptions dating from the eleventh century onward refer to the Chin of the Chindwin Valley. There is also persistent reference in the legends of almost all the Chin tribes to a former home in the Chindwin Valley. Chin original myths uniformly refer to the ruling lineage when speaking of the original homeland in the valley.<sup>[59]</sup>

Archeological evidence supports this interpretation.<sup>[60]</sup> Sing Kho Khai therefore claims that:

The literal meaning of the name 'Chindwin' definitely suggests that the Chindwin area was primarily inhabited by a tribe called the Chin.<sup>[61]</sup>

Vumson goes even further by saying:

When the Burman descended to the plains of central Burma, during the ninth century, the [Chin] people were already in the Chindwin Valley.<sup>[62]</sup>

As far as historical evidence of the Chin settlement in the Chindwin Valley is concerned, some of the most reliable sources come from the Burman inscriptions erected by King Kyanzzittha and other kings during the peak of the Pagan dynasty. According to Professor Luce, who was an expert on Pagan inscription, “Chins and Chindwin [‘Hole of the Chins’] are mentioned in Pagan inscriptions from the thirteenth century.”[63] The earliest Pagan inscriptions put the Burman in upper Burma in roughly the middle of the ninth century A.D. Professor Luce therefore suggested that the Chin settlement in the Chindwin Valley began in the middle of the eighth century, while allowing for the possibility of a date as far back as the fourth century AD. Lalthanglian, a Mizo historian, also gives the eighth century A.D. as the possible date for the Chin settlement in the Chindwin Valley.[64]

Before the Chin made their settlement in the Chindwin Valley, there had been kingdoms of the Mon and the Pyu in the major river valley of Burma, the Sak or Thet and Kandu in Upper Burma, and also the Shan in the eastern country, but no one occupied the Chindwin Valley until the Chin made their home there. The Burman fought against the other occupants of the area, such as Thet, Mon and Pyu, but they did not fight the Chin. G.H. Luce writes;

The Pagan Burman had wars with the Thets (Sak), the Kandu (Kantú), the Mons, the Shans and the Wa- Palaungs, but he called the Chins 'friends'. Moreover, while he pushed far up the Yaw, the Mu and the Irawaddy, he apparently did not go up the Chindwin. I cannot identify any old place of the Chindwin much further north than Monywa. From all this I infer that in the Pagan period the home of the Chin was mainly in the Chindwin Valley above Monyaw.[65]

In his major writing: “Old Kyakse and the Coming of the Burmans”, Professor Luce also mentioned the Chin settlement in Chindwin and their relation with the Burman as follows: If the Chins had joined the Thet peoples in opposing the Burmans, the latter's conquest of the central plains might have been precarious. But the Thets probably hated the Chins, whose descent from the Hukong Valley had cut off their western tribes in Manipur, and overwhelmed their tenure of Chindwin. Burman strategy here was to conciliate the Chins. They advanced

up the Lower Chindwin only as far as Monywa and Alone, called the Chins Khyan, “friends”, and seem to have agreed to leave them free to occupy the whole Upper Chindwin Valley. There is no mention of any fighting between the Chins and the Burmans; and whereas the Pagan Burmans soon occupied the M'u Valley at least as far as Mliytú (Myedu) and the Khaksan, Yaw and Krow Valleys as far as the Púnton (Pónaung) Range and perhaps Thilin,

I know of no place up the Chindwin much beyond Munrwa (Monywa) and the Panklí 10 tuik (ten ‘taik’ of Bagyi), mentioned in Old Burmese. [66]

[39]. K. Zawla (1976) op.cit.,p. 2. [Italic within bracket is my explanation1] [30] . J Shakespeare, The Kuki Lushai Clan, (1912),

[40] . Sing Kho Khai, The Theological Concept of Zo in the Chin Tradition and Culture, (BRE thesis: Burma Institute of Theology, 1984), and Chawn Kio, "The Origin of the Chin" in Ceu Mang, ed., Krifa Bukbau (Haka: CCLR Press, 1993), pp. 12-21. [in Chin!].

[41]. Sing Kho Khai (1984), p. 53

[42]. Ibid., p. 21

[43]. Gin Za Thang (1973), op.cit., p. 5, cited also by Sing Kho Khai (1984), op.cit., p. 10; and T. S. Gangte (1993), op.cit., p. 14

44]. Both Professors Than Tun and Gordon Luce are regarded as the most well known scholars in the study of ancient Burmese history, including the Chin.

[45]. Than Tun, Essays on the History and Buddhism of Burma, (Whiting Bay, Scotland: Kiscadale Publications, 1988), p. 3.

[46]. Cited by Than Tun (1988), p. 4

[47]. C. M. Enriquez, The Races of Burma, (Rangoon: G

[48]. Ibid.

[49]. Cited by F. K. Lehman, The Structure of Chin Society, (Urbana: Illinois University Press, 1963), p. 11

[50]. Ibid., p. 22

[51]. Ibid.

[52]. Ibid.

- [53]. Ibid., p. 22
- [54]. T. S. Gangte (1993), *op.cit.*, p. 17
- [55]. Sing Kho Khai (1984), *op.cit.*, p. 10
- [56]. Than Tun (1988), *op.cit.*, p. 3
- [57]. Ibid.
- [58]. Gordon Luce, "Old Kyaukse and the Coming of Burma" in *Journal of Burma Research Society*, Vol.XLII, June 1959, pp. 75-109
- [59]. Lal Thang Lian, *History of Mizo in Burma* (MA thesis: Mandalay. University, 1976), p.9
- [60]. Vumson in his *Zo History* (1986) mentioned that the "remains of Chin settlements are still found today in the Chindwin Valley. Two miles from Sibani village, not far from Monywa, is a Chin ritual ground. The memorial stone was, in earlier days, about thirteen feet (4.3 m) high, but now decayed from exposure. The Burmese called it Chin paya or Chin god." (p. 34)
- [61]. Sing Kho Khai (1984), *op.cit.*, p. 36
- [62]. Vumson (1986), *op.cit.*, p. 35
- [63]. G. H. Luce, "Chin Hills—Linguistic Tour (Dec. 1954)—University Project in *Journal of Burma Research Society* (Vol.XLII, June 1959), pp. 19-31
- [64]. B. Lalthanglian, *A History of Mizo in Burma*, (Aizawl: Zawlbuk Agencies, 1997), p. 71
- [65]. Ibid.
- [66]. G.H. Luce, "Old Kyaukse and the Coming of the Burman" (1959), *op.cit.*, p. 89 government Printing, 1932), pp. 7-8

### The Chin: large-scale DNA study

A large-scale study of Myanmar haplogroups was carried out in 2013: Ancient inland human dispersals from Myanmar into interior East Asia since the Late Pleistocene by Yu-Chun Li, Hua-Wei Wang, Jiao-Yang Tian, Li-Na Liu, Li-Qin Yang, Chun-Ling Zhu, Shi-Fang Wu, Qing-Peng Kong, and Ya-Ping Zhang.

854 people took part, of which 258 were Chin. No details were given reference different clans, such as Haka, Lushai, etc. The Chins were grouped into Chin 1, Chin 2 and Chin 3. Very interestingly the following results were obtained for the M84 haplogroup:

Chin 1: 25.86%; Chin 2: 3.21%; Chin 3: 30.77%.

Note: 129 populations were studied and the only other occurrences were small percentages in the Burman, Khmer and Naga groups.

From the Eupedia genetics website the following was obtained:

[https://www.eupedia.com/europe/Haplogroup\\_E1b1b\\_Y-DNA.shtml](https://www.eupedia.com/europe/Haplogroup_E1b1b_Y-DNA.shtml)

#### Haplogroup E1b1b (Y-DNA)

Origins & History: E-M123 originated some 19,000 years ago, during the last Ice Age. Its place of origin is uncertain, but it was probably in the Red Sea region, somewhere between the southern Levant and Ethiopia. Its main subclade E-M34 most probably emerged in the Levant about 15,000 years ago. Soon afterwards, M34 split into two branches, M84 and Z841, which were probably found in the Fertile Crescent during the Neolithic period.

It is not clear at present whether they expanded beyond the Near East during the Neolithic period, but they might have been part of the Neolithic expansion to North Africa and Iberia alongside haplogroups T1a and/or R1b-V88.

L791 and Z21466 have a mostly European distribution today and their ages point toward a Neolithic diffusion.

The PF6759 subclade seems to have reached Sardinia during the Neolithic period.

The descendants of L791, Y2947 and Y4971, only appeared around 3500 BCE, during the Late Neolithic or Chalcolithic period. The K257 and Y4970 branch emerged around 3000 BCE and is found in Iran, Armenia, Turkey, Russia, Greece, Italy and France, among others. It might be linked to the expansion of the Kura-Araxes culture from the southern Caucasus to Anatolia and Iran. It would then have spread to Greece and Italy alongside haplogroup J2a1 and T1a-P77.

Y6923 also emerged around 3500 BCE, but became almost extinct. All modern

carriers of this lineage descend from a common ancestor who lived only 1,200 years ago, and all are Ashkenazi Jews.

E-M34 lineages experienced a much more dramatic expansion during the Chalcolithic (Copper Age) period. CTS1096 split into three subclades around 7,500 to 7,000 years ago, a period that corresponds to the advent of the Copper Age around modern Kurdistan. These lineages continued to expand around the Middle East, Greece and Italy during the Bronze Age. Nowadays, the FGC18412 (aka Y5412) clade is the main variety of M123 found in Europe. Also downstream of CTS1096, the Y14891 and Z21018 clades are typically found among people of Jewish ancestry, while PF6391 and Z21421 are found in the Levant (Syria, Lebanon, Palestine, Jordan) and the Arabian peninsula. F1382 appears to have expanded during the Iron Age from the Levant to the Arabian peninsula, where it is almost exclusively found today. Phoenician, Greek and Roman diffusions of E-M34.

The classical antiquity brought new waves of colonisation across the Mediterranean. The first colonists were Phoenicians, who came from present-day Lebanon and the Tartus province of Syria. The Phoenicians possessed a variety of paternal lineages reflecting the complex ancient history of the Middle East. One of them was E-M34 (notably Levantine clades like Y15558 and Z21421), which makes up about 15% of modern Lebanese Y-DNA, but was probably higher before the Greek, Roman, Arabic, Byzantine, medieval crusader and Ottoman occupations altered the local gene pool. E-M34 is the main Middle Eastern variety of E1b1b and is thought to have arrived with the Proto-Semitic people in the Late Copper to Early Bronze Age. The Phoenicians would have spread E-M34 to Cyprus, Malta, Sicily, Sardinia, Ibiza and southern Iberia. The ancient Greeks contributed to the rediffusion of more E-M34 (and E-V13) around places such as Cyprus, Sicily, southern Italy, Liguria, Provence, eastern Spain, and basically all part of the Classical ancient Greek world. Alexander's conquest of the Middle East would have taken Greek male lineages much further afield, perhaps as far as Afghanistan and Pakistan, although only at trace

frequencies. The Greeks remained in control of the Middle East until the Roman conquest, then regained influence over the region during the Byzantine period. It is likely that most E-V13 in the Middle East is ultimately of Greek or Roman origin, although some might have come with Bronze Age Indo-European migrations via Iran.

The Etruscans, who may have come from western Anatolia, could have brought E-M34 to central Italy, which would then have been assimilated by the Romans. Migrations within the Roman Empire probably played a role, although a minor one, in the redistribution of E1b1b in Europe. The biggest genetic impact of the Romans/Italians outside of Italy appears to have been in Gaul (modern France, Belgium, southern Germany and Switzerland), probably because this was the closest region to Italy using the well-developed Roman road network (actually inherited from the Gauls themselves).

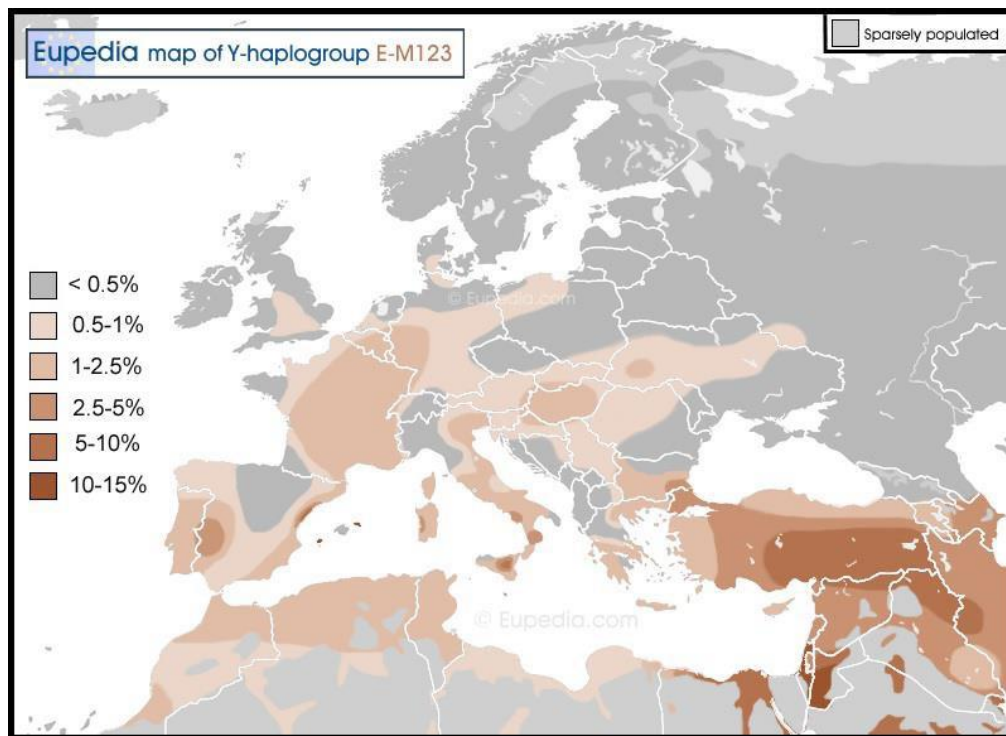


Figure 1008. Map from eupedia.com

The origins of M84 are given as the Levant, indicating at least one branch of Chins originated from there. E-M84 age = 7391 ybp

<https://www.yfull.com/tree/E-M84/>

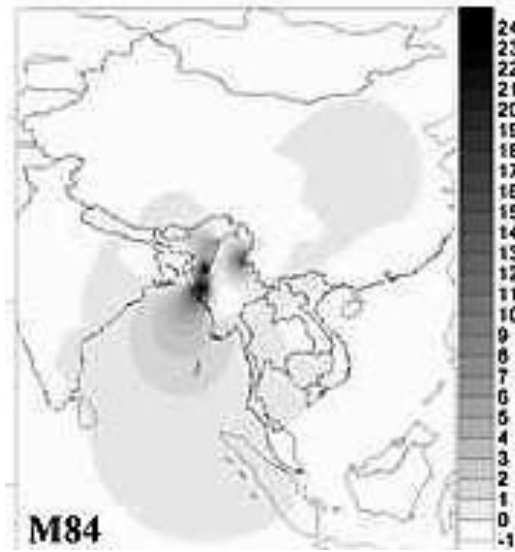


Figure 1009. From the Yu-Chun Li et al study (M84)

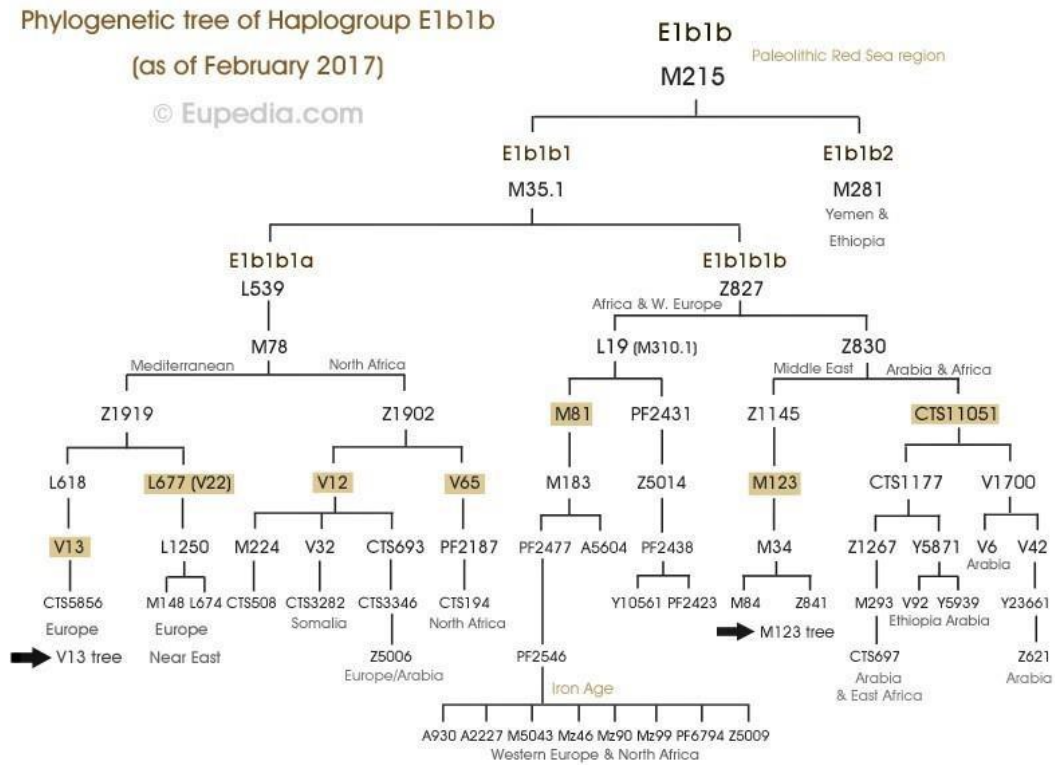


Figure 1010. E1b1b with line to the M84 marker. www.eupedia.com



### Phylogenetic tree of Haplogroup E-M123

(as of January 2017)

© Eupedia.com

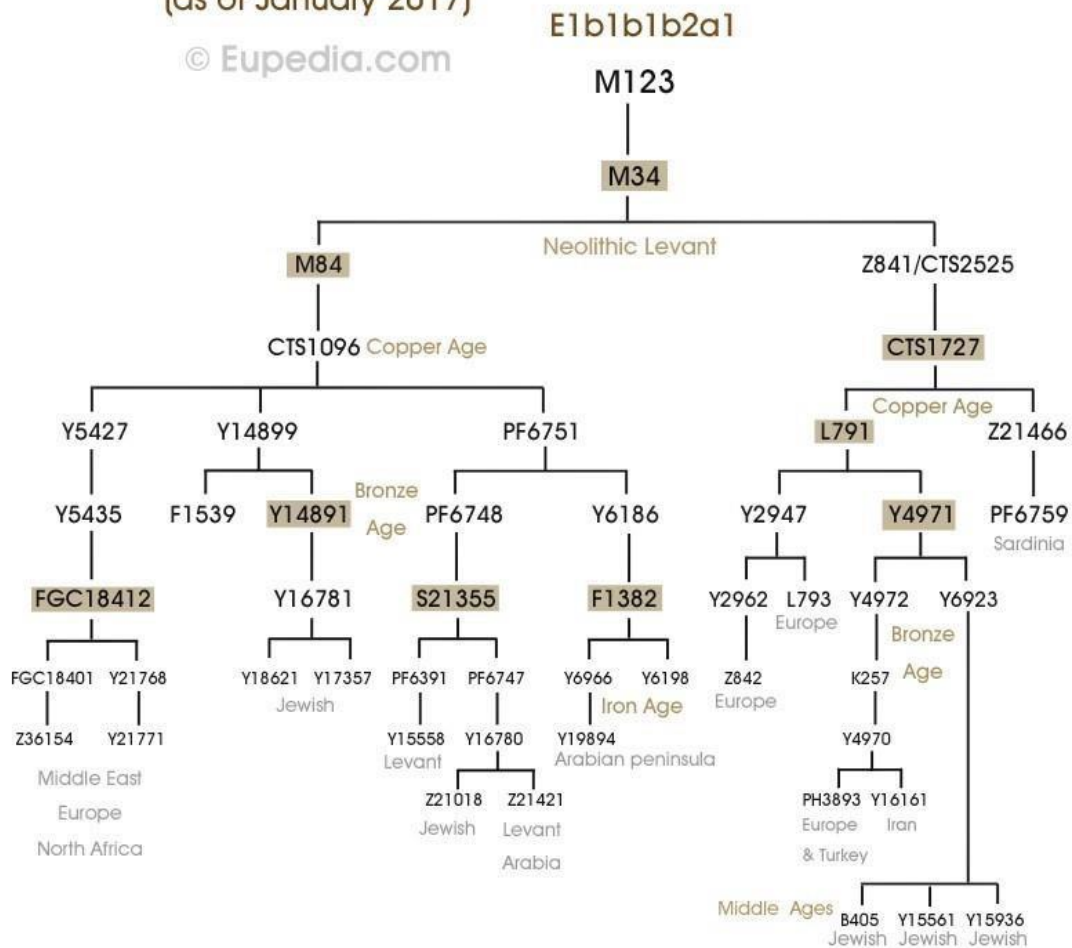


Figure 1011. E1b1b1b2a1 marker with M84 branch. www.eupedia.com

Another important DNA study into the M haplogroup was carried out in 2016: Carriers of human mitochondrial DNA macrohaplogroup M colonized India from southeastern Asia by Patricia Marreroa<sup>1</sup>, Khaled K. Abu-Amerob<sup>1</sup>, Jose M Larrugac, Vicente M. Cabrerac<sup>2\*</sup>

- School of Biological Sciences, University of East Anglia, Norwich NR4 7TJ, Norfolk, England.
- Glaucoma Research Chair, Department of ophthalmology, College of Medicine, King Saud University, Riyadh, Saudi Arabia.
- Departamento de Genética, Facultad de Biología, Universidad de La Laguna, La Laguna, Tenerife, Spain.

A total 206 Saudi samples belonging to macrohaplogroup M have been analyzed. In addition, 4107 published complete or nearly complete Eurasian and Australasian mtDNA genomes ascribed to the same macrohaplogroup have been included in a global phylogeographic analysis.

We suggest that the phylogeny and phylogeography of mtDNA macrohaplogroup M in Eurasia and Australasia is better explained supposing an out of Africa of modern humans following a northern route across the Levant than the most prevalent southern coastal route across Arabia and India proposed by others. However, after that, a recent study reported a new mtDNA haplogroup from Myanmar, named M84, that also roots at the basal node represented by transition 14110 (Li et al., 2015). This haplogroup shares with M20 the transition 16272 which is more conservative than 16129 (Soares et al., 2009), therefore, weakening any specific relationship between haplogroups M1 and M20 beyond its common basal node. With the exception of M84, that seems to be limited to Myanmar, India and Southern China populations (Li et al., 2015), the phylogeography of these haplogroups is extend and complex (Table S3).

The Phoenicians were known to trade as far north as the British Isles, and may have had trading posts along the coast of Portugal, Galicia, Asturias and Cantabria, which would have brought a mixture of Near Eastern (J1, J2, EM34, T, G2a) and Berber (E-M84, R1b-V88) lineages to the region, as is observed today.  
<https://vieilleurope.wordpress.com/2016/01/11/the-african-dna-of-europe-e-v13/>

Recently there has been a big leap-forward with DNA techniques. However, to find a definitive answer to the question as to what haplogroup etc. do the Haka Chin have with for example, the inhabitants of Liaoning or Qinghai, would need a study to be undertaken looking at just that. We have found two studies which throw light on the subject and the second, in particular, directly links the Burmese Chin with southwest Chinese populations via the M84 haplogroup.

The first study:

Large-scale mitochondrial DNA analysis in Southeast Asia reveals evolutionary effects of cultural isolation in the multi-ethnic population of Myanmar Monika Summerer et al from: <http://bmcevolbiol.biomedcentral.com/articles/10.1186/1471-2148-14-17>

This dataset from Myanmar is of great historic interest, because SEA is a key region of human population history with a first entry of anatomically modern humans of African descent about 60,000 years ago [10, 11], who continued their way through the coastal route to Island SEA and Australia [8]. Following the glacial retreat in that area, also a north- and eastward migration towards the Yangtse and Yellow River basins of the ancestors of Sino-Tibetan tribes began [10]. So, also the initial colonization of China and the rest of East Asia had its origin in SEA [12, 13]. Much later, probably driven by a Neolithic agricultural revolution, the Tibeto-Burman (Burmese-Lolo and Karen) branches of Sino-Tibetans moved back southwards through Yunnan to Myanmar and the SEA peninsula [11, 14, 15]. Ruled by changing kingdoms and dynasties [16], occupied by the British Empire (1824–1948) and lying on the trade route between India and China [17], Myanmar was influenced by a variety of cultures.

The second study:

Ancient inland human dispersals from Myanmar into interior East Asia since the Late Pleistocene, Yu-Chun Li et al (see earlier references):

Among the basal lineages identified in the Myanmar populations, some (e.g. M24, M90, M91, M55, M54 and M84) are also observed in southwestern China, suggesting certain direct but previously unknown genetic connections between Myanmar and mainland China. Further analyses reveal that haplogroups M24, M90 and M91 in southwestern China were the results of recent gene flow from Myanmar, likely occurred during the expansion of Pyu populations at about 200 BCE or economic trade between Yunnan and Myanmar (and northeast India) since Qin and Han dynasties. Intriguingly, haplogroups M54, M55 and M84,

showing the highest genetic diversity and thus their origination in the border of Myanmar and northeast India (e.g. M54 and M84), or the border of Myanmar and Thailand (e.g. M55), have subclades (i.e. M54a, M55b and M84b) to be present merely in southwestern China, strongly arguing for the existence of ancient genetic connection between both regions and, furthermore, suggesting that this connection was attributed to human dispersal(s) from Myanmar to the interior of China. The estimated ages of haplogroups M54a, M55b and M84b fall in two time periods (viz. ~20 vs. ~10 kya; Table 1), suggesting the migration events might last from the Late Paleolithic to early Neolithic.

### **The Indo-Europeans, the Qiang and their migrations to the Far East**

Having proposed that the Chin beads and bronze belts identify with Neolithic Chinese cultures over thousands of years, we have now come full circle with our investigations to consider from which branch of the Indo-Europeans the Qiang originated. It is our considered opinion that one or more of the cultures depicted below traveled to the Far East and took their cultures and designs with them. They became known as the Qiang, or Di-Qiang. Many identical designs appear in both Central Europe and Neolithic and Bronze Age China. However, there may be many thousands of years separating the appearance of the motifs in China. The standout ceramic from Chifeng needs to be identified to a particular period in time as the designs on it definitely appear in some of the cultures covered by us by at least 9000 BC and possibly much earlier. Could it be that a proto-Indo European tribe migrated/influenced cultures in ancient China much earlier than the Tocharians have been dated to?

## Proto Indo-European Influence in Ancient China

A very important study has been carried out. Source:

[http://www.sinoplatonic.org/complete/spp175\\_chinese\\_civilization\\_agriculture.pdf](http://www.sinoplatonic.org/complete/spp175_chinese_civilization_agriculture.pdf)

The Rise of Agricultural Civilization in China: The Disparity between Archeological Discovery and the Documentary Record and Its Explanation Looking for the Source of Civilization in the Delta of the Yellow River (2) by Zhou Jixu, Center for East Asian Studies, University of Pennsylvania, Philadelphia, Pennsylvania Chinese Department, Sichuan Normal University, Chengdu, Sichuan

This research project puts forward an entirely new viewpoint on the prehistory of the Yellow River area and the evidence for it: the civilization of the Yellow River is not a result of an independent evolution, but of the impact of a foreign upon a native culture. The earliest Chinese agriculture, as revealed by Chinese archeology, rose earlier than 4000 BC in the middle reaches of the Yellow River and the Yangtze River. But according to ancient documents, the earliest agriculture occurred in the period of Hou Ji 后稷 1 (about 2100 BC) in the middle reaches of the Yellow River. Why is there such a large disparity in time? The explanation is this: the story of agriculture and Hou Ji represented the beginning of agriculture only among the people of the nation of Huang Di (the Yellow Emperor), who were originally nomadic. Hou Ji and his people learned to cultivate grains from the earlier native people, who lived in the area of the Yellow River and the Yangtze River 5,000 years ago, yet so far they have been neglected by conventional history. The Yellow Emperor's nation held the middle reaches of the Yellow River because of their strong force, but they consolidated, expanded, and continued their rule in China by accepting the indigenous agricultural culture. The occupying nation was a branch of the Proto-Indo-European. The historical records, such as Shang Shu, Shi Jing, Zuo Zhuan (Annals of Feudal States),

and Shi Ji, etc., were all only descriptions of the rise and fall of the Yellow Emperor's nation. The earlier native civilizations of the Yellow River and the Yangtze River of 5,000 years ago were excluded from the traditional historical record and therefore have been covered up for 3,000 years. This paper tries to reveal the historical facts with the evidence of archeology, ancient documents, and historical linguistics.

1 Hou Ji (about 2100 BC) was the forefather of the Zhou tribe, which later grew to be the strong kingdom that established the Zhou dynasty in China (1046-220? BC). Hou Ji was also one of the significant leaders of the reigning group of Huang Di's descendants, based on the accounts of Chinese classical documents .....Unlike the Yangshao and Hemudu people, who came from southern China, the Huang Di nation came from west of China, from the western part of the Eurasian continent. They conquered the native people of the Yellow River and the Yangtze River, who possessed a developed agricultural culture. By combining their own imported cultural factors with those of the native culture, the Huang Di people gradually developed a splendid new civilization in the Xia, Shang, and Zhou dynasties. They superseded the original native people to take the leading role on the stage of Chinese history. That the Huang Di nation was a branch of the archaic Indo-European people is one of the most remarkable facts thus far known to human history.

But a large number of Indo-European words in Old Chinese language clearly attest to this fact. The relics left by the Huang Di people are related to the Longshan Culture in the archaeological chronicle, and the civilization of the Xia, Shang, Zhou, and Qin 秦 dynasties were its successors. Evidence for this claim comes from two sources: the first uses the evidence of ancient documents to show that the Zhou people, and thus the Yellow Emperor's nation, were originally a nomadic people, and the second is to reveal that there were a large number of Indo-European words in the Zhou language, using the evidence of historical linguistics. The third is the similarity in religion between the Huang Di people and Proto-Indo European...

.....The people of Huang Di were not only nomads, but also immigrants moving into the Yellow River valley in the prehistoric period. It is the linguistic evidence that provides this previously unrevealed history. Many Old Chinese words have been thought of as coming from the native people, but it has been found that in fact they share common origins with Proto-Indo-European languages. This fact shows us where Huang Di's nation actually came from.

During our investigations we have come across conflicting theories from eminent authorities as to the origins of the occupants of the Tarim Basin and further East into China. Our quest concerns the following: Who were the ancient Qiang, or Di-Qiang, and where did they come from? Our studies point to them originating from Anatolia/The Levant some 7000 BC. This is based on pottery and bronze motifs and styles as well as clothing patterns. We include here samples of other people's map work.

The maps shown in figures 1012 and 1013 represent many other experts' views regarding the Indo-European venture eastward. We believe that our trail of evidence leads to a different route as outlined previously, i.e. a route from Southeast Anatolia/Levant, commencing near 6500 BC, and taking a northeast route via Luristan, towards the Tarim Basin, where a southerly route along the Kunlun Mountains lead the Proto-Indo-Europeans towards Liaoning in the first instance, with them back-tracking to Qinghai and Gansu.

We have previously outlined our thoughts concerning the breakdown of society at Çatalhöyük c. 5950 BC and a possible reason for the movement eastward and westward, coinciding with the spread of farming.

Colin Renfrew has expressed thoughts that we will not know the extent of settlements in the Tarim Basin until further archaeological studies. We note that as this area is in the province of Xinjiang this may be some time off. The upheaval due to political events there may prevent any such investigations until well into the future.

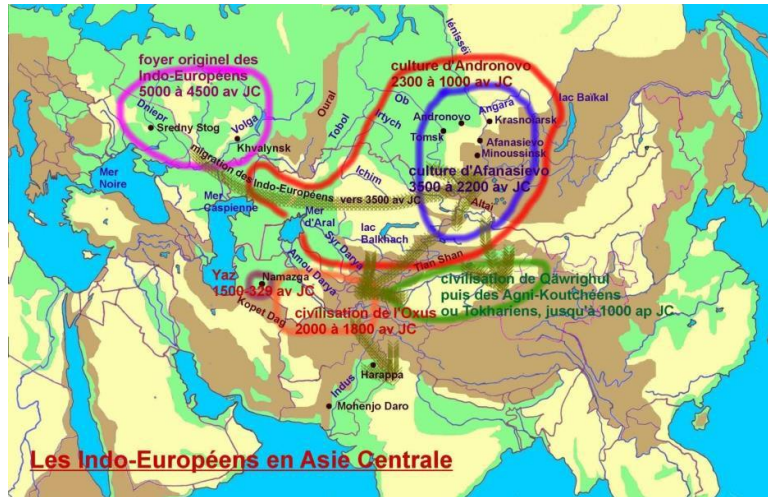


Figure 1012

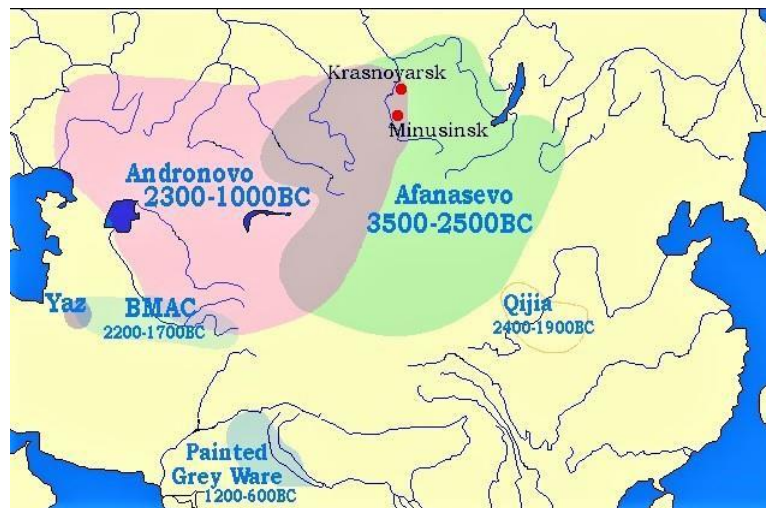


Figure 1013

Figures 1012,1013. Two maps from <https://aratta.wordpress.com/ie-indo-irans/>

We do not dispute the extent to which the cultures above are shown, however we believe the Qijia culture was already established by the Proto-Indo-Europeans who had arrived deep inside China 4000–3500 BC. We propose that the sheer weight of evidence in the form of symbols on pottery, bronze etc. of the various ancient Chinese cultures shown by us such as the Hongshan, Daxi and Majiayao, symbols which originated in the Southeast Anatolian and Levant areas 10000–6000 BC, far exceeds any evidence of influence of the Afanasevo culture as portrayed in the map above.



## The work of Lu Enguo and his team at Yanghai

The following screenshots were taken from the CCTV series 'Journeys in Time; the Tombs at Yanghai, part 10' covering the excavations of the Turpan Basin led by Lu Enguo. All the experts involved place great importance regarding the similarities of patterns and motifs (they must have been put there for a purpose), indicating widespread influences etc. We agree and have based most of our report on this aspect, concluding a West to East travel. However, our route leads to China from a different direction than portrayed in the images.



Figure 1014



Figure 1015



Figure 1016

Figure 1016 shows Dr Jiang Hong'en explaining that Gromwell seeds, used as decoration on utensils found at Yanghai, had been excavated at sites in Europe (Italy and Bulgaria) which were dated centuries before the Yanghai site.

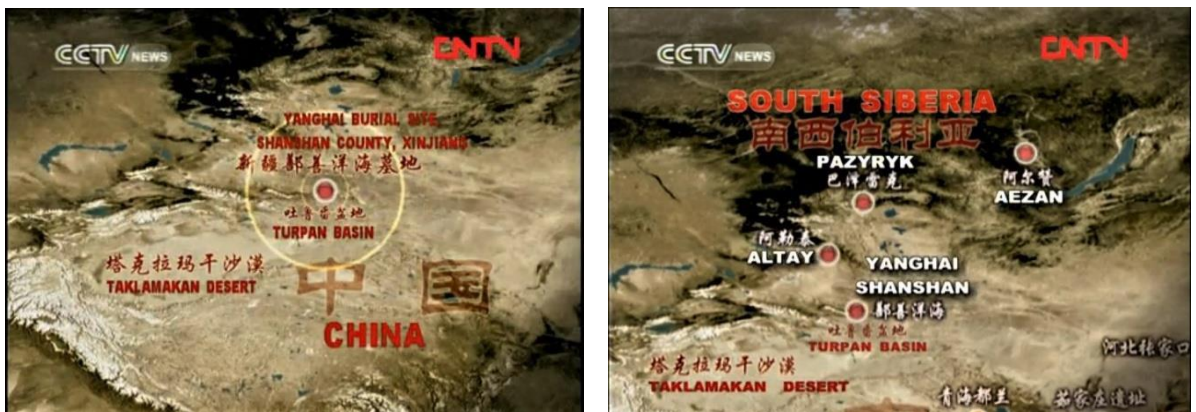


Figure 1017

From the maps shown on the TV series it can be seen that most of the activity was concentrated on the north side of the Taklamakan. Our research indicates that the PIE took a southerly route along the Kunlun Mountains travelling along the 'Jade Route' from Khotan to Liaoning.

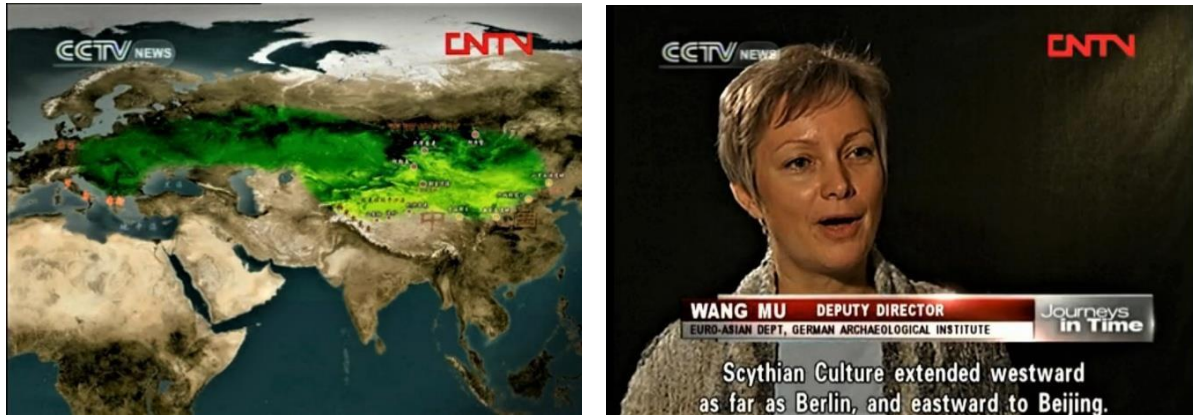


Figure 1018

The programme claimed that the Scythians covered the green area, shown above. However, the Scythians of 900–200 BC were pre-dated by our findings by two or three thousand years.

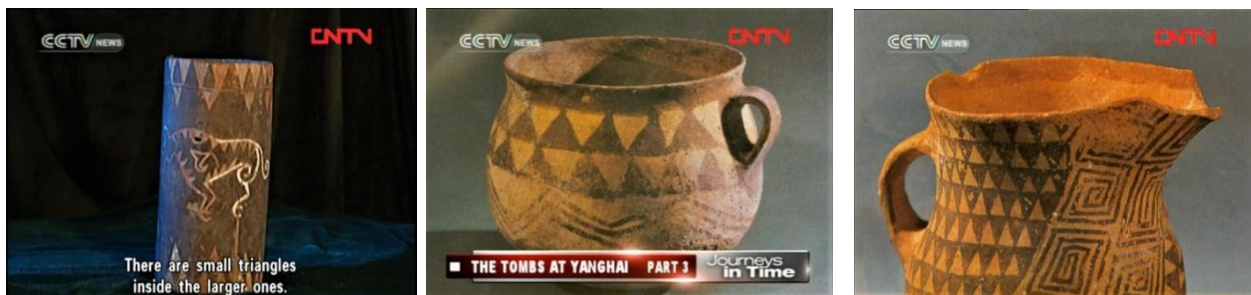


Figure 1019(a)



where there are many carved triangles.



Figure 1019(b)

Figures 1019(a)(b),1020. Professor Liu Xuetang discussing the artifacts pictured and western influences of the symbols.



Figure 1020

The program paid a lot of attention to symbols found on the various artifacts in the shape of triangles. Professor Liu Xuetao of Xinjiang University used the symbols to identify migrations from the west.



Figure 1021

Professor Jia Yingyi remarked that the fabrics found at the burial site resembled those of the very far west i.e. the British Isles.



Figure 1022



Figure 1023

However, we did notice a remarkable similarity between the symbol on the artifact shown in figure 1022 and the Chin 'leiwen' bead shown in figure 1023 as well as all the other similar bronze and pottery items shown earlier with this pattern.



Figure 1024



Figure 1025

The decorations on the artifacts above (figures 1024,1025) i.e. mountain or zigzag, and downward lines are ones with which we have followed on our journey and are on many Chin bead designs.

The experts above place great emphasis on symbols. The pot shown below is a reminder of the symbols we have discovered. In this instance, it is from the Western Zhou and has two of our bead designs on it. We feel comfortable in also placing emphasis on symbols.



[blog.sina.com.cn/u/1234567892](http://blog.sina.com.cn/u/1234567892)



Figure 1026. Western Zhou or Warring States pot. [http://blog.sina.com.cn/s/blog\\_684370f40100kdhz.html](http://blog.sina.com.cn/s/blog_684370f40100kdhz.html)

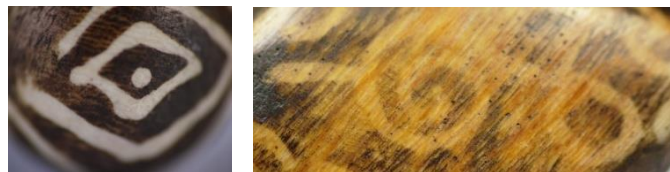


Figure 1027. Chin beads' detail for comparison



Figure 1028



Figure 1029

From the screenshot, it is not quite clear what the full symbol painted on the Tarim Basin mummy is (figure 1028). However, we did notice similarities to the symbol on the very important one on the bead shown (figure 1029). This symbol is like the 'leiwen' pattern as we have shown in many examples.

Figure 1028 screen shot from: <https://www.youtube.com/watch?v=tr5Kq56heIs>

## Investigations

This section deals with a typical investigation of an intact necklace: Fluorescence and close-up images of some beads showing quartz-like petrified wood (sizes 6–15mm dia.).



Figure 1030. Beads from the necklace shown in the main image



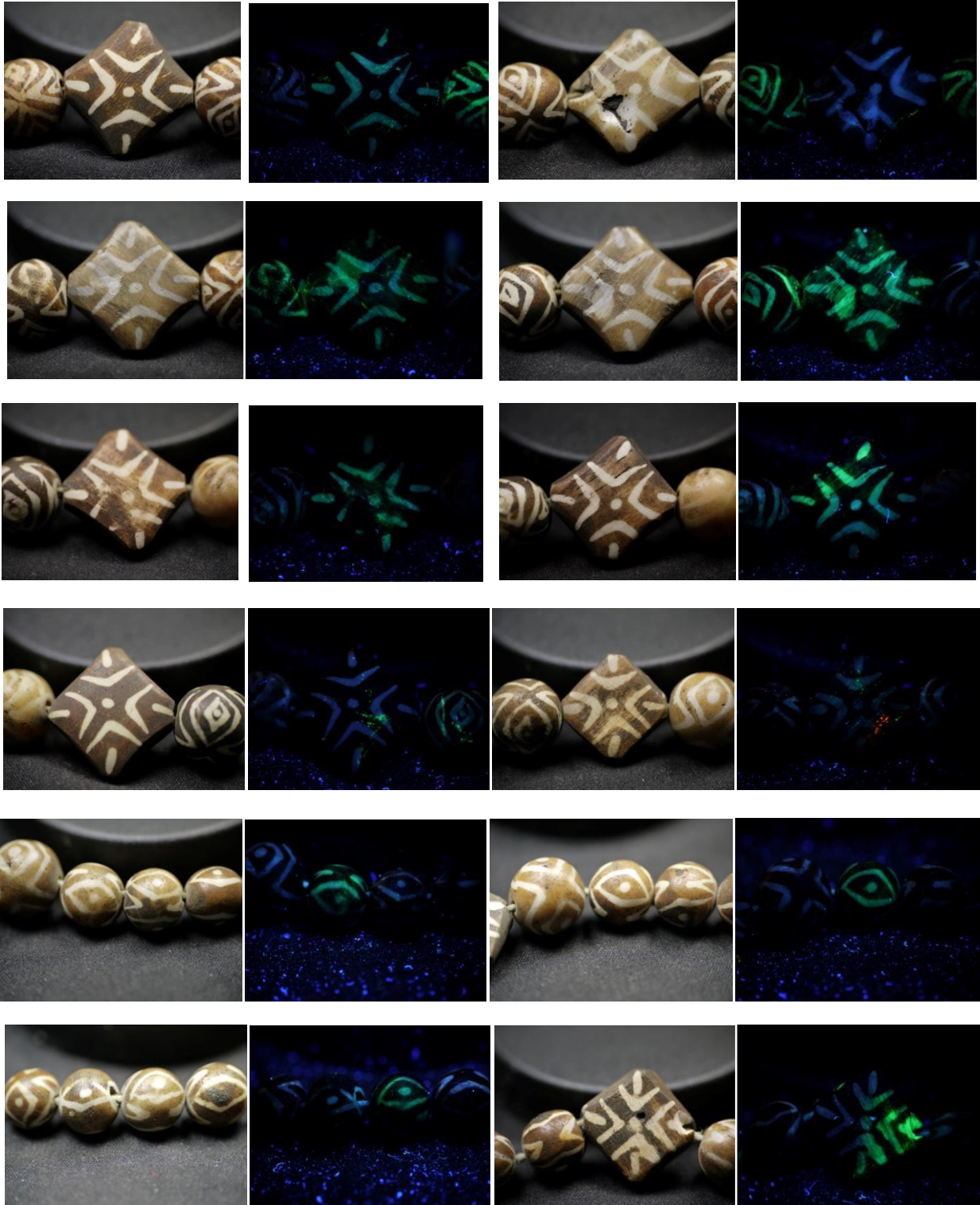


Figure 1031. More beads from the necklace



Figure 1032. More beads from the necklace

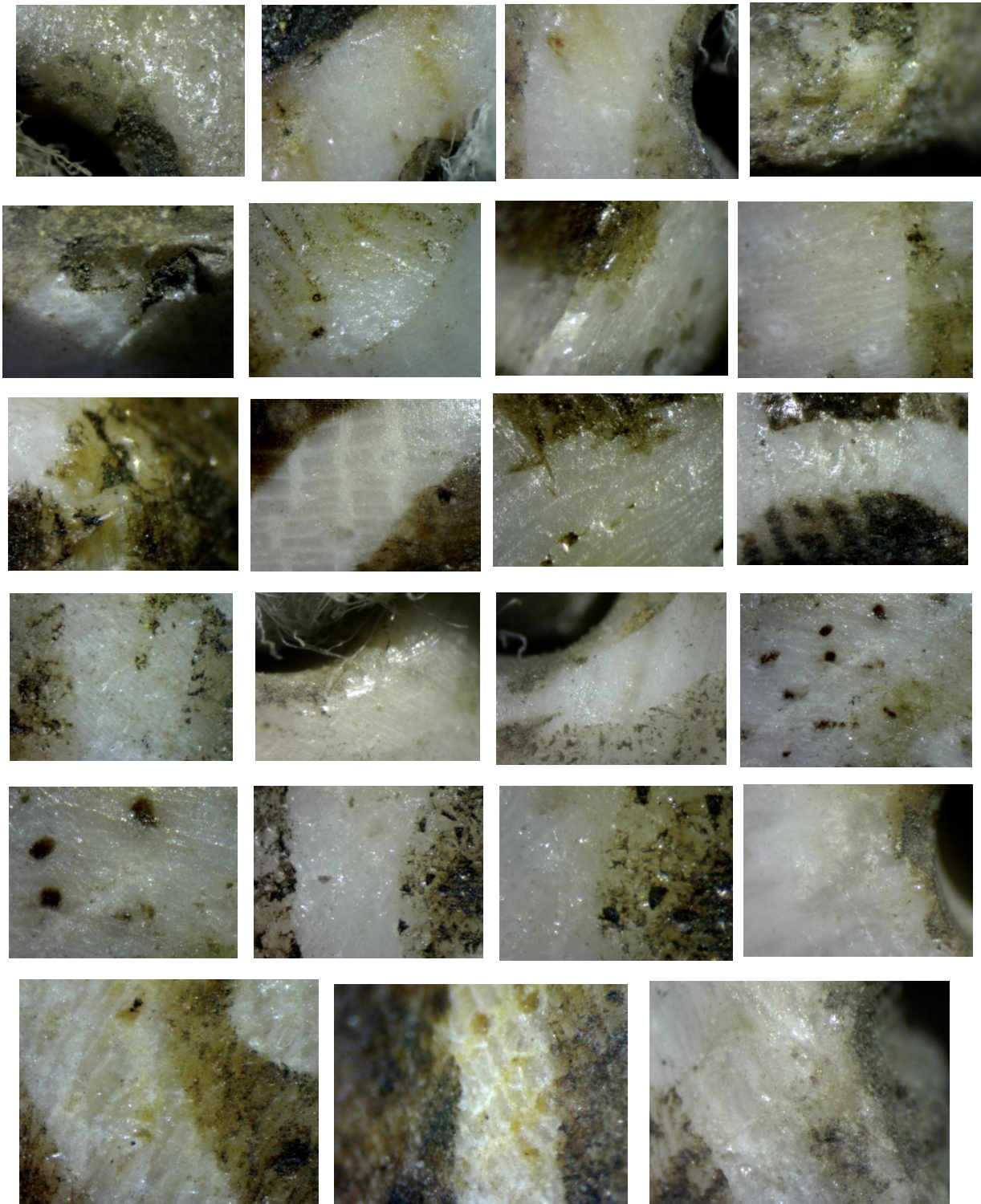


Figure 1033. Images of the beads shown in figures 1030-1032 under stereo microscope 80x magnification

Below are images from the investigation of a single bead (30mm length).



Figure 1034. Close up images of the bead under stereo microscope 80x magnification



Figure 1035. The single zigzag bead (figure 1034) under Dinolite 200x magnification, showing remnants of the original tree that had not fully silicified

It proved very difficult to use the Dinolite on round surfaces. Images were obtained easier by using stereo microscope at 40x and 80x magnification. We found that the areas surrounding the holes at each bead were sources of good images. The slightest wear (which could have taken thousands of years) would normally reveal the core material. It was then a hit-or-miss situation as to whether the petrification process had reached normal silicified wood or massive silicified wood stage. If the stage was at recrystallization then little or no wood structure would be visible.



Figure 1036. Images of round beads examined.



Figure 1037

The size of this bead (figure 1037) is 13mm in diameter. The method of hole manufacture often shows, allowing for our inexperienced eyes, a form of pecking to make the original opening. The holes must have been extremely difficult to drill, the bead being such a small round size made of very hard quartz state-like silicified wood.

Investigations and Methodology gallery: here we show images (figures 1038,1039) of one of the three broken beads (from a total of 1543).



Figure 1038



Figure 1039

Images in figure 1039 were taken using Dinolite at 60x and 200x. The status of the silicified wood has reached a quartz-like stage and very little of the wood structure remains.



Figure 1040

Figures 1040 and 1041 are examples of how all bead surfaces and holes were examined. The holes were very smooth, commensurate with great age. The surfaces were examined to establish the type of material they were made from, and by comparison with hundreds of images the material was found to be silicified and recrystallized wood.



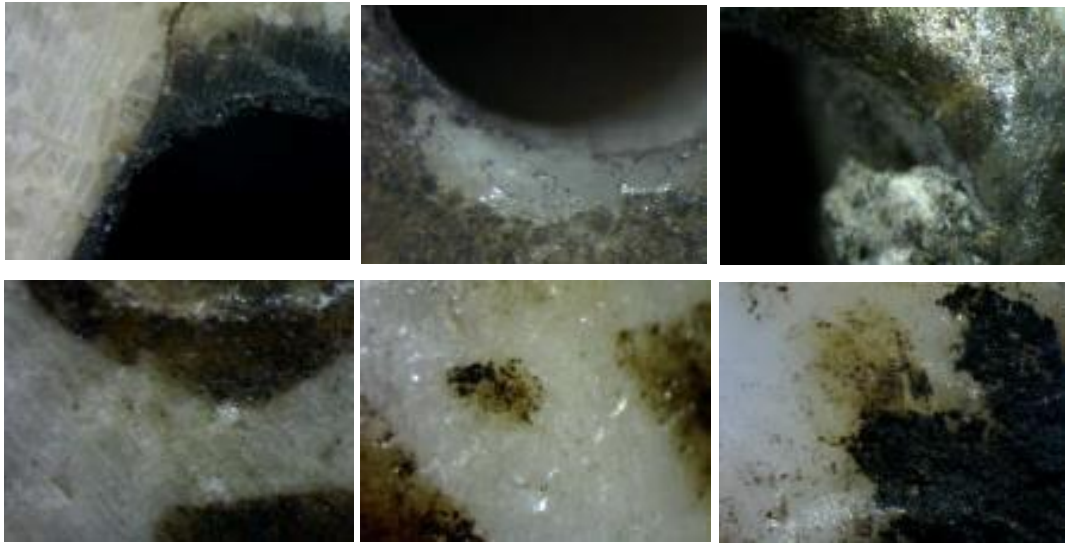


Figure 1041

The broken beads (figure 1042) were of particular use in this investigation and helped to ascertain which ancient drilling methods were used.



Figure 1042

Here we show images taken of the broken beads at 20x 40x 80x and 100x magnification.

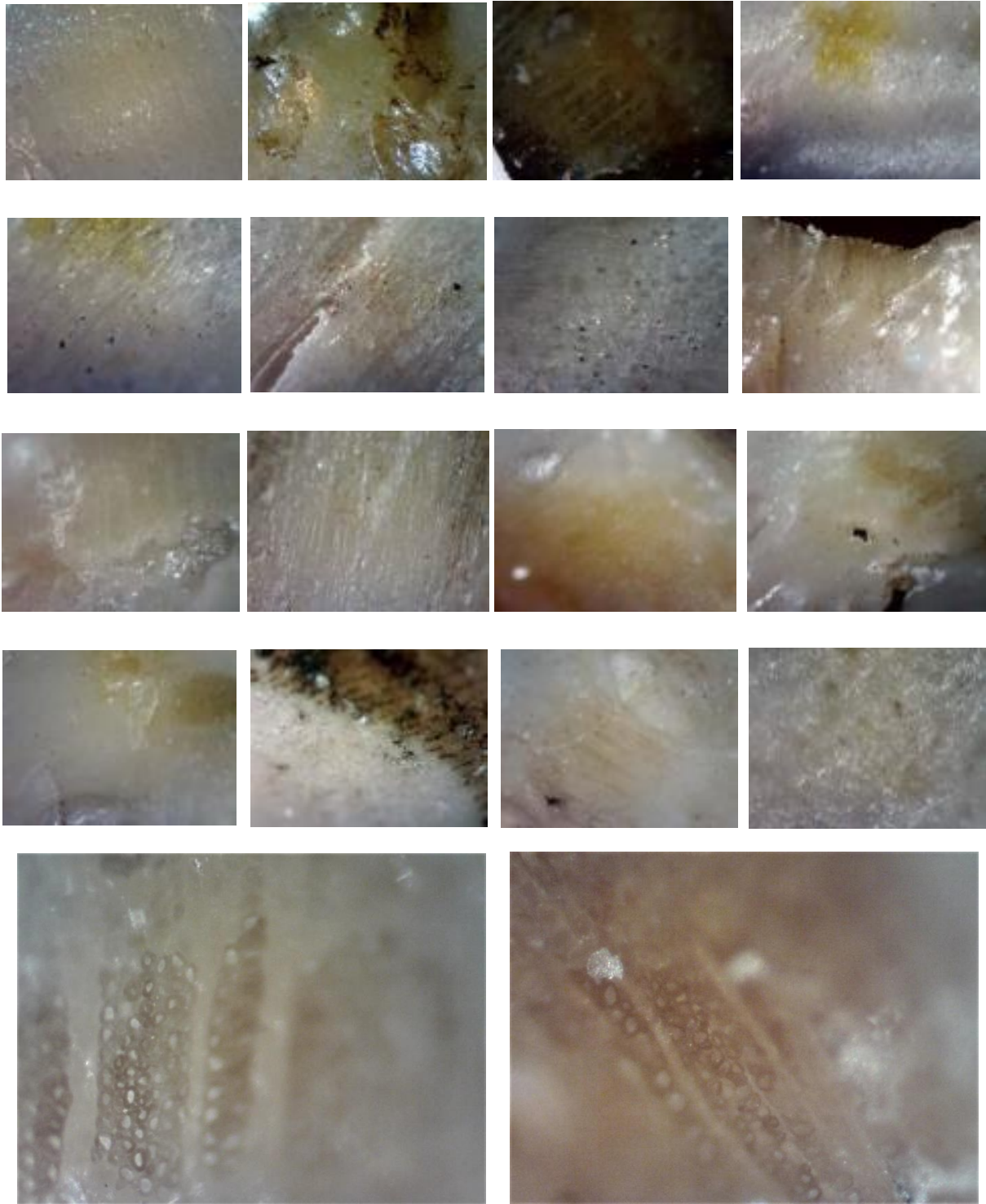


Figure 1043

The next step in the investigation: the images taken of the broken beads (figure 1043) were then compared to images taken of Triassic age petrified wood from Arizona and China (figures 1044,1045). All samples were of *araucarioxylon arizonica* apart from the Chinese example, possibly *araucarioxylon neimongense wang*, which is shown in figure 1045.

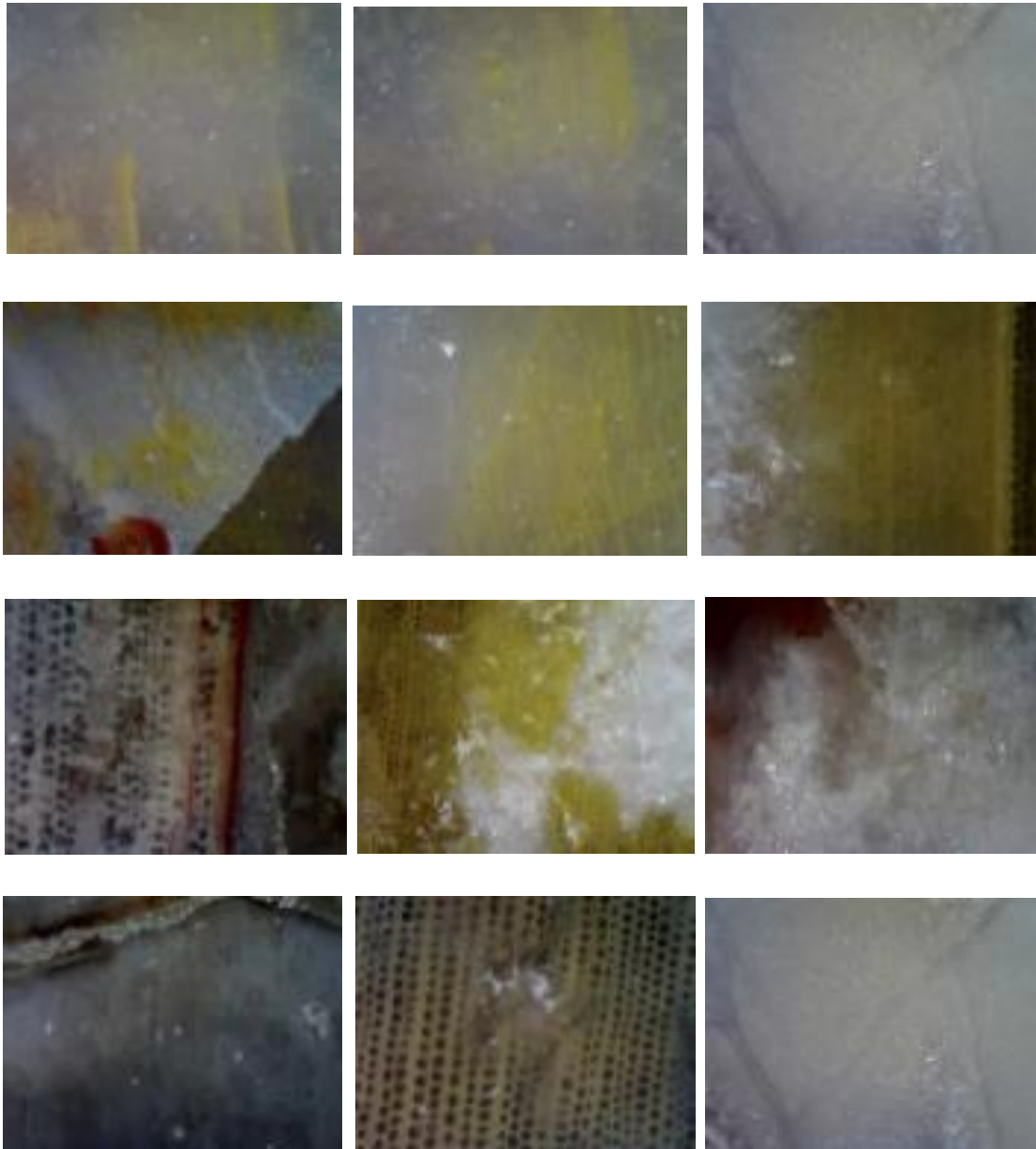


Figure 1044

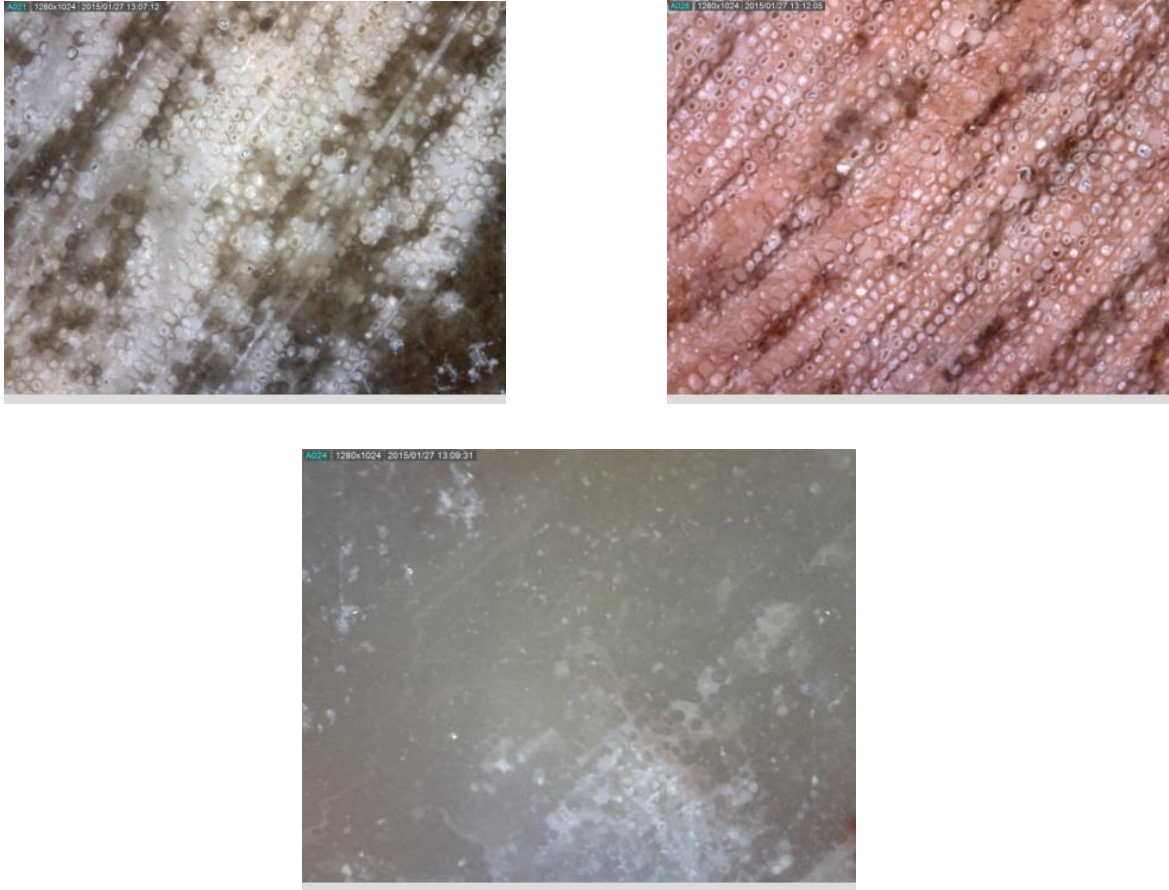


Figure 1045

Next, the beads were photographed under shortwave ultraviolet light 254nm against various pieces of araucarioxylon petrified wood. The first set of images are taken against some magnificent fluorescent specimens of petrified wood from Northwestern Nebraska USA. These pieces have veins of silicification which have been mixed with uranium during the petrification process, possibly caused following a volcanic eruption. These pieces adequately explain why some beads show partial fluorescence, whilst others show no sign of fluorescence yet can be from the same piece of petrified wood (figures 1046-1048(a)).



Figure 1046

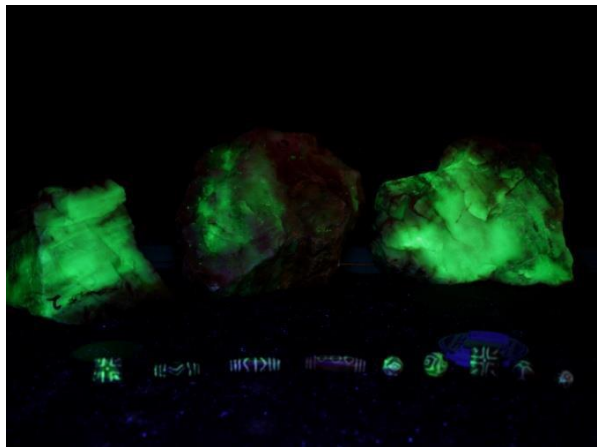
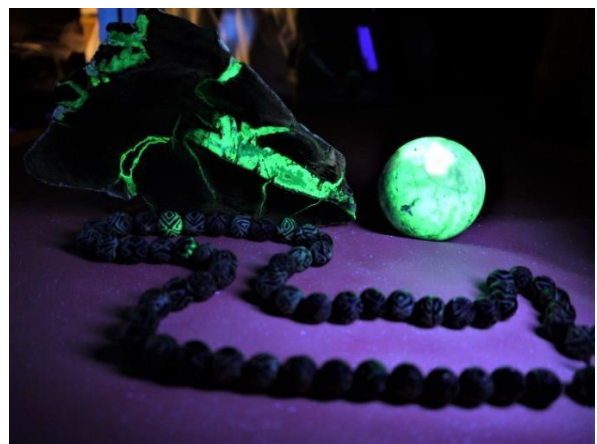


Figure 1047

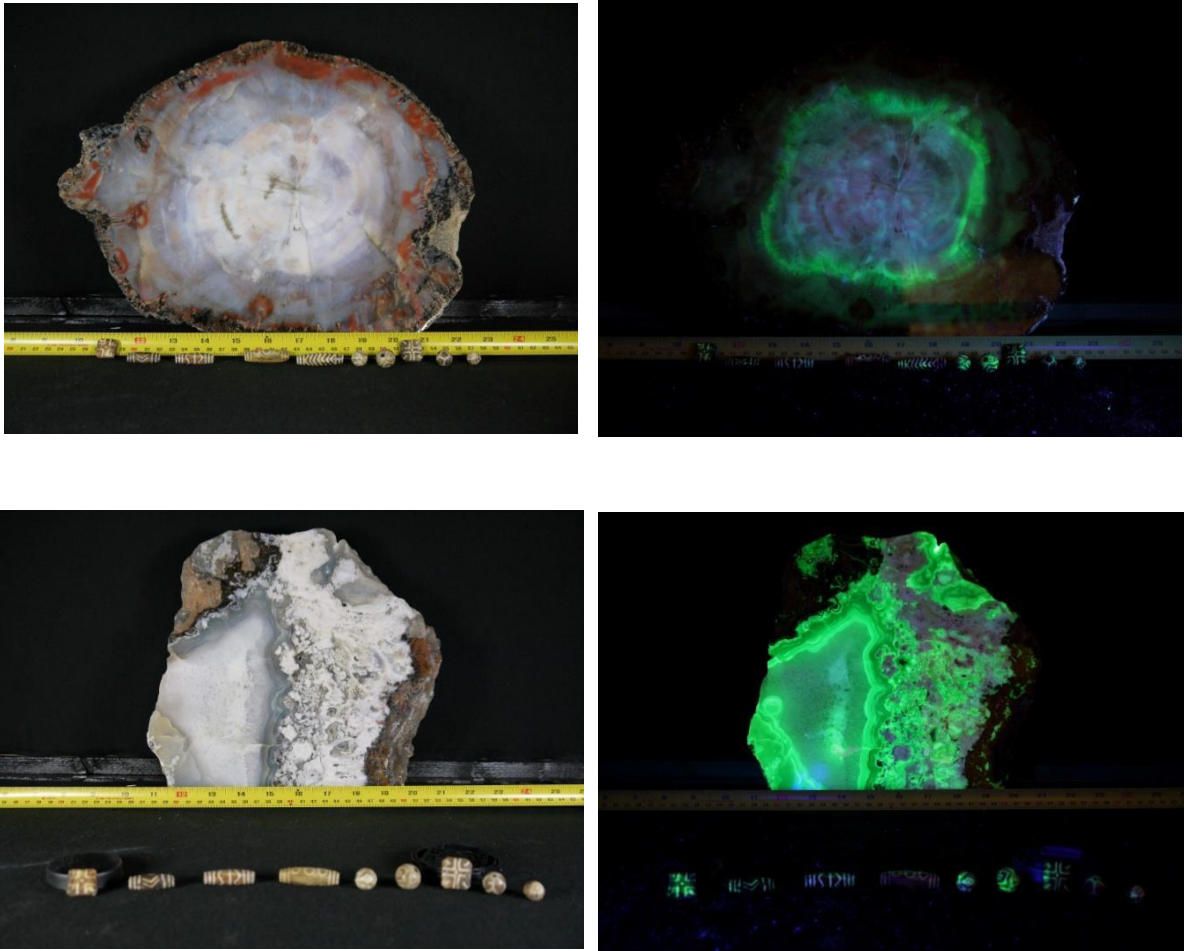


Figure 1048(a)

Not all araucarioxylon fossil wood fluoresces. To confirm this, we purchased a slice of Triassic age araucarioxylon silicified wood from Madagascar. Shown in figure 1048(b) is this piece under normal light and shortwave light 254nm. It can be seen that there is no fluorescence from the fossil, however the beads show fluorescence from the trace uranium element.



Figure 1048(b)



We purchased a very rarely available (in the West) piece of araucarioxylon from China, shown in figure 1049. Shown in figure 1050 is this piece at 200x magnification. This specimen was particularly difficult to source. Comparison of cell structure was identical to the cell structure of the Arizona araucarioxylon. We were able to identify to a good degree the species of Chinese araucarioxylon having discovered an invaluable source of information online from the Shenzhen Urban Management Bureau, Botanical Gardens Shenzhen, Shenyang Institute of Geology and Mineral Resources Ministry of Land, shown in figure 1051.

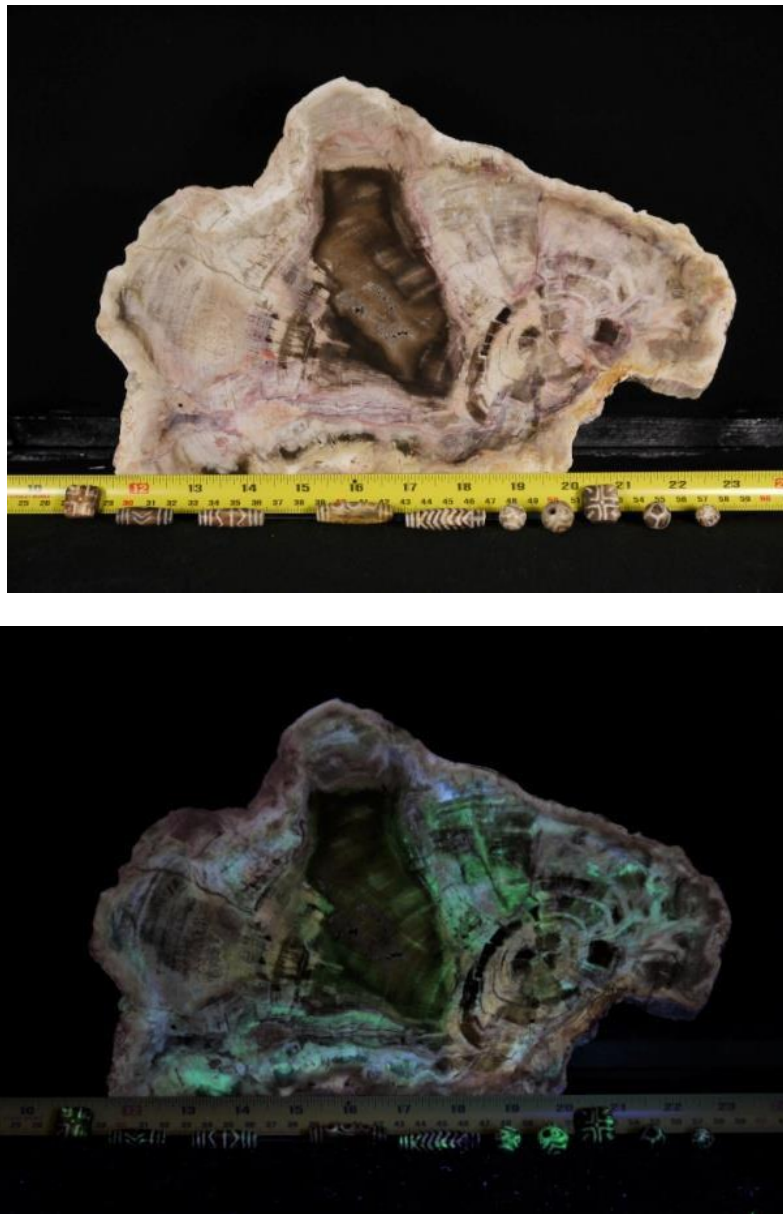


Figure 1049

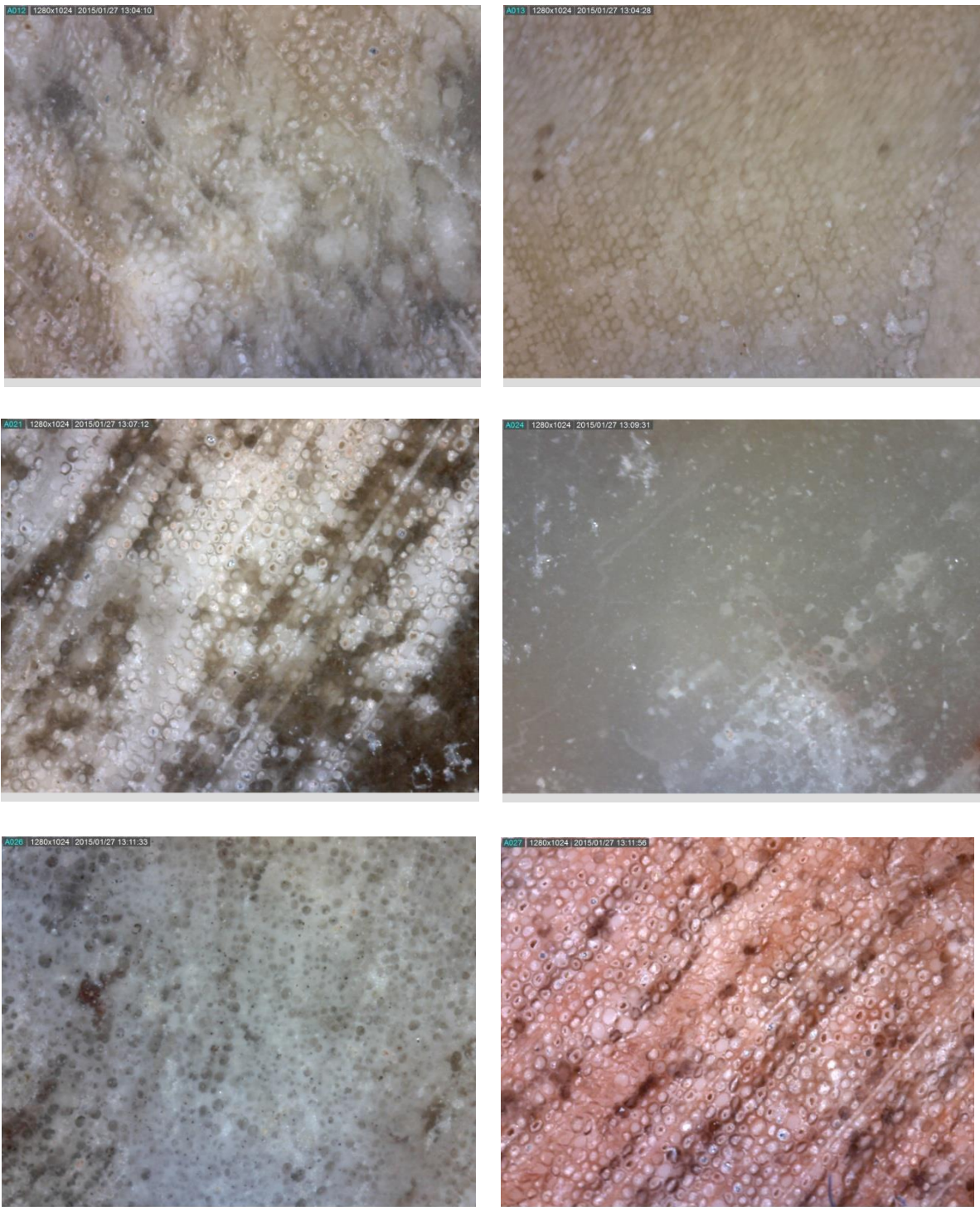


Figure 1050. More images of the Chinese silicified wood at 200x magnification using Dinolite.



Whilst almost unheard of in Burma (Myanmar) - and search for this they most certainly do, uranium is found in many places in China. The maps below indicate the places they can be found. A good explanation of the uranium penetrating the petrified wood can be found on earlier pages. Map immediately below depicts silicified wood deposits and is taken from the Shenzhen Bureau study (figure 1052).

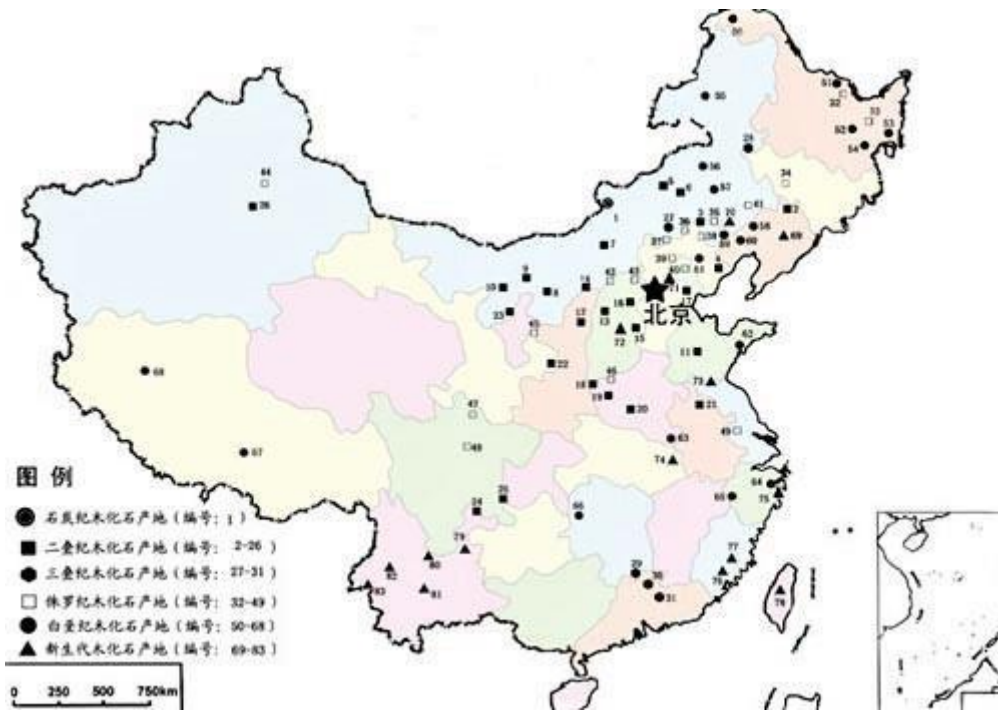


Figure 1052

**Current Progresses and Prospects on Unconventional Uranium Resources(UUR) of China**

Mingkuan Qin  
(From BRIUG, China)

Nov.4, 2009 Vienna

CNNC Beijing Research Institute of Uranium Geology

**UUR can be divided into 5 types**

Type	Main distribution regions
uranium-bearing phosphorite type	Guizhou, Xinjiang, Gansu, Ningxia
uranium-bearing black rock system type	western Hunan province and neighbor region, southwestern China, Qinling region
salt lake type	Qinghai, Xinjiang, Inner Mongolia, Gansu, Ningxia, Tibet
evaporite type	Inner Mongolia, Qinghai, Xinjiang, Gansu
other types (coal rock type, mudstone type etc.)	Identified uranium deposits; Mesozoic-Cenozoic sedimentary basin in northern China

0.01%-0.03% U

CNNC Beijing Research Institute of Uranium Geology

Figure 1053. CNNC Beijing Research Institute of Uranium Geology

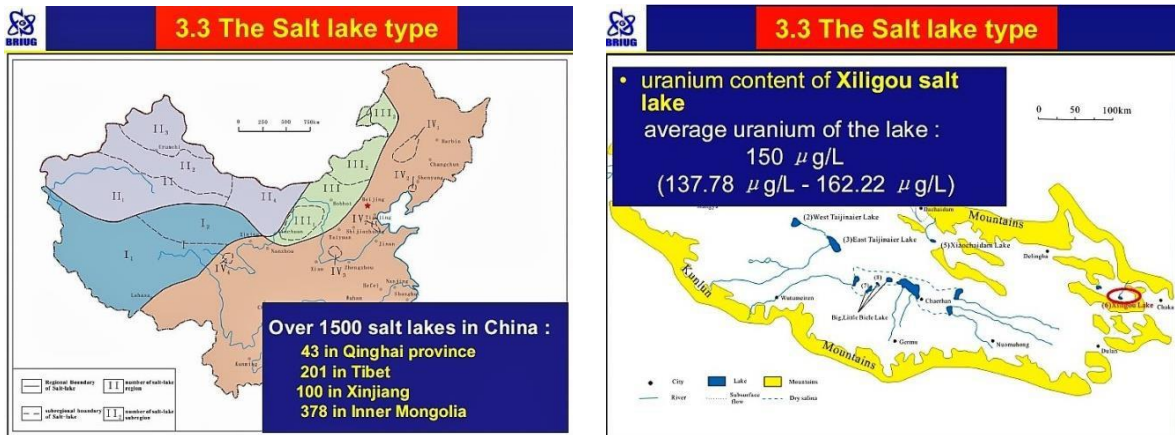


Figure 1054. CNRC Beijing Research Institute of Uranium Geology



Figure 1055. Mineral deposits in Tibet and Qinghai.  
<http://tibet-edd.blogspot.com/2012/05/resource-extraction-and-deforestation.html>

### Major U.S. Uranium Reserves



Sources: Based on U.S. Department of Energy, Grand Junction Project Office (GJPO), National Uranium Resources Evaluation, Interim Report (June 1979) Figure 3.2, and GJPO data files.

Figure 1056. Uranium deposits in the USA.  
[https://en.wikipedia.org/wiki/Uranium\\_mining\\_in\\_the\\_United\\_States](https://en.wikipedia.org/wiki/Uranium_mining_in_the_United_States)

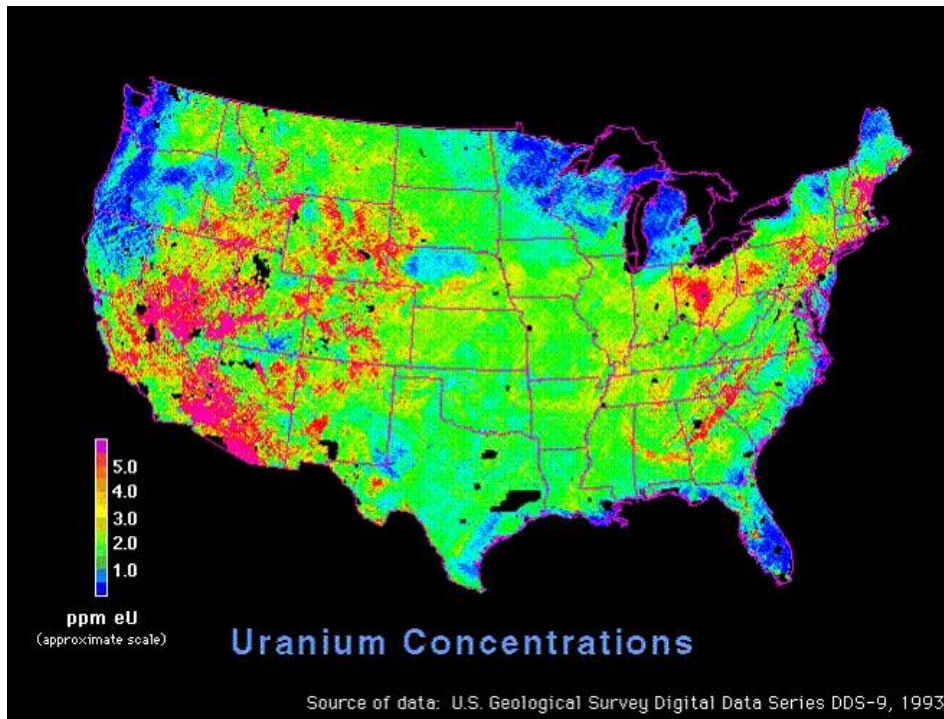


Figure 1057. Uranium concentrations in the USA. <http://www.wise-uranium.org/upusa.html>

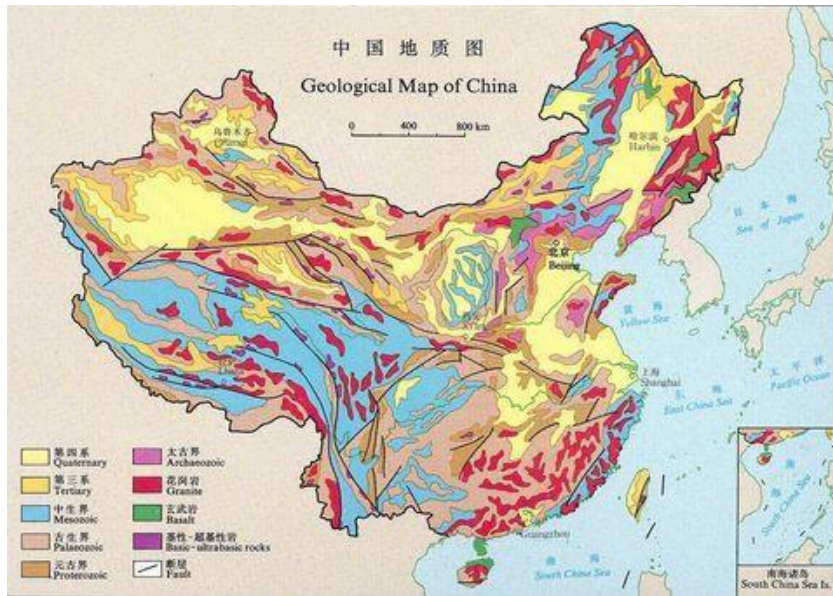


Figure 1058. Geological map of China.  
<https://www.gifex.com/detail-en/2011-08-03-14239/Geological-map-of-China.html>

By comparing the deposits of Triassic-age and earlier fossilized wood (figure 1058) with the origins of the Qiang quoted as Qinghai/Tibetan plateau (figure 1059) it can be seen that there are sources where the araucarioxylon wood could have been contaminated with uranium during the initial stages of petrification. The Shenzen Study reveals the fact that araucarioxylon was fossilized since carboniferous-permian times (earlier than Arizona Triassic wood).

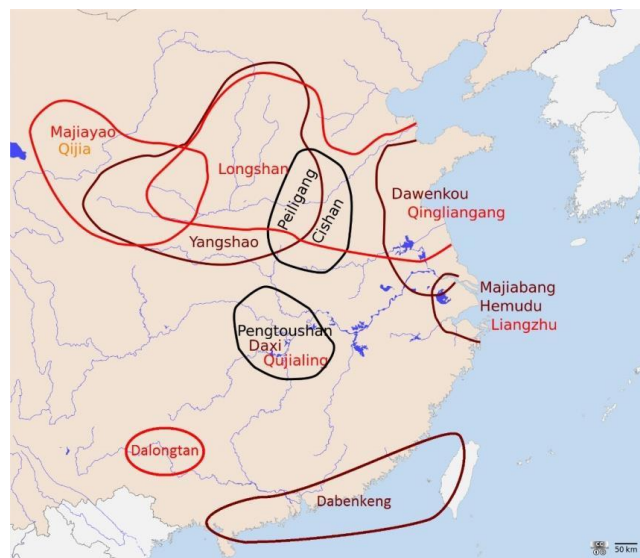


Figure 1059. [https://commons.wikimedia.org/wiki/File:Neolithic\\_china.svg](https://commons.wikimedia.org/wiki/File:Neolithic_china.svg)



Figure 1060. Chinese provinces.  
<https://www.planetware.com/i/map/CHN/the-peoples-republic-of-china-autonomous-region-inner-mongolia-map.jpg>

Here we produce excerpts from latest studies of *Araucarioxylon arizonicum* by R. A. Savidge. We used this study and others to reference our images of this species of petrified wood.

The presumption that *Araucarioxylon arizonicum* Knowlton, 1889 was the dominant and persistent conifer during Late Triassic in what is now southwestern USA arose following the original descriptions of *Araucarioxylon* (sic “*Araucarioxylon*”) as a new genus (Kraus 1870), *Araucarioxylon arizonicum* as a new species (Knowlton 1889, 1890), and subsequent work on petrified logs in the region by Knowlton (1913, 1919) and Daugherty (1941). Investigating petrified logs found within the area later designated as Petrified Forest National Park (PEFO) as well as in the surrounding region, Daugherty (1941) concluded that “judging from the thousands of logs in the fossil record, this form constitutes the dominant species in this widespread Triassic forest”. After examining petrified wood from an unspecified number of localities in the Upper Triassic of the southwest, Scott (1961) also indicated that most if not all logs belonged to



*Araucarioxylon arizonicum*.

Putative *A. arizonicum* logs of southwestern USA are generally long and of large diameter and, superficially, they display more or less similar bole surfaces with non-whorled branch scars (Knowlton 1913, Ash 1992, Ash & Creber 2000). The distribution of those petrified logs among the generally horizontal strata of the Late Triassic Chinle Formation is non-uniform, rather concentrated to its lowermost Shinarump Member (conspicuous in south-eastern Utah) and in the overlying Sonsela Member (ex-posed in the southern half of PEFO) within the southern half of the Colorado Plateau. Logs also occur above the Sonsela in the Wolverine Petrified Forest (southeastern Utah) and in the upper Chinle within the Black Forest Bed (localized to the northern part of PEFO). Although PEFO is undoubtedly the best location in southwestern USA to readily find exposed petrified logs within the Chinle, even there the logs are found as fairly discrete deposits separated by a number of lithological units representing many millions of years of deposition extending from Late Carnian into Norian (Riggs et al. 2003, Parker 2006, Woody 2006). Detailed studies aimed at substantiating the implicit assumption of persistently homologous wood anatomy among all the region's large diameter petrified logs across this time span have only begun (Savidge 2006, Savidge & Ash 2006).

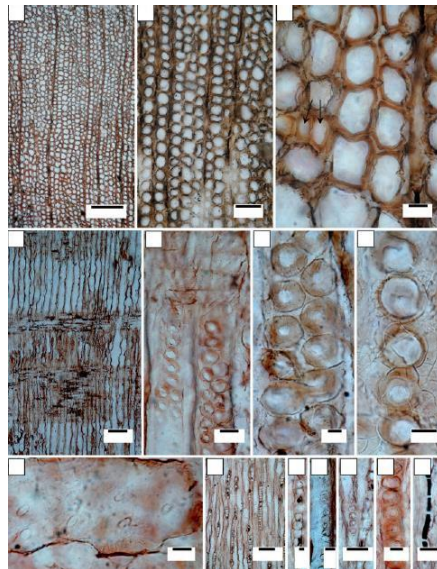


Figure 1061

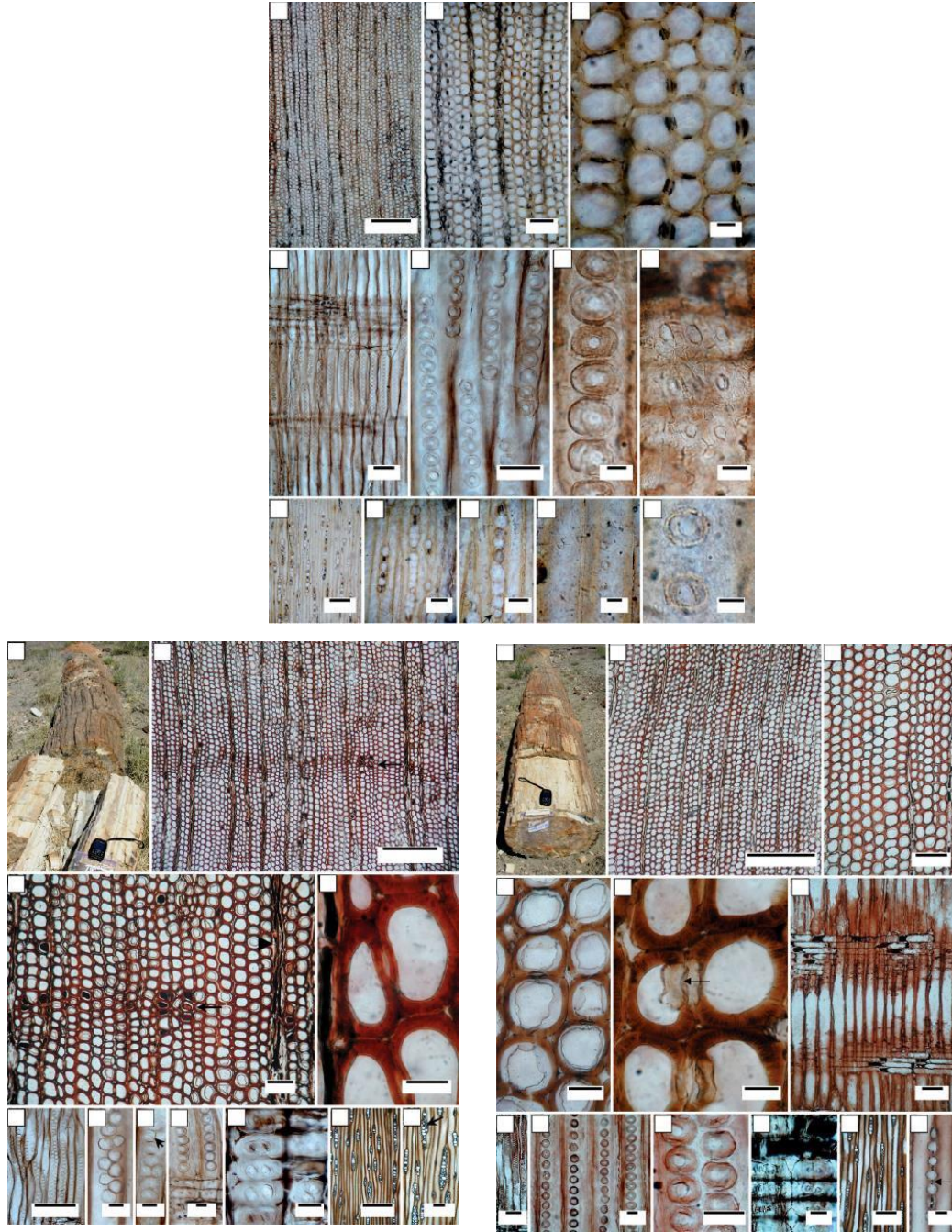


Figure 1062

Figures 1061,1062. Examples of Triassic-age silicified wood from: Wood Anatomy of Late Triassic trees in Petrified Forest National Park, Arizona, USA, in relation to *Araucarioxylon Arizonicum* Knowlton, 1989, by Rodney Savidge

### Petrified Palm Wood: Dipterocarpus

It has been widely claimed in the bead-collecting community that pumtek beads were made from petrified palm wood, or opalized palmwood. This may well be the case for 1920s reproductions. To exclude this type of petrified wood being the source of our beads, we purchased a selection of petrified/opalized palm wood, including the oft-quoted dipterocarpaceae (shorea) which is shown immediately below in figure 1063, which is nothing like araucarioxylon shown in figure 1066.

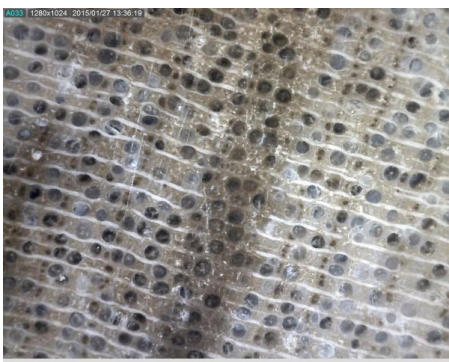


Figure 1063

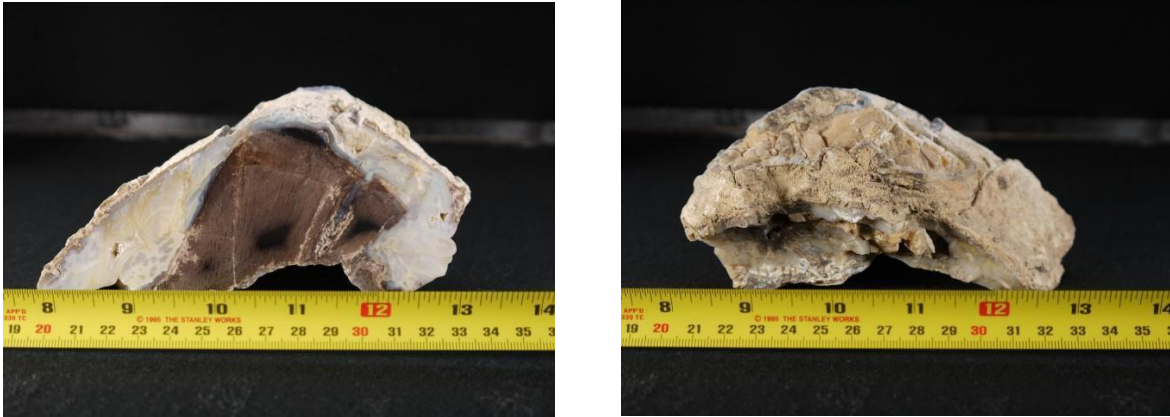


Figure 1064. More petrified palm wood tested by us.

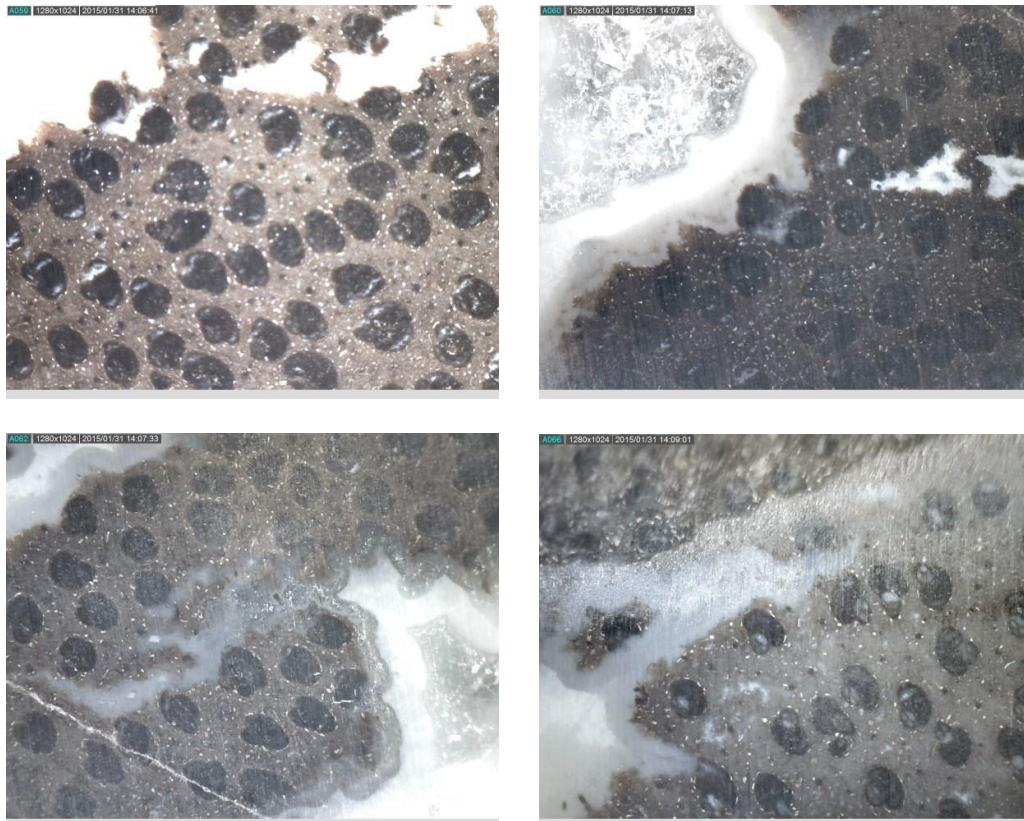


Figure 1065. Typical results from 200x using Dinolite. Compare with results shown by examination of some the beads in figure 1066 where the difference is apparent, where the last organic remnants of the tree can be seen.

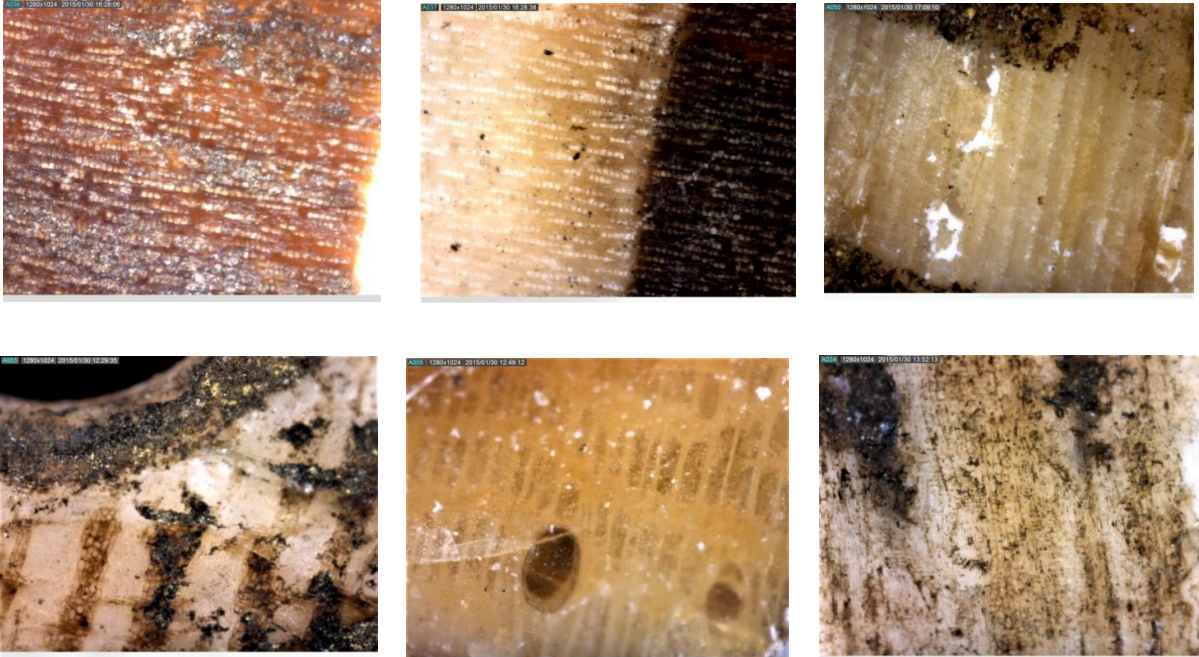


Figure 1066. Examples of araucarioxylon silicified wood and Chin beads. The appearance is completely different from the petrified palm wood examples shown in figure 1065.

The following is taken from a world-renowned expert in fluorescence: Peter J. Modreski, November 12-13, 2005:

Fluorescence of agate and related minerals from New Mexico and the World Agate, chalcedony, and opal from many localities in New Mexico, as well as worldwide, often have a characteristic green or yellow-green fluorescence under shortwave ultraviolet light.

The green fluorescence is known to be caused by uranium, present as its oxidized, hexavalent form,  $U^{6+}$ , and more specifically as the hydrated uranyl molecular ion,  $(UO_2 \cdot nH_2O)^{2+}$  (see Gorobets et al. 1977). The fluorescence is strongest under shortwave ultraviolet light (wavelength about 254 nm), and is much weaker under the lower energy longwave ultraviolet light (about 360 nm) produced by less expensive "black lights." The fluorescence has a distinctive, recognizable spectrum of multiple bands due to vibrational structure of the triatomic  $UO_2^{2+}$  molecular ion, which makes it easy to distinguish from other activators that may produce green fluorescence, such as the green fluorescence of  $Mn^{2+}$  seen in the

zinc silicate, willemite.

Agate and chalcedony in petrified wood also commonly show green fluorescence; the latest-formed chalcedony in veins and fractures within the wood often appears to have the highest uranium concentration and the brightest green fluorescence.

Agate, chalcedony, and silicified wood in terrace gravels in the Los Lunas, New Mexico, area often show this green fluorescence, though usually not exceptionally bright.

Another source of information reference fluorescent petrified wood is given here:

Many siliceous precipitates formed on uraniferous terranes and in the vicinity of uranium deposits are fluorescent, whereas similar materials found in other areas may not fluoresce. Fluorescence is useful in prospecting, but it does not necessarily indicate the presence of nearby minable ore bodies, and it does not always indicate uranium because other elements can fluoresce. Investigations by Lewis (written communication, 1955) show that secondary silica occurring far from ore bodies in barren ground is non-fluorescent, that samples taken near ore contain larger amounts of uranium, and that the fluorescent color changes from a pale yellowish green to deep green with increase in uranium content.

Uranium in Precipitates and Evaporites by Kenneth G. Bell, U.S. Geological Survey 385 Siliceous Precipitates, Contributions to the Geology of Uranium and Thorium by the United States Geological Survey and Atomic Energy Commission for the United Nations International Conference on Peaceful Uses of Atomic Energy, Geneva, Switzerland 1955

Two of the accepted properties of first-generation pumtek beads concerns material and presence of fluorescence. It is important to understand why some beads fluoresce under shortwave light and others do not. How did the uranium get into the fossil wood? Understandably, we refer to experts on the subjects and present accordingly.

## **Fossil wood**

Once again, we quote from experts in the requisite field. It would be disingenuous not to do so. We continue with fluorescence, permineralization/petrifaction.

Wood that is buried in silica-rich sediments is commonly replaced by quartz, agate, or opal. The wood structure, including a large number of the annular rings, knots, small branches, and bark, may be preserved.

Some of the agatized and opalized wood fluoresces yellow or green under ultra-violet light. The fossil wood is sometimes found as stumps, limb sections, or large trunk fragments...Texas Gemstones By Elbert A.King, Jr. 1961

Source for information quoted below: <http://petrifiedwoodmuseum.org/Permineralization.htm>

Permineralized fossils form when solutions rich in minerals permeate porous tissue, such as bone or wood. Minerals precipitate out of solution and fill the pores and empty spaces. Some of the original organic material remains, but is now embedded in a mineral matrix (Schopf, 1975). Bone and wood tissues act as excellent frameworks to preserve cell structure. Silicates, iron oxides, metal sulfides, native elements, carbonates, and sulfates can be involved in permineralization. Permineralization is one of the most faithful modes of fossil preservation. In fact, scientists have tried to replicate the process in the laboratory, but no artificial permineralization is equal to the best natural preservation by cryptocrystalline silica or calcium carbonate (Schopf, 1975).

Formation of the finest petrified wood involves permineralization with silica, usually from a volcanic source, along with replacement and recrystallization. During the initial stages of permineralization amorphous silica infills pits connecting cells and precipitates on cell walls. At this early stage no replacement has occurred. Replacement of cellulose in cell walls may occur as permineralization continues. Cellulose that degrades leaves room for the emplacement of silica between and within cells walls. The more decay resistant

lignin that remains in the cell walls continues to act as a guiding framework to preserve structure. Later, silica is deposited in cell lumina, the cavity enclosed by the cell walls, and voids created by wood degradation.

Silica that initially permeates the porous tissue and that which replaces cell wall material is amorphous. This amorphous silica is unstable and slowly crystallizes to more stable forms over millions of years. The transition to more stable forms of silica involves continued polymerization and water loss. Higher ordered forms of opal are created through this process and eventually lead to the thermodynamically more stable silica quartz (Stein, 1982). The quality of preservation usually, but not always, declines during successive stages of silicification (Mustoe, 2003). In some instances higher ordered opal and chalcedony may act as the initial replicating minerals (Mustoe, 2008). Petrified forests, representing small to large deposits of permineralized wood, capture people's imagination. What processes allow wood structure to be preserved in stone? How long does it take to form petrified wood? Explore these questions in depth as you read our article on Permineralization further down this page or click on the word Permineralization to obtain a printable version of our article. Our article on permineralization was updated on April 29, 2014.

Another source of information regarding petrification is given below:

Petrification: Another common mode of preservation of plants is petrification, which is the crystallization of minerals inside cells. One of the best-known forms of petrification is silicification, a process in which silica-rich fluids enter the plant's cells and crystallize, making the cells appear to have turned to stone (petrified). Famous examples of silicification may be found in the petrified forests of the western United States (see Petrified Forest National Park).

Petrification may also occur in animals when minerals such as calcite, silica, or iron fill the pores and cavities of fossil shells or bones.

Recrystallization

Many animal shells are composed of the mineral aragonite, a form of calcium



carbonate that breaks down over millions of years to form the more stable mineral calcite. This method of preservation, called recrystallization, destroys the microscopic details of the shell but does not change the overall shape. Snail shells and bivalve shells from the Jurassic Period (205 million to 138 million years before present) and later are still composed principally of aragonite. Most older shells that have been preserved have recrystallized to calcite. (How Fossils are Formed Excerpt from Introduction to Fossil Collecting (C) 1994-2000, Glen Kuban, E-mail: gkpaleo@yahoo.com Part of Kuban's K-Paleo Place home page)

The following is from Replacement of Quartz by Opaline Silica During Weathering of Petrified Wood by A. L. Senkayi et al:

A mineralogical investigation by X-ray powder diffraction and optical, scanning, and transmission electron microscopy of partially weathered petrified wood in the Yegua Formation (Eocene) of east-central Texas revealed that microcrystalline quartz present in the unaltered petrified wood has been gradually dissolved and replaced by disordered silica polymorphs (mainly opal-CT) as a result of weathering. This replacement suggests that the reaction sequence: opal- A - opal-CT - quartz, which has been described elsewhere to occur during diagenetic alteration of petrified wood, is apparently reversed when the petrified wood is exposed to low-energy weathering conditions. The relatively high rate of dissolution of the quartz in the petrified wood appears to be related to its small crystallite size. The silica released by the dissolution of the quartz is subsequently reprecipitated as disordered cristobalite-tridymite (opal-CT) and poorly crystalline silica (opal-A) that, in turn, probably converts to opal-CT on aging. Opal-CT is the major silica phase in the completely altered powdery material enclosing the partially weathered petrified wood. The intermediate zone between the altered and unaltered zones contains both quartz and opal-CT.

During our research we were able to obtain images of items in the Hami Cultural Museum. We had always suspected that the Junggar Basin region could have provided an alternative supply of silicified wood of ancient age i.e. Jurassic or earlier. As explained in depth with an alternative theory elsewhere in this document, the Liaoning area is also a great source.



Figure 1067. Map of Xinjiang. <https://www.travelchinaguide.com/map/xinjiang/>

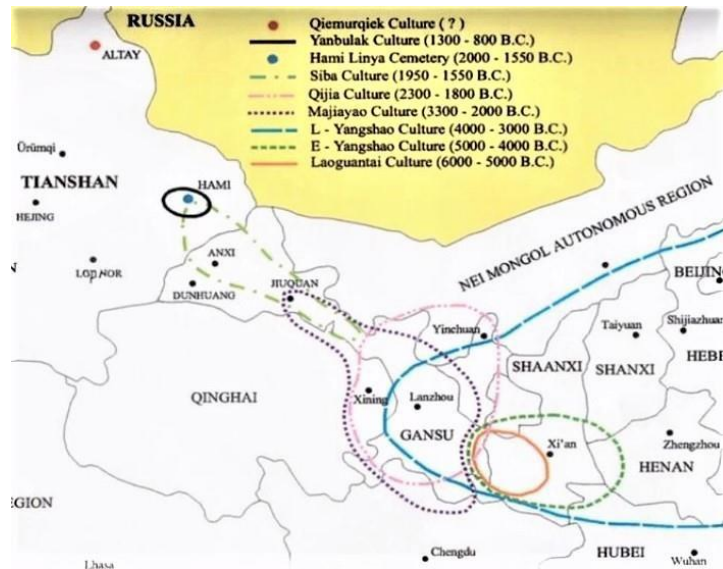


Figure 1068. Map from the Colin Renfrew lecture, Penn University 2011 <https://www.youtube.com/watch?v=y5u7fls9CIs>



Figure 1069. Quartz and petrified wood from the Hami museum



Figure 1070



Figure 1071



Figure 1072

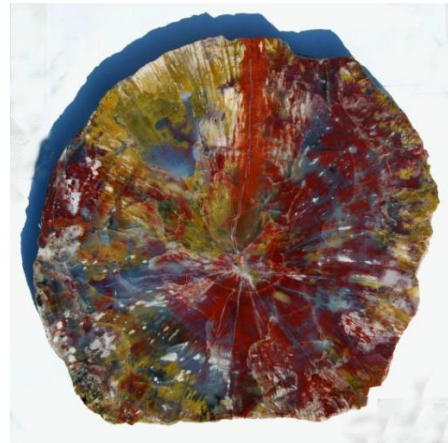


Figure 1073

The images on the left (figures 1070,1072) are from the Hami museum, Northeast Xinjiang, and show petrified wood specimens. The images on the right (figures 1071,1073) are from the authors' collection of Arizona Triassic-age silicified wood, 225million years old. On the following page we provide information concerning the Junggar Basin area, where araucarioxylon is quoted amongst the fossil woods found there; to the best of our knowledge, the fossil species used to fashion the Chin beads.

The Junggar Basin, one of the largest continental basins in Central Asia, represents a landlocked sedimentary environment that has been cut off from marine influence since the Late Paleozoic. The basin contains a sedimentary succession from the Permian to the Late Cretaceous. Throughout the Mesozoic, the Junggar Basin maintained a mid-latitude position, making it particularly interesting for palaeoecologic and palaeoclimatic studies.

Triassic-Jurassic biodiversity, ecosystems, and climate in the Junggar Basin, Xinjiang, Northwest China; *Palaeobio Palaeoenv* (2010) 90: 169.

doi:10.1007/s12549-010-0029-x

The Junggar Basin in Xinjiang, northwest China contains various petrified forests, which are mainly distributed in the Jiangjunmiao area of northern Qitai County. The petrified trees are preserved in the lower part of the Upper Jurassic Shishugou Group of the fluvial deposit containing abundant silicified tree stumps and logs, showing variations in log size and thicknesses of the well preserved growth rings. An investigation is being carried out in order to carefully study the wood anatomy to determine if the trees predominately represent one species or various species. We hope to determine the systematic relationships for each fossil log. Preliminary investigation shows that, at least four fossil conifer genera can be identified including *Araucaryoxylon*, *Cupressinoxylon*, *Protopiceoxylon* and *Xenoxylon*. WANG, Yongdong, Florida Museum of Natural History, University of Florida, P.O.Box 117800, Gainesville, FL 32611-7800, April 5, 2002.

As shown extensively elsewhere in this document, we believe to have narrowed down the source of the Chin beads' material to the araucarioxylon species. We have been able to find many better examples of silicified wood from Liaoning on the Taobao website (China's Ebay).

The images below (figure 1074) are from:

<https://s.taobao.com/search?tab=all&q=木化石&sort=price-desc>



Figure 1074



Figure 1075. Silicified wood from Liaoning, China

<https://s.taobao.com/search?tab=all&q=木化石&sort=price-desc>

Compare with the authors' Arizona silicified wood collection below in figures 1076,1077.



Figure 1076



Figure 1077

Having searched for any reference to araucarioxylon species in Burma/Myanmar, we found the following study from eminent academics in the field dating the species found there hundreds of millions of years later than the Triassic examples we used for comparison with the Chin beads.

‘Some More Fossil Woods from the Tertiary of Burma’ by U. Prakash & M. B. Bande, Birbal Sahni Institute of Palaeobotany, Lucknow-226 007, India, *The Palaeobotanist*, 26(3): 261-278, 1980 provided the following valuable information:

Genus - Araucarioxylon Kraus, 1870

1. Araucarioxylon sp.

The present description is based on a piece of secondary wood about 5 cm in length and 2 cm in diameter. The fossil is somewhat twisted due to pressure during fossilization making the anatomical details obscure at some places.

It has been placed under the organ genus Araucarioxylon Kraus (1870) instituted to include the fossil woods of the family Araucariaceae. Because a number of anatomical details of specific nature could not be ascertained definitely in the present fossil wood due to bad preservation, it has not been possible to compare this fossil with the known species of Araucarioxylon. Hence, it is being described here as Araucarioxylon sp. without assigning it to any species.

As far as the authors are aware of, no fossil wood showing affinities to the woods of Araucariaceae has so far been described from the Tertiary of Burma and this seems to be the first record of a wood of Araucaria-Agathis from this region.

Although fossil records of Araucariaceae are known from both the hemispheres (Florin, 1963, figs 14, 15), this family is exclusively southern in distribution in the present day flora. The genus Agathis belongs to the Malay Archipelago and the Pacific islands to the New Zealand, whereas Araucaria occurs not only in the Australasian region but also in South America (Coulter & Chamberlain, 1955, p. 302). The present record of fossil wood of Araucariaceae in the Mio-Pliocene of Irrawaddy series of southern Burma indicates that the members of this family were present farther north of Malay Peninsula during the Late Tertiary times. Their disappearance may primarily be due to changes in the environmental conditions of this region.

1. Araucarioxylon sp. - Cross section showing sharply distinguished late wood and early wood zone. x 30. Slide no. 5530.
- 2, Araucarioxylon sp.- Cross section magnified to show early wood tracheids and the xylem rays. x 65. Slide no. 5530.
- 3, Araucarioxylon sp.- Tangential longitudinal section showing uniseriate, homogeneous xylem rays. x 100. Slide no. 5532.

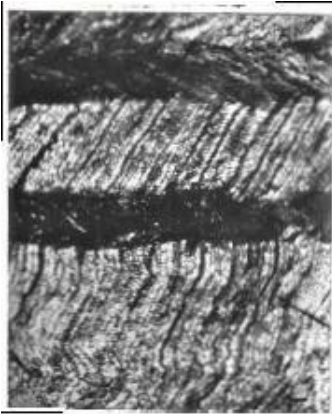


Fig.1

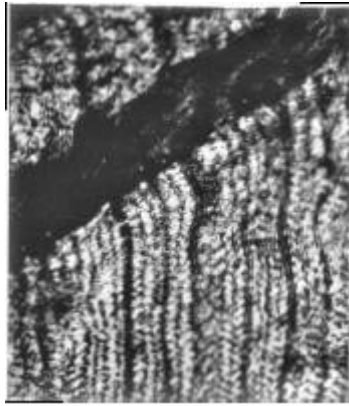


Fig.2

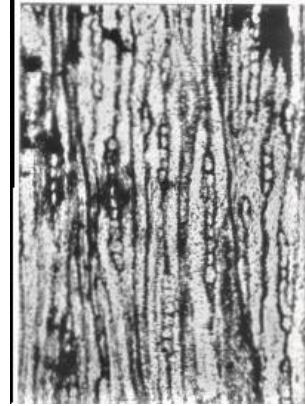


Fig.3

Figure 1078. Images from 'Some More Fossil Woods from the Tertiary of Burma' by U. Prakash & M. B. Bande, 1980.



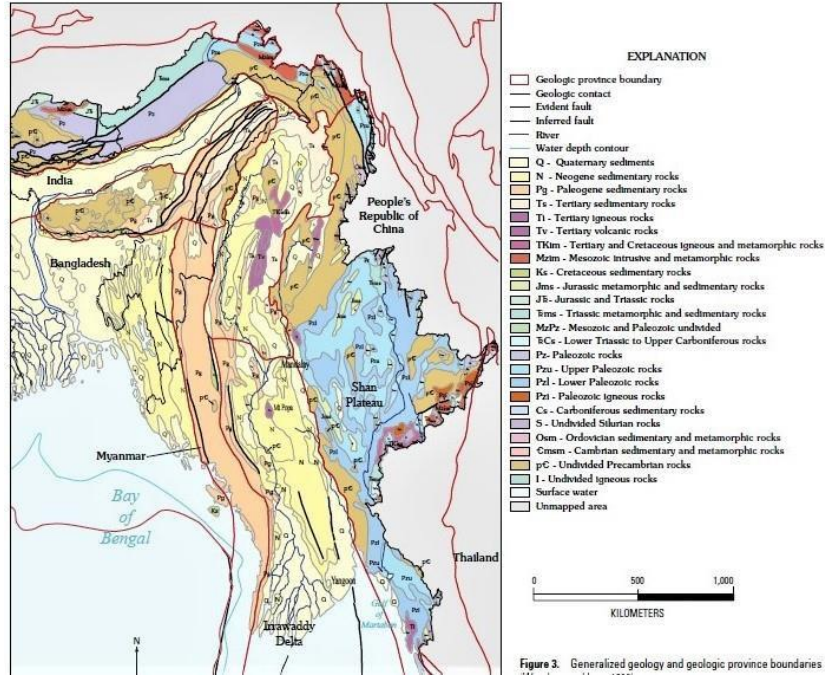


Figure 3. Generalized geology and geologic province boundaries

Figure 1079. Geological map of Myanmar. 'Eocene to Miocene Composite Total Petroleum System, Irrawaddy-Andaman and North Burma Geologic Provinces, Myanmar' by C.J. Wandrey, Petroleum Systems and Related Geologic Studies in Region 8, South Asia Edited by Craig J. Wandrey, U.S. Geological Survey, Reston, Virginia: 2006

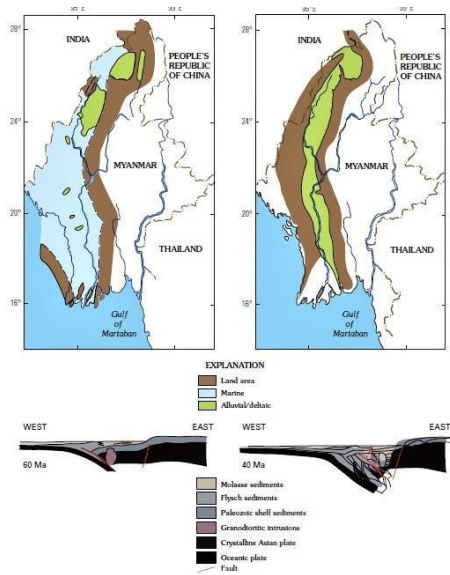


Figure 1080

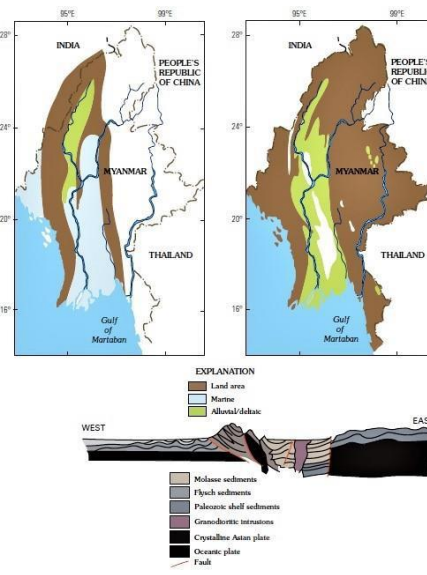


Figure 1081

Figure 1080. Early Eocene (L), Late Eocene (R) 56–33.9Ma. *ibid.*

Figure 1081. Miocene (L), Pliocene (R) 20.44–2.58Ma. *ibid.*

Taking into consideration all the preceding information, it is our conclusion that the silicified wood used to fashion the Chin beads was procured in China. The scarcity of confirmed uranium sources in Myanmar and its abundance in China, the duration of the silicification process and the trail from Anatolia/Levant to Liaoning, Qinghai and Gansu all point to beads' manufacture in China.

Figure 1082 shows a Chinese map with migration patterns from the Qiang into Burma, with a wide circular movement taking place c. 221 BC.



Figure 1082. Map showing Qiang migrations from China into Burma, with a mass movement c. 225 BC.  
[http://blog.sina.com.cn/s/blog\\_4ca0d6040101bumh.html](http://blog.sina.com.cn/s/blog_4ca0d6040101bumh.html)

## **The importance of white quartz in the Neolithic**

To add weight to the ancients' respect for white quartz in particular we add some articles gleaned from the internet. The Chin beads are made from white quartz-like silicified wood and as stated by us elsewhere in this study, there must have been a good reason for the Chin to have chosen this most difficult material to make the beads. The following article is from: The Specific Selection of Stone in Prehistory by A. Whitaker. 2011, and the references to long-distance trade of rock crystal from the Alps to Britain's Stonehenge at this early date is notable.

<http://www.ancient-wisdom.com/selectivity.htm>

.... Although it is certain from old images of the site that the reconstruction was 'fanciful', they were unarguably originally part of the structure. The same white quartz stones were found in front of both Knowth and Dowth where they are being considered as having originally been a 'white aprons' on the floors of the entrances to the mounds. The 'function' or reason for placing so many white-quartz rocks at the front of Newgrange (regardless of their original position), can only be speculated upon today. Reynolds (13) suggested the following: 'Archaeologists have only recently recognised quartz as a significant part of prehistoric stone technologies in Ireland and Britain. As a raw material, quartz is superabundant in areas of Ireland and Britain and was utilised extensively in prehistory. However, research biases have obscured a fuller understanding of it'. (12)

In her paper, she considers the case of quartz rocks as animistic agents. Quartz is frequently associated with animists. For example, the Amazonian Tukano Indians consider quartz to be "living" or a "live rock," with special or healing properties. She drew upon recent discussions on the possible roles of quartz at Newgrange Site 1, Ireland, within the Neolithic around 3000 cal. B.C. Although Newgrange has traditionally been depicted as a place for the dead, she considers whether Neolithic people conceived of quartz as having a "life-force".

The specific use of white quartz is repeated at several other European megalithic

sites such as:

The two immense white-quartz 15-ton portal-stones at Castlerrudery, also in Ireland at which the prominent placement of such large, white stones at the entrance of the Henge gives them the site the appearance of a giant 'Celtic Torque'. Quartz portals were also used at Castlerigg W Boscawen-Un, in England is a granite circle of 19 stones, and was suggested by W. Stuckley as having been one of the first circles in UK. (The 19 stones being suggestive of the 18.6yr lunar cycle). Although the whole circle is composed of granite stones, there is a single white quartz stone at the S/SW of side the circle (aligning the centre with the May-day sunrise).

At Balquhain stone circle (and Bannau-Sir-Gaer), in Scotland the builders chose white granite for the outlying stones.

At Glenquickan, also in Scotland, a white granite obelisk was placed in the centre of the circle. A central quartz menhir was also used at Maulatanvally

At the Hurlers triple circle, the centre of the circle was coated with a bed of quartz crystals, while at the three Thornborough henges in Yorkshire, the banks of the henges were coated in brilliant white gypsum.

The perfectly flat 53-ton recumbent at Old-Keig, Scotland, which was quarried several miles from the site, and was positioned so that it captured the moons major setting points on the horizon.

Studies of the composition of the chambered tombs of the Cotswold-Severn group has found that they were constructed from specifically selected materials. (3) The Qualities of Crystal.

All of the above examples highlight the fact that granite (or perhaps crystal), was considered to have special qualities other than just strength. Records show numerous examples of crystals and quartz being placed alongside funerary remains (a feature that can be traced back to Palaeolithic times), a fact that raises the question of whether or not the megalithic builders were aware of the other physical properties of crystal. The Excavation of the Aztec 'Templo Mayor' site in Mexico, produced a funerary casket, from the inner-most layers of the pyramid, beneath a Chac-mool statue, 'thought to represent the god Quetzalcoatl'.

Within the casket were found several crystal artefacts which included; Several crystal cylinders, thought to represent the 'feathered tail of Quetzalcoatl'. Crystal Lip- plugs, crystal ear-spoons and a row of thirteen crystal beads 'thought to have been part of a necklace'. (11).

It is a curious fact that when a crystal is placed under pressure it produces electricity. Experiments by Marcel Vogel, a research chemist for IBM over 27 years, suggest that water can act as an electrolyte and pick up charge from a crystal with which it comes into contact. Measurements by spectrophotometer, an instrument for comparing light radiation, show changes in the 'atomic footprint' of water before and after exposure in this way. Paul Devereaux began the 'Dragon project' in order to research this particular aspect of the megaliths.

Excavations by the Stonehenge 'Riverside project' in 2005 uncovered a 'cremation mound' which was found to contain the partially burnt remains of two people, one of whose vertebrae survived the fire, along with an assortment of artifacts, amongst which were: "Stone knives and arrowheads, a piece of limestone carved into the shape of a megalith, two pottery bowls, and a rare rock crystal were also unearthed near the burial site.

The rock crystal is described as having come to Britain from as far away as the Alps.'

3). Vicki Cummings, Neolithic Irish Sea Zone, Oxbow, 2009, p.89

11). C. Morton and C. L. Thomas. The Mystery of the Crystal Skulls. 1997. Thornson's.

12). [http://www.ucd.ie/archaeology/research/phd/killian\\_driscoll/](http://www.ucd.ie/archaeology/research/phd/killian_driscoll/)

13). Reynolds, Ffion. Time and mind. Volume 2, Number 2, July 2009, pp. 153-166(14).

14).

<http://www.visitpeterhead.com/index.php?view=article&catid=54%3Ageneral&id=135%3A>

15). <http://www.undiscoveredscotland.co.uk/deer/aikeybrae/index.html>

Source: The Specific Selection of Stone in Prehistory: (Article: By A. Whitaker. 2011) <http://www.ancient-wisdom.com/selectivity.htm>