

Research Report

Iberian inscriptions in Sahara Desert rocks (Ti-m Missaou, Ahaggar Mts. area, Algeria): first evidence of incise Iberian rock scripts in continental North Africa

Antonio Arnaiz-Villena*, Valentín Ruiz-del-Valle, Adrián López-Nares,
Fabio Suárez-Trujillo

Department of Immunology, Universidad Complutense, School of Medicine, Madrid, Spain.

* Corresponding author: Antonio Arnaiz-Villena. Departamento de Inmunología, Facultad de Medicina, Universidad Complutense de Madrid. Pabellón 5, planta 4. Avd. Complutense, Plaza Ramón y Cajal, s/n. 28040 Madrid, Spain.

E-mail: arnaizville@hotmail.com; aarnaiz@med.ucm.es Web page: <http://chopo.pntic.mec.es/biolmol/>

(Received 20 March 2021; Accepted 29 April 2021; Published 20 May 2021)

Abstract - In the present paper, we show Iberian or Iberian-Guanche scripts found in the Middle of Sahara Desert, Ti-m Missaou (Tim Missao, Tim Missaw), 270 km South-West of Tamanrasset on Ahaggar or Hoggar Mountains (Mts.) area (Algeria). More Iberian scripts may be earthed beneath Sahara Desert sands or have been neglected by observers. We also put forward that Iberian semi-syllabary may have its origin in the Neolithic Saharo-Canarian Circle, the same as other Mediterranean, Atlantic and European lineal scripts (apart from Berber/Tuareg) like Etruscan, Runes, Old Italian languages, Minoan Lineal A, Sitovo and Gradeshnitsa (Bulgaria) writings (6,000 years BC) and others. In fact, Strabo wrote that Iberians had written language before since 6,000 BC. On the other hand, Sahara Desert was green and populated since before 5,000 years BC and we had proposed that most of Mediterranean culture, languages and writing, had a Saharan origin. Ti-m Missaou Sahara Iberian inscriptions, together with our previous and others researches on Canary Islands, further support this proposal, i.e.: rock scripts, Gimbutas-like Paleolithic figurines and unusual artifacts, like a lunisolar Egyptian-like calendar (“Cheeseboard/Quesera” at Lanzarote) carved in a Megalithic stone, do not support that Phoenicians and Romans carried Canarian ancient Guanche culture. Finally, a continuous lineal writing systems developing seems to have occurred during Paleolithic and Neolithic Epochs, which also harbor the related incise Lineal Megalithic Scripts that could have given rise to Iberian development and other lineal African, European and Mediterranean lineal language scripts. Our present new data is interpreted in the context of the Sahara people migration which occurred when hyper-arid conditions started establishing about 6,000 years BC.

Keywords: Iberian, Iberian-Guanche, Scripts, Canary Islands, Lanzarote, Fuerteventura, Prehistory, Saharo-Canarian Circle, Genetics, Megaliths, Iberia, Sahara, Atlantic, Mediterranean, Lineal Scripts, Neolithic, Tamanrasset, Hoggar, Ahaggar, Usko-Mediterranean, Etruscan, Tuareg, Berber, Lineal A.

Introduction

Canary Islands (Spain) are placed in front of Moroccan Coast ([Fig. 1](#)). Their peopling is hotly debated and still unclear. Several hypotheses have been considered. North Africans, Mediterraneans, Atlantic Europeans seem all to have contributed to ancient Canarians pool or "Guanches" peopling ([Arnaiz-Villena et al. 2015](#)). North African and Iberian genes have been exchanged since prehistoric times as it is shown by using autosomic HLA genes ([Arnaiz-Villena et al. 1999a; 2002](#)); this Iberian/North African prehistoric gene flow has been also demonstrated by three other independent groups ([Curat et al. 2010](#); [Botigue et al. 2013](#); [Gonzalez-Fortes et al. 2019](#)). Genetic differences between western Mediterraneans and North West Africans are scanty ([Arnaiz-Villena et al. 2015, 2017](#); [Hajjej et al. 2018](#)) because prehistoric Atlantic Europe, North African and Canary Islands belong to a related cultural and genetic group ([Arnaiz-Villena et al. 2017](#)). Also, Canarian prehistory should in part be interpreted in the context of Megalithic Atlantic culture ([Arnaiz-Villena et al. 2015; 2017; 2019a; 2019b](#); [Medina & Arnaiz-Villena 2018a; 2018b](#)). In addition, a big rock carved lunisolar calendar has been found in Lanzarote, (Canary Islands): "La Quesera"/Cheeseboard of Zonzamas ([Medina & Arnaiz-Villena 2018a; 2018b](#); [Arnaiz-Villena et al. 2018](#)). Prehistoric Atlantic petroglyphs, mummifications, pyramids and possible megalithic buildings have been found ([Medina & Arnaiz-Villena 2018a; 2018b](#); [Arnaiz-Villena et al. 2018; 2019a](#)), particularly this lunisolar calendar "Cheeseboard" of Zonzamas in Lanzarote Island and also Cart-ruts rock carved channel structures on the top of volcanoes ([Arnaiz-Villena et al. 2019b](#)). Also, other most likely pre-Punic and pre-Roman prehistoric rock calendars have been found in Gran Canaria Island ([Barrios Garcia 2004](#); [Barrios Garcia et al. 2018](#)). However, archaeological dating based on absolute objective methods are greatly lacking in Canary Islands archaeological patrimony with exceptions ([Atoche Peña & Ramirez Rodriguez 2009](#)). In addition, pyramidal structures have been described in Canary Islands and not only in Tenerife, but also in Gran Canaria and La Palma ([Ulbricht 2016](#)) and also very similar ones in Western Sahara in continental Africa, only about 95 Km (59.03 miles) far from Fuerteventura Canary Island ([Clarke & Brooks 2018](#)).

Nevertheless, Canarian scholar studies on rock scripts are long been ignored, probably because established academic dogma has hindered their understanding and open contextualization:

- 1) Tenerife rock scripts: some may be assigned to Megalithic Linear Scripts or Iberian-Guanche ones ([del Arco-Aguilar et al. 2009](#); [de Balbin-Behrmann et al. 2009](#); [Muñoz-Gamero 2019](#)); some Iberian semi-syllabary signs are recognized among these scripts.
- 2) Almost hundred of studied *terra-cotta* figurines from Gran Canaria, Lanzarote and Fuerteventura are ascribed to South Iberian Iberic style (1st millenium BC) and to the so called “Gibraltar Strait Circle”, that includes North Africa ([González-Antón et al. 2016](#)).

We gathered and put forward that a Saharan culture, when desert still was not established, could explain the relatedness of ancient Mediterranean Cultures, genetics and languages (including Guanche) ([Arnaiz-Villena 2000](#); [Arnaiz-Villena et al. 1999a](#); [2001a](#); [2002](#)).

In addition, Iberian scripts are found in all Canary Islands ([Arnaiz-Villena & Alonso-García 2001](#); [Arnaiz-Villena et al. 2020a](#)) and also other lineal scripts found on megaliths and named Megalithic Lineal Scripts that may be in southern Iberia megaliths as old as 6,000 years BP ([Muñoz-Gamero 2019](#)). They may be plain Iberian precursors of Iberian signs, or other scripts related to them. This further supports that Canary Islands ancient culture was common to all Islands at least at one stage and was immersed in the Saharan, Mediterranean and Atlantic cultures, and in the “Gibraltar Strait Circle” as proposed by [González-Antón et al. 2016](#).

In the present paper, we show evidence that Iberian-Guanche or Iberian scripts are found in the Central Sahara Desert and describe also the first incise rock Iberian scripts in Sahara Desert.

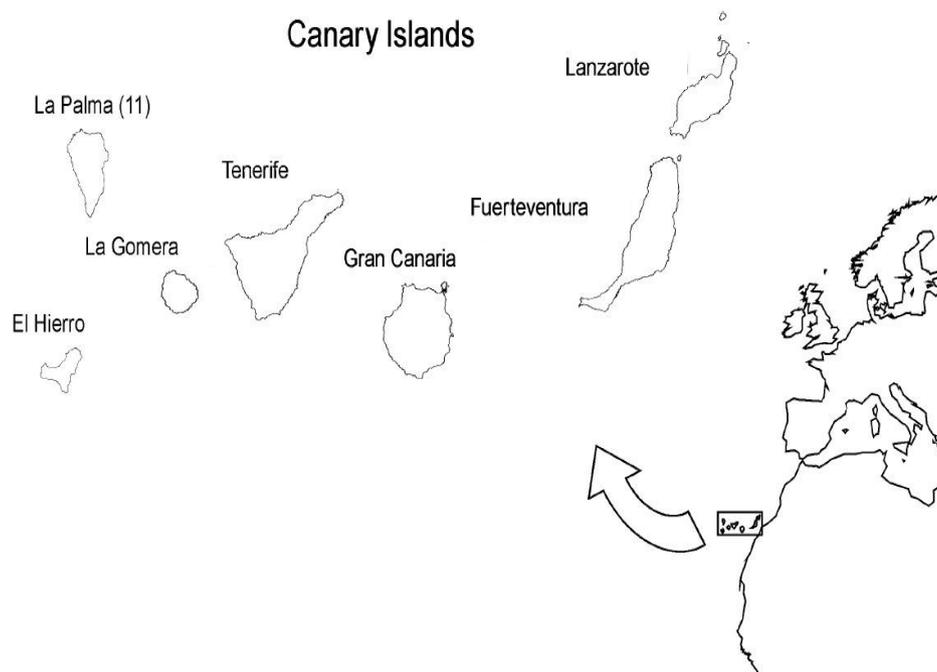


Fig. 1. Map of Canary Islands with their names and the Atlantic coast lines of Europe and North West Africa.

Lanzarote Island is 125 km (78 miles) apart off African Coast. Fuerteventura Island is at 97 km (60.27 miles) off African coast.

Material and Methods

Methodology used for proposing a translation hypothesis for “Latin” or Iberian-Guanche Inscriptions (Arnaiz-Villena 2000)

We have followed a methodology which is similar to that proposed by Greenberg and Ruhlen (Ruhlen 1994). Our premises for approaching these Usko-Mediterranean languages, or languages related with Euskera or Basque language, are:

- 1) Languages may correctly be classified, and decipherment approached with 10-20 "diagnostic" cognates (i.e. the personal pronouns and other frequently used cognates like plant names, family generics and tools and common life terms existing in Neolithic and pre-Neolithic societies). In general, we use phonology and semantics similarities.

2) Most of the written ancient Mediterranean languages studied previously by us (i.e. Iberian-Tartesian, Etruscan, Linear A) refer to an apparently common religion (Poulianos 1969; Arnaiz-Villena & Alonso-García 1998; 2001). This decipherment has been possible to the Basque-Spanish translation of words found in the above-mentioned extinct languages and showing a Basque correspondence. The topics found in this religion are: the Mother (Ama= mother, in Basque (B.)), the way of the Zen (dead, in B.) towards another life, going through The Door or Atan (B.). The flames (Kar, B.), which make the dead to be afraid, etc.

3) Most of these deciphered "Usko-Mediterranean" languages refer to the following matters:

A. Religion and after death (90%).

B. Accountancy related to food-storage and other topics.

This skewed thematic writing may be due to that writings have been better preserved in sanctuaries and/or palaces, and not in normal living people housing (the latter being constructed with more perishable materials). Also, Neolithic and pre-Neolithic societies may have used written words as a magic or totemic sense related to permanent keeping of possessions and also to securing a proper and pleasant after death life; casts of clerks (related or not to religion) could have further driven this tendency in order to keep up with privileges. In addition, it is obvious that primitive societies felt less secure than nowadays more complex ones; this could have led people to find religion and food register to be essential.

4) There are groups of words that are found together in the different languages (Arnaiz-Villena 2000), i.e.: Atinas (B.), the door of darkness. Other idiomatic expressions preserved in both ancient Iberian and Basque are shown in chapter 7, section 2.6 of the same reference.

5) Beginning and ending of words are problematic and unless meaning is known, it is very difficult to define them. Only known and repeated meanings (in several languages) are taken as sound cognate identification.

6) Common and proper names are almost impossible to distinguish. Many proper names come from a common name like in English "Rose" and mainly in Mediterranean languages like Basque (for males, Bilebai= Circumcision;

Gurutz= Cross; Eztegu= Wedding; Lor-= Flower; Aintza= Glory; Sein= Innocent; Lin= Linen; Ama=Mother; Edur= Snow; Gentza= Peace; Deunoro= Saints; Bakarr= Loneliness) and Spanish (for females: Azucena= White Lily; Gloria= Glory; Cruz= Cross; Flor= Flower; Inocencio= Innocent; Lino= Linon; Nieves= Snows; Paz= Peace; Santos= Saints; Soledad= Loneliness. Ancient societies tended to name people with common names (Great Bear, Eagle, Sitting Bull), as it is well known with North American Indians.

7) Basque language has remained with little modifications throughout time, because invasions have not modified this and other Basque society characteristics (Collins 1989).

8) Basque language was much more widespread than its present-day limits (Venemann 2003; Intxausti 1992) and it is considered as an ancient Old Iberian language remain (Arnaiz-Villena 2000; Arnaiz-Villena *et al.* 1999, 2001a, 2002).

Transliteration and translation hypothesis of Usko-Mediterranean languages including Iberian

Iberian-Tartesian, Etruscan and Minoan Linear A have been transliterated and a translation proposed, as referred in (Poulianos 1969; Arnaiz-Villena & Alonso-García 1999; Arnaiz-Villena 2000). Basque-Spanish cognate meanings have provided the basis for the translation.

Berber has been distinguished from the Arab contamination by comparison with Basque (Sota *et al.* 1976; Keretxeta 1990), Iberian-Tartesian (see Chapter 7, of Arnaiz-Villena 2000) and Arab (Corriente-Cordoba 1977).

The ancient Libyc scripts were studied from Chabot (1940a; 1940b; 1941) and Harden (1971). Directions of the scripts were generally vertical and only assessed by the sense of meaning (Arnaiz-Villena & Alonso-García 1999).

Etruscan texts were taken from D'Aneusa (1997). Hittite, Sumerian, Eblaic, Elamite, Ugaritic, Egyptian and Guanche texts were taken from the transliterated references of the most recognized World specialists (see references list of Arnaiz-Villena 2000, chapter 9 pages 210, 245, 246, which may be download from

<http://chopo.pntic.mec.es/~biolmol/publicaciones/Usko.pdf>) (See Arnaiz-Villena 2000; Arnaiz-Villena & Alonso-García 2001; 2008; Pellón 2001).

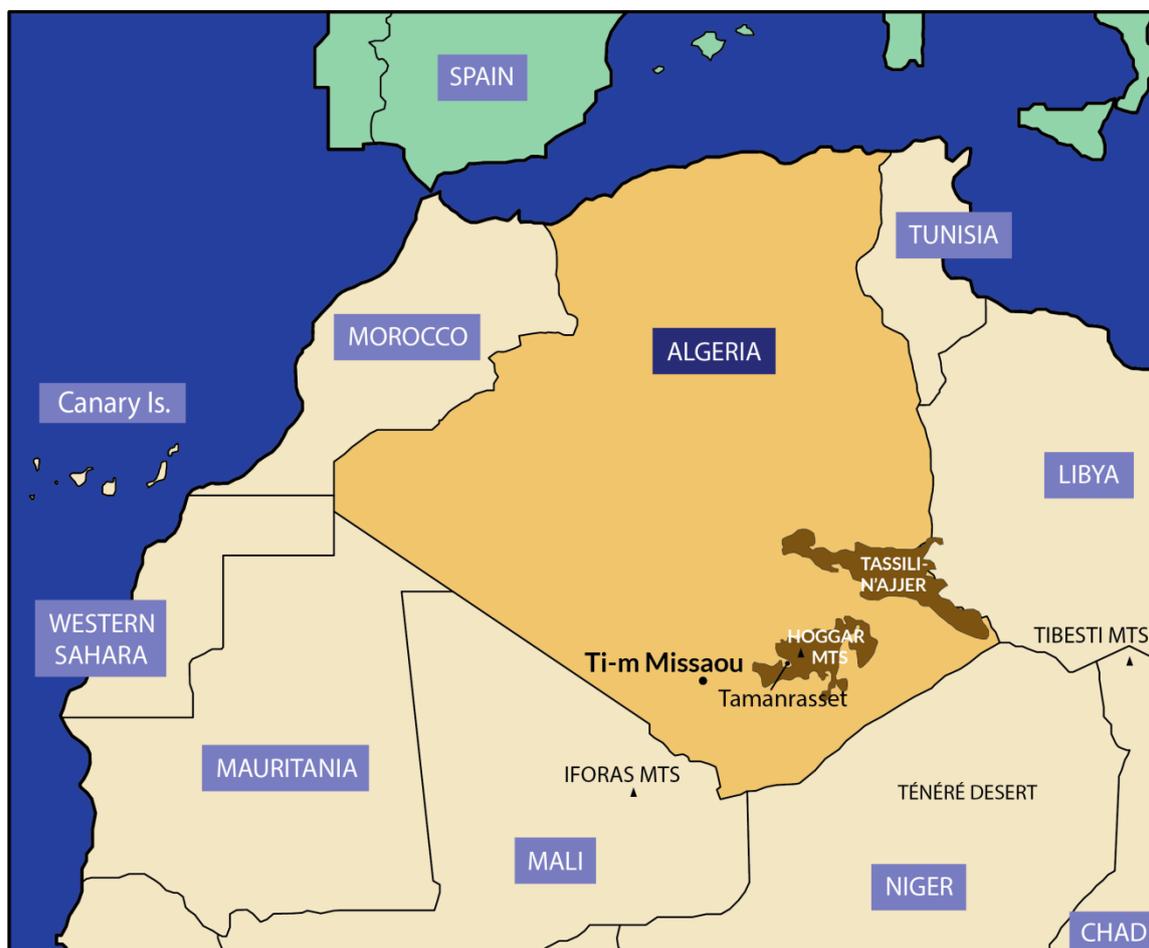


Fig. 2. Map showing the location of Ti-m Missaou ,also named Tim Missao ,Tim Missaw ($21^{\circ} 55' 39.17''$ N, $3^{\circ} 5' 27.26''$ E) and places around. Natural Parks of Hoggar (or Ahaggar) and Tassili-N'ajjer, and Tamanrasset city ($22^{\circ} 54' 27.04''$ N, $5^{\circ} 32' 34.28''$ E) are also marked in the map.

Ti-m Missaou (Algeria) painted inscription (Fig. 2)

History

A “Latin” red inscription painted on sandy rock was discovered in a rock shelter at one of the walls (cliffs) of Ouadi Ti-m Missaou (De Cola & Preisser 1990), opposite to the other dry river bed wall where another shelter is placed that contains galloping horses ancient paintings. Shelter was found close to two present-day wells and inscription photograph was published in De Cola and Preisser (1991); shelter is placed four meters above ground level. The inscription is written in the inclined ceiling at

about two meters high from the shelter ground; it is also apparently isolated from other inscriptions. Script is virtually contained in a regular square of 30 cm side. Painted letters show a constant size of about 4cm. These letters were attributed to a Latin alphabet (Pichler 1997), and it is the southern-most of these characters described so far in Sahara Desert (21° 55' 39.17'' N, 3° 5' 27.26'' E) (Fig. 3).

Once letters were identified, doubts arose about that a Latin alphabet was used, but a similar linear one could be instead (Pichler 1997). The apparent four consonant letter part is definitely not Latin. Finally, Pichler suggested that some “Latin” inscriptions found in Lanzarote and Fuerteventura were of the kind of this painted inscription. These Canary Island Latin inscriptions are now named Iberian-Guanche Inscriptions (Arnaiz-Villena *et al.* 2019c; 2020a; 2020b), and are present in all Canary Islands (Arnaiz-Villena *et al.* 2020c).

Further computer study

In addition, some Latin “minor case” letters were found by Prof M.Mirabella Roberti (De Cola and Preisser 1990, 1991; Pichler 1997). However, our closer computer observation, magnification and colour modifications demonstrated that these so called “minor case” letters were letters or signs of “minor size” (1.5-2 cm) that are most likely incised. These signs are all found the Iberia semi-syllabary (Appendix I) and may be directly translated as funeral/religious simple words (Arnaiz-Villea and Alonso-Garcia 2001). They are scattered all across the painted inscription area; other minor size/incise letter phrases might have been destroyed. In fact, two apparent diagonal line of incise and “minor case” writing are observed (see below).

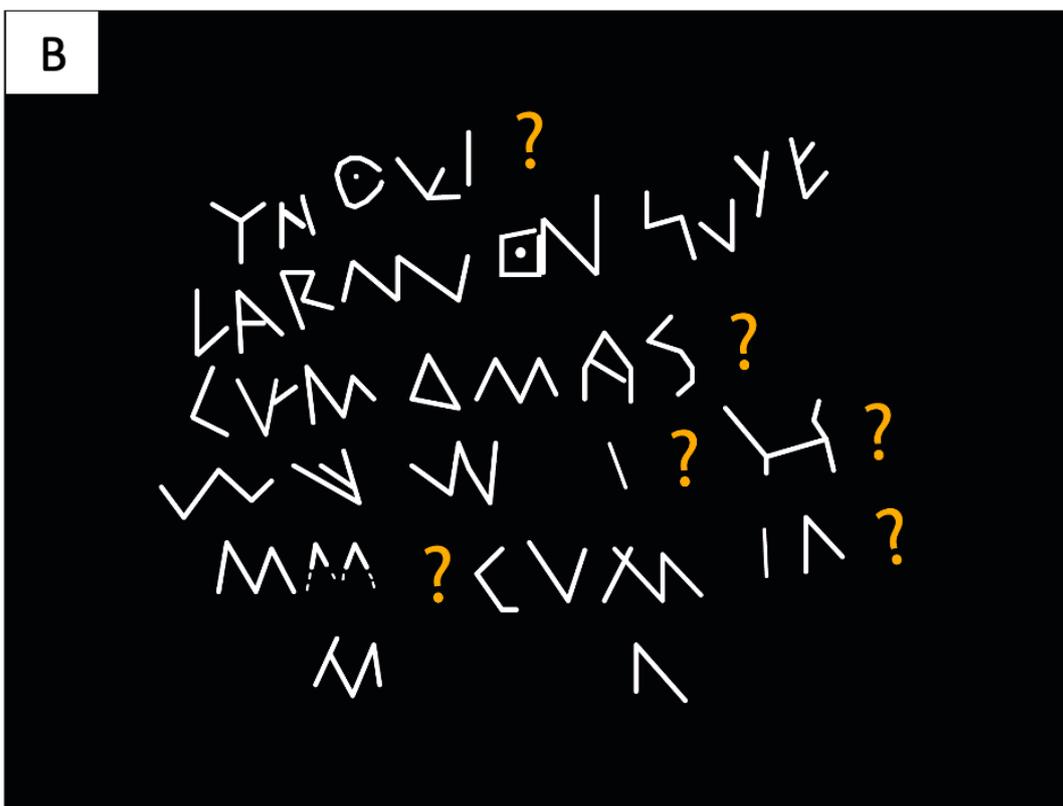
Results

Ti-m Missaou/Shelter inscriptions

Painted ochre/red Iberian scripts (Fig. 3)

Original photographs are put together with a black/white script transcription followed by a proposal of ordered translation. It was followed all our previous work methodology detailed in Material and Methods section and taking into account the funerary and religious meaning of this type of rock inscriptions both in Europe and in Canary Islands.

Painted rock Iberian inscription at Sahara, Ti-m Missaou, Algeria (Fig. 3)



C

1st line

TRANSCRIPTION = M O DE TO PA ?

TRANSLATION = (A)M(A) ODE TOPA
THE MOTHER CLOUDS INVOKE

INVOKE TO THE MOTHER FOR CLOUDS

2nd line

TRANSCRIPTION = L A R S M KU M KI M M E

TRANSLATION = IL AR(A) S(U)(A)M(A) KUM(A) KIMME
DEAD LAND FIRE THE MOTHER BABY GERM

THE DEAD IN THE FIRE, LAND OF THE MOTHER, A BABY GERM

3rd line

TRANSCRIPTION = KE MM S A S A S ?

TRANSLATION = KE (A)M(A) (A)M(A) S(U) AS AS
SMOKE THE MOTHER (MOTHER) FIRE DARKNESS (DARKNESS)

SMOKE OF THE MOTHER (MOTHER), FIRE IN DARKNESS (DARKNESS)

C

4th line



TRANSCRIPTION = M M E (reverse) ? M M BA ? O KE ?

TRANSLATION = (A)M(A) ME (A)M(A)(A)M(A) BA OKE
 THE MOTHER LACK OF/SMALL THE MOTHER (MOTHER) YES THE BED

THE MOTHER, LACK OF/SMALL, THE MOTHER (REPEATED), YES, ?, THE BED, ?

5th line



TRANSCRIPTION = S S ? KE M S BA L ?

TRANSLATION = S(U) S...? KE (A)M(A) S(U) BAL
 FIRE ? SMOKE THE MOTHER FIRE WIND GUST
 (IDEA OF A DEAD BURNT AND WITH A RITUAL PRAY TO THE MOTHER)

6th line



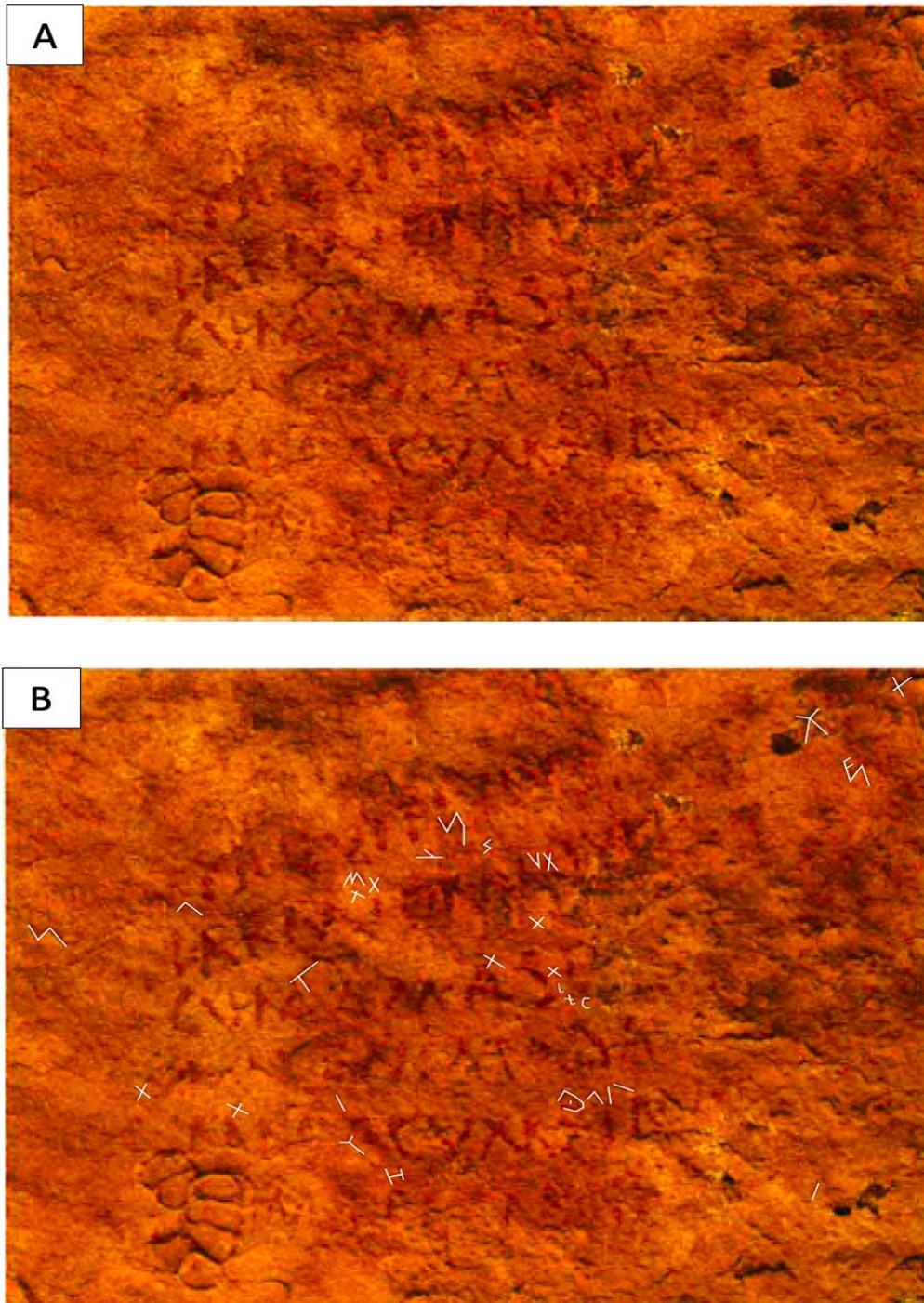
TRANSCRIPTION = S L

TRANSLATION = S(U) (I)L
 FIRE THE DEAD
 (POSSIBLE CORPSE BURNT SITE)

Fig. 3. Proposal of transcription and translation of ochre-red painted Latin or Ibero-Guanche inscription (Ti-m Missaou Rock Shelter, Algeria). **A)** Original photograph of the rock inscription; **B)** Latin or Ibero-Guanche characters remarked in white (non-recognizable characters are depicted with?); **C)** Transcription and translation proposal.

Incised rock Iberian scripts (Fig. 4)

These signs do not appear to collide with the red-ochre painted phrase. Either, they were carefully incised between red painted letters, or the opposite they could be true. One may speculate what type of inscriptions whether painted or incised were done first, but it is not possible to reach a firm answer. These two types of inscriptions may be all funerary and religious and single signs or group of incised signs make translation sense on the context of the Religion of the Mother.



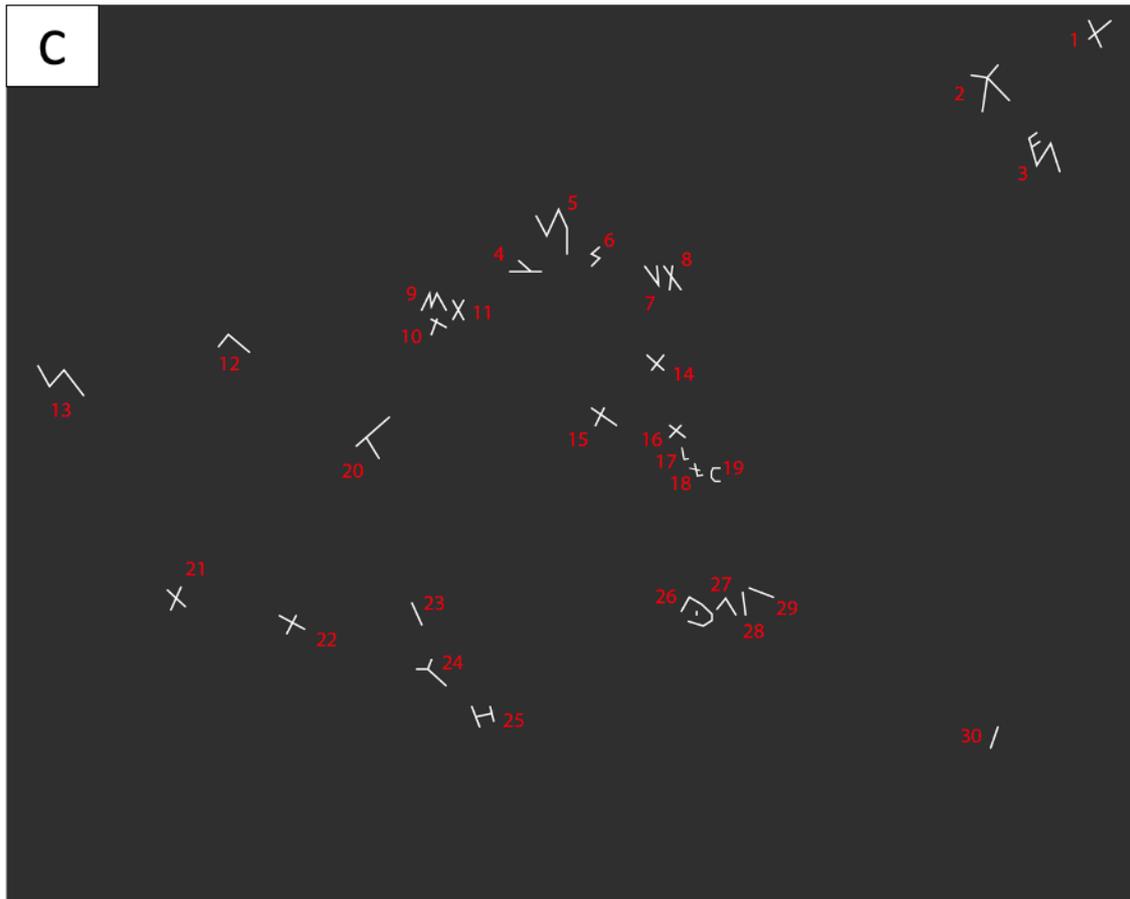


Fig. 4. Proposal of scattered Iberian-Guanche incise characters found among the bigger ochre-red painted inscription (Fig. 3) in Ti-m Missaou Rock Shelter (Algeria). **A)** Original photograph of the rock; **B)** Original photograph and Iberian-Guanche linear incise characters remarked in white; **C)** Characters isolated and numbered for their identification (red and white).

Non painted scripts. Scattered small incise scripts (letters/syllables) and proposal of translation according to Pichler (1997). That these scripts seem now to be scattered but, they could have been linked in the past. Signs 16, 17, 18 and 19 may be a diagonal written phrase:

× = TA; ʌ = L; ʃ = TA; C = KA → (ATA, IL, ATA, AKA) → (THE DEAD DOOR, THE KILLED DOOR)

It also happens with signs 26, 27, 28 and 29:

⊃ = KU; ^ = L; | = BA; \ = BA → (KU, IL, BA, BA) → (THE DEAD COFFIN, YES, THUS)

1-× = TA; 2-ʃ = BE; 3-ʃ+^ = E + L 4-ʃ = M

9-ʌ = S; 10-ʃ = BE; 11-× = TA; 12-^ = M; 13-ʌ = N; 14-× = TA; 15-× = TA; 20-^ = M
5-ʌ = V+ = M + KE; 6-ʃ = S; 7-ʌ = M; 8-× = TA (7 + 8 = AMA ATA, "THE MOTHER OF THE DOOR")

21-× = TA; 22-× = TA; 23-\ = BA; 24-^ = M; 25-ʃ = O; 30- / = BA

ALL MAY BE RITUAL INSCRIPTIONS FREQUENTLY FOUND AT CANARY ISLANDS ABOUT DEADS (AKA/IL), THE RELIGION OF THE MOTHER (AMA) AND THE DOOR (ATA) OF DARKNESS (AS)

Discussion

Prehistoric writings

It has been reported that the same signs have been recorded in caves of Americas, Europe, Africa, Asia and Oceania dated between 30,000 and 10,000 years ago, which are mainly of lineal or pictographic characters (von Petzinger 2017; <https://www.openculture.com/2019/03/40000-year-old-symbols-found-in-caves-worldwide-may-represent-the-earliest-written-language.html>). This implies a wide human contact throughout the World long before than previously thought. It is also supported by rock geometrical-incised signs in Blombos and Klasier River Caves, and Howiesons Poort complex rocks or pieces (South Africa, 60,000 – 100,000 years BC) (Henshilwood & Dubreuil 2011; Texier *et al.* 2010). Some of these latter signs are similar to those described by us on the Rock of the Dead in Tenerife, Barranco de Ruiz, San Juan de la Rambla, Canary Islands (Arnaiz-Villena *et al.* 2019b) or at La Palma Island (Arnaiz-Villena *et al.* 2020b); and also to those other incise/lineal rock scripts found at all other Canary Islands (Arnaiz-Villena *et al.* 2015; 2019c; Benito-Mateo *et al.* 2016; de Balbín-Behrmann *et al.* 2009; del Arco-Aguilar *et al.* 2009; González-Antón *et al.* 1995; 2016; Asociación sociocultural Archinife 2016).

In addition, many other ancient rock lineal scripts have also been found in Iberia in a Megalithic context: more or less unclassifiable lines and signs are found in Southern Spain (Antequera Dolmens & Muñoz-Gambero 2019; Huelva Dolmens & Vazquez-Hoys 2008; Arnaiz-Villena *et al.* 2013). Linear rocks incise lines and signs are also found in Northern Spain Pontevedra Stone, Galicia, Spain (Muñoz-Gambero 2019); some of them are mixed with typical Iberian semi-syllabary scripts, as the typical vocal “i” (Arnaiz-Villena, personal observation), see Appendix I (Muñoz-Gambero 2019; Arnaiz-Villena Piedra de Pontevedra, Museo Galego, personal observation).

In summary, together with the so called Lineal Megalithic Scripts (Muñoz-Gambero, 2019) found in North and South Iberia, Iberian semi-syllabary signs are found. A continuum timeline of lineal painted and incised lines is found from lineal Megalithic to later alphabetic signs like Sitovo, Gradeshnitsa, Iberian and syllabaries timeline goes from about 60,000 years (in South Africa, Paleolithic) to 1st millennium BC and later. At some stages, incised lines without apparent syllable or letter

representations are mixed together with classical syllables/letters, like naviform lines that go together in rocks with Iberian semi-syllabary both in Iberian and Canary Islands (Arnaiz-Villena *et al.* 2015). It is likely that Iberian semi-syllabary existed long before than 1st millennium BC, because its antiquity has mainly been adapted to appear later than Phoenician alphabet and an urgent revision is required. Strabo wrote that South West Iberians had writing since 6,000 years BC (Strabo 1998).

European/Mediterranean/Atlantic/North African lineal painted and incised inscriptions in rock and other supports

Libyan (Chabot 1940a; 1940b; 1941) and North African Desert Berber/Tuareg characters (most ancient of the World according to Malika Hachid 2000; 2003) must be taken into account: this writing is an ancient one and according to the classification of languages, it should be included in the Usko-Mediterranean languages (Arnaiz-Villena 2000; Arnaiz-Villena *et al.* 2001a).

In the present paper we show an ancient painted Iberian ochre script in the middle of the Sahara Desert (Ti-m Missaou, 270 km South-West of Tamanrasset city on Ahaggar Mts. area (Algeria)). Probably, many lineal Iberian-Guanche inscriptions could have not been noticed in African archaeology sites and also may be earthed under Sahara Desert sands. Lineal incised rock inscriptions have also been found in Western, Central and Eastern Europe (Runes). Some North Italian pre-Latin “languages” have even the same signs than Ibero-Guanche scripts: Italian old scripts (Venetic, Raetic, Lepontic) (Fig. 5).

Also, Eastern Europe (https://en.wikipedia.org/wiki/Vin%C4%8Da_symbols, Vinca inscription) has similar scripts to that of Ibero-Guanche ones dated in 4,500 years BC (Figs. 5 and 6) (and also to Iberian semi-syllabary). Other lineal incise scripts found on different supports (lead, stone, wood) are Etruscan (Arnaiz-Villena & Alonso-Garcia 2008) and some other scripts found in North Mediterranean, including Greece from the fifth millennium BC. Thus, all these incise lineal rock inscriptions should be taken into account to study origins, cultural and precursor role of Iberian semi-syllabary, Ibero-Guanche inscriptions and our own Latin alphabet origin and timing and origin of languages. In this respect, relationship with ancient Berber lineal scripts should also be studied (Hachid 2000; 2003) with Usko-Mediterranean languages (Fig. 7).

VENETIC Este	EAST RAETIC Magrè	WEST RAETIC Bolzano-Sanzano	CAMUNIC Sondrio	LEPONTIC Lugano	
A A A	A A A A	A A A A	∇ A A	∇ A	a
			H		b
> (=i)		> (?)	> (=g)		c/g
			X (?)		d
∫	∫	∫	∫ ∫ ∫	∫	e
∫	∫	∫	≡		v
X (=d)	X (=d)	X ∇ (?)	Y A	X	z
⊞ ⊞ ⊞	⊞ ⊞	⊞	H A III		h
⊙ (=t)			X ∴ ∴ ∴ ⊙ ⊙	⊙	θ
I ⊞	I	I	I /	I	i
x	x	x	//v//x	x	k
J J	M	J	J J J	J	l
∩ ∩	∩	∩	∩ ∩	∩ M	m
∩ H	∩	∩	∩ H ∩	∩ M	n
			∩ ∩ ∩ ∩ ∩ ∩		o/u
⊙ ⊙			⊙	⊙ ⊙	o
∩ ∩	∩ ∩ ∩	∩	∩ ∩ ∩	∩	p
M ∩	M ∩	M	∩ ∩	M ∩	s
∩ ∩	∩ ∩	∩ ∩ ∩	∩ ∩	∩	r
∩ ∩ ∩	∩ ∩	∩ ∩	∩ ∩ ∩	∩ ∩	s
X ∩	X ∩ ≠	X	∩ ∩ ∩ ∩ ∩ ∩	X	t
∩ ∩	∩	∩	∩ ∩ ∩	∩	u
⊙ (=b)	∩ ∩ ∩	∩ ∩ ∩	⊙		φ
			X X X		ts/pp
Y (=g)	Y ∩	Y ∩	∩ ∩ ∩ ∩		þ
⊞ ∩ ∩ ∩ ∩				∩	χ
					f

Fig. 5. Old Italic Scripts. <https://www.omniglot.com/writing/olditalic.htm>. North Italic scripts have very similar characters to Ibero-Guanche Canarian scripts (Raetic, Venetian, Lepontic). Also, Etruscan language is written in lineal similar characters, like Iberian language is (Arnaiz-Villena & Alonso-Garcia 2001).

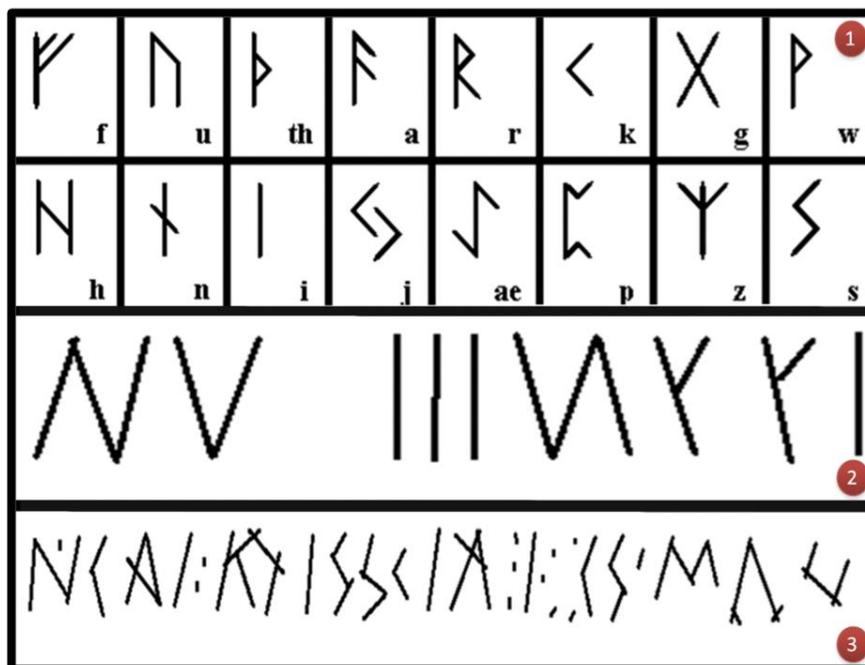


Fig. 6

- 1) Runic inscriptions have been found throughout Europe from the Balkans to Germany, Scandinavia and the British Isles. <https://www.omniglot.com/writing/runic.htm>
- 2) Gradeshnitsa Tables (Bulgaria) 4,500 years BC. https://en.wikipedia.org/wiki/Gradeshnitsa_tables.
- 3) Sitovo inscription, Plovdiv (Bulgaria, 3,000 years BC, Alexander Peev). https://en.wikipedia.org/wiki/Sitovo_inscription.

Other old lineal Mediterranean scripts like those from Sardinia, Etruria (Arnaiz-Villena & Alonso García 2008), Cyprus, Ligur, Aegean Islands and Minoan Lineal A (Arnaiz-Villena & Alonso-García 1999) are not shown.

Canarian Lineal Writing

It was 20 years ago when we published the Iberian-Guanche inscriptions found in Lanzarote and Fuerteventura (Arnaiz-Villena & Alonso-García 2001). In Arnaiz-Villena *et al.* (2019c) we published that this type of rock writing was found in all Canary Islands. In addition, Canarian reputed scholars have already published lineal signs and/or incised or engraved lines in several papers/books that either have been hotly dismissed or neglected by other scholars like with our own findings have (Benito-Mateo *et al.* 2016; de Balbín-Behrmann *et al.* 2009; del Arco-Aguilar *et al.* 2009; González-Antón *et al.* 1995; 2016; see also ,Strabo 1998). This forgetting is for these Canarian authors and for us due to that many of these findings do not fit with the strict

genetic/cultural dogma present at Canary Islands of Canarian anthropology being exclusively attached to Africa (Berbers) along all possible times. This dogma may logically be not possible and does not add any objective study to Canarian culture. This is particularly evident with the many small Canarian fat “goddesses” statues and/or figurines which are similar to those found by Gimbutas (6,000 – 3,000 years BC) and in Mediterranean Iberia: scholars name this influence on Canarian culture “The Gibraltar Strait Circle” that includes Mediterranean, Europe and Africa ([González-Antón et al. 2016](#)). We also add a similarity with singular Malta Archipelago culture: “fat goddesses”, extant cart-ruts in both Canarian and Malta Archipelagos ([Arnaiz-Villena et al. 2018](#); [2019a](#); [2020a](#); [2020b](#); [2020c](#); [Medina and Arnaiz-Villena 2018a](#); [2018b](#)). Some Iberian scholars have not studied Canary Islands Ibero-Guanche scripts because of “lack of enough material” (Arnaiz-Villena, personal talk to scholars); however, Italian lineal languages ([Fig. 5](#)) have been studied even with an extant few lines. Also, in Canary Islands not only Iberian scripts may be found but different stages of Lineal Megalithic Scripts ([Muñoz-Gamero 2019](#)) which may finally be reached full Iberian development in Iberia and other parts of Europe. A link between “Green” Sahara ancient writing culture and Canarian Archipelago was lacking, and we present new evidence in this paper. We postulated the Saharan origin of many Mediterranean/Atlantic cultures, including the following languages and cultures depicted in [Figs 7 and 8](#):



Fig. 7. Usko-Mediterranean living and dead languages. Was Iberian initially written by Guanches or other North African populations? ([Arnaiz-Villena et al. 1999a, 2001a](#))

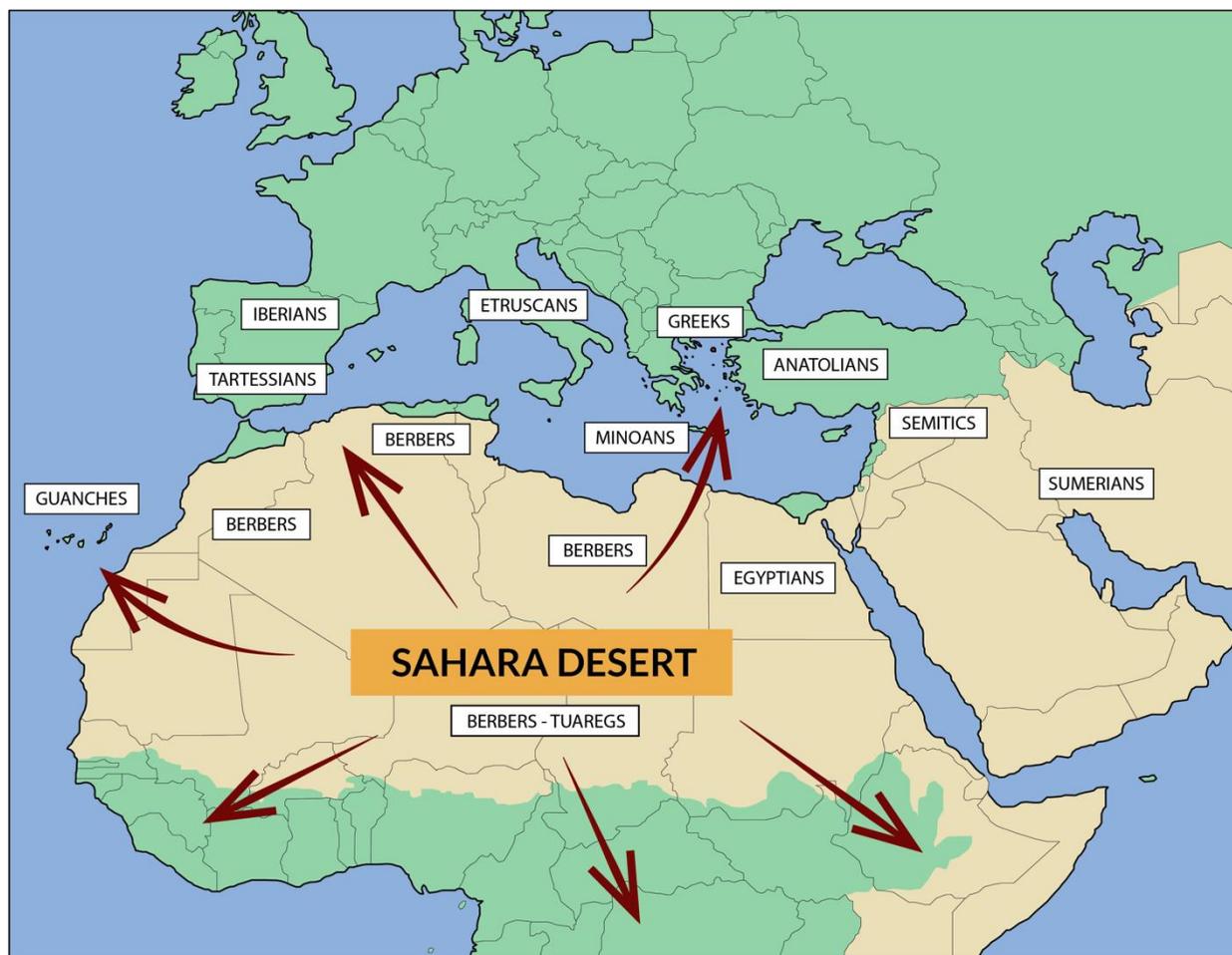


Fig. 8. Mediterranean area showing classic populations (squares).

Arrows represent population movements before 3,000 years B. C. (Sellier & Sellier 1993). Etruscans has their highest development in the first millennium B.C.; however, their culture was a continuity of a more ancient “Villanovan” (Villanova, Bologna) and pre-Villanovan cultures (2nd millennium B.C.) (Elvira 1998). Semitic people were nomadic people, comprising Jews, Arabs, and Phoenicians. Further details can be seen in references (Martinez-Laso *et al.* 1996; Gomez-Casado *et al.* 2000; Arnaiz-Villena *et al.* 1997; 1999b; 2001b; 2001c). Sahara Desert desiccation occurred after 6,000 years ago (End Africa Humid Period https://wiki2.org/en/African_humid_period)

The Middle-Sahara inscription of Ti-m Missaou (Hoggar Mt., Algeria): painted and incised rock scripts

When computer magnification resolutions and colours were changed to search for inscription details, many “Iberian” scattered, and usually apparently isolated incised scripts appeared (Fig. 4). A non exhaustive sample of such a signs is shown (Figs. 4B and 4C); size of signs should be about 1.5 cm according to recorded information that confused these signs with “minor case” letters (De Cola & Preisser 1990). They are

performed among the painted shelter signs and might have been part of other disappeared scripts, but either incises or painted scripts are performed apparently carefully avoiding interferences among one another. Whether painted or incise scripts were first performed cannot be solved with available data.

- *Painted ochre phrase*: it was reported in 1990 (De Cola & Preisser 1990) and it is written on inclined ceiling from left to right (Fig. 3) in red ochre. M. Mirabella Roberti offered a transcription including “minor case letters” that are in fact small incised characters. Pichler (Pichler 1997) identified this painted inscription as “Latin”, similar to those studied by him at Fuerteventura and Lanzarote (Pichler 2003). However, herewith we propose that it was written in “Iberian-Guanche” and also a religious and funeral translation, following always the same methodology (Arnaiz-Villena 2000; Arnaiz-Villena & Alonso-García 2001; Arnaiz-Villena *et al.* 2019b; 2020a; 2020b). Most Ibero-Guanche rock inscriptions found at Canary Islands are funeral and religious.

- *Scattered incise scripts*: Two phrases were found in different directions than that of the painted Iberian-Guanche ochre script might be translated (Fig. 4 footnote). Also, most isolated incise scripts may refer to the Old Religion of the Mother (aMa), Door (aTa) and the Dead (iL) (as described in Fig. 4 footnote (Arnaiz-Villena 2000)). It is not possible to assert whether painted ochre scripts (De Cola & Preisser 1990) or these incise smaller scripts described in the present paper were written first. This is the first panel of scattered lineal Iberian-Guanche scripts found in African continent, but many more may have been neglected because observers may have lack of familiarity with Iberian semi-syllabary. Notwithstanding, this incise lineal script finding, together with the previously described painted ones (Pichler 1997) strongly support our proposal that Green Saharan Culture expanded to Mediterranean (Figs 7 and 8), Atlantic and other areas, like Iberia and have given rise to Usko-Mediterranean languages and cultures (Arnaiz-Villena *et al.* 1999a; 2001a; 2002). Most probably, Canary Islands were a part of Neolithic and pre-Neolithic Green Sahara and Iberian semi-syllabary may have born at Canary Islands and/or Sahara. In fact, rock scripts of Iberian-Guanche at Canarian Archipelago reflect a less elaborated and more primitive form than that found in Iberia and France. The “Saharo-Canarian Circle” of culture could be proposed in this context in order to explain many Mediterranean-Atlantic culture common traits (Figs 7 and 8), included the birth the Iberian semi-syllabary.

Conclusions

- 1) In the present paper it is described Iberian-Guanche scripts placed in the Middle of Sahara Desert (Ti-m Missaou, 270 km far from Tamanrasset Ahaggar/Hoggar Mts. area (Algeria)), that had been previously described at the Canary Islands.
- 2) An ancient cultural link is thus found among Sahara, Canary Islands and Iberia.
- 3) It is feasible that Iberian semi-syllabary was originated in the Saharo-Canarian Circle longer before that it was established in Iberia (1st millennium BC). This Iberian writing late start is proposed in order to accommodate its origins after Phoenicians contact with Iberia. In fact, Strabo wrote that Iberian language was written 6,000 years BC, Neolithic Epoch ([Strabo 1998](#)).
- 4) A continuous flux of apparently senseless rock incise lines/scripts is found throughout Iberia, France and Canary Islands often together with typical signs of Iberian semi-syllabary; Middle-Sahara may also be included as harbouring these Iberian incise rock scripts after our present data. It is doubtful that Iberian signs appeared as late as the 1st millennium BC. Some Iberian signs are recognized among the Megalithic “senseless” lineal rock scripts in Iberia and Canary Islands.
- 5) The same type of lineal rock scripts may have given rise to other lineal alphabetic signs like first Libyan/Berber ones, Bulgarian Sitovo and Gradeshnitsa scripts (6,000 years BC), European/Atlantic runes, Italian lineal scripts, Etruscan, Minoan Lineal A, Cypriot and other Mediterranean lineal scripts ([Figs 7 and 8](#)). A continuous lineal writing systems developing seems to have occurred during Paleolithic and Neolithic Epochs, which occurs together with the related Lineal Megalithic Scripts.
- 6) Taking together cultural, genetic and other anthropology data like these rock scripts, it is possible that incise lineal scripts first appeared at the Neolithic Saharo-Canarian Circle, being the strength of Atlantic influence not yet known.
- 7) We have used for our studies the Iberian semi-syllabary and its Basque correspondence, because ancient Iberian is the only Old Mediterranean language written in lineal scripts which has been decoded, and most of its semantics semantics (meaning) is now known by using ancient Basque, which has been shown to be ancient Iberian language.

Appendix I

Iberian →		Tartessian ←	Phoenician	Ancient Greek	Iberian →		Tartessian ←	Phoenician	Ancient Greek
R D P P	a	Δ Δ	κ ϙ	α	ρ ϙ	bi	γ	Ⓜ ϙ	γ ϙ
Ɔ Ɔ Ɔ	e	Ɔ Ɔ (Ɔ Ɔ)	ϙ	ϙ	× × ×	bo	Ⓜ ϙ ϙ		
∩ ∩	z	∩ ∩ (∩ ∩)	ζ	ζ	□	bu	□ (∩ ∩)		
∩ ∩	o	∩ ∩ ϙ	ο	ο	X	ka	+X+	+X+	τ ε
Δ Δ ↑	u	4 ↑ ü?	υ υ	υ υ	⊖ ⊖ ⊖ ⊖	te	⊖ ⊖ ⊖ ⊖	⊖ ϙ	⊖ ϙ
∩ ∩ ∩	l	1	λ	λ	γ γ γ γ	ti	∩ ∩ ∩ ∩	∩ ϙ	∩ ϙ
∩ ∩ ∩ ∩	r	4 ∩ ∩	ρ	ρ	v w w	ko	∩ ∩ ∩		
M M	s	M M M	ω ϙ	μ	⊕ Δ Δ Δ	tu	Δ Δ ∩ (∩ ∩)	Δ ϙ	Δ ϙ
ξ ξ ξ	s	Ɔ Ɔ (Ɔ Ɔ)	ϙ	ϙ x	∩ ∩ ∩	ca	∩ (⊕)	1 ϙ	1 ∩ ϙ
γ γ γ γ	m	ξ ξ	ξ ϙ	μ	< ∩ ∩ ∩ ∩	ke	∩ ∩ ∩ ∩ (∩ ∩)	γ ϙ	γ ϙ
∩ ∩	n	∩ ∩ ∩ (∩ ∩)	ν	ν	Ɔ ∩ ∩ ∩	ki	1 Ɔ (2 ∩ ?)		
∩	ba	∩			∩	co	∩ ∩		
∩ ∩ ∩ ∩	be	∩ ∩			∩ ∩	cu	∩ ∩ (∩ ∩)	∩ ϙ	∩ ϙ

Iberian-Tartessian semi-syllabary discovered by Manuel Gómez-Moreno (Gómez-Moreno 1949; 1962)

Acknowledgements

We thank University Complutense of Madrid for its continuous support. Antonio Arnaiz-Villena had PI18/00721 grant from Ministerio de Ciencia, Innovación y Universidades and FEDER funds. We are also grateful to Dr. Francisco García Talavera from Tenerife for color Sahara magazine pages photographs.

Conflicts of interest: The authors declare no conflict of interest

References

Arnaiz-Villena A. 2000. Prehistoric Iberia: Genetics, Anthropology and Linguistics. Chapter 9: The Usko-Mediterranean Languages. New York, USA: Ed. Kluwer. Plenum Press. <http://chopo.pntic.mec.es/~biolmol/publicaciones/Usko.pdf>.

Arnaiz-Villena A. & Alonso-García J. (1st edition) 1998. El Origen de los Vascos y otros Pueblos Mediterráneos (2a edición). Madrid, Spain: Editorial Complutense. | New Edición 2011. Madrid, Spain: Ed. Visión Libros.

Arnaiz-Villena A. & Alonso-García J. 1999. Minoicos, cretenses y vascos: un estudio genético y lingüístico. Madrid, Spain: Editorial Complutense. Amazon:

<https://www.amazon.es/Minoicos-cretenses-vascos-Estudios-Complutenses/dp/8489784663>

Arnaiz-Villena A. & Alonso-García J. 2001. Egipcios, Bereberes, Guanches y Vascos. Madrid, Spain: Ed. Visión Libros. (3rd Edition 2011). Amazon:

<https://www.amazon.es/Egipcios-Bereberes-Guanches-Vascos-Lenguas/dp/841726700X>; Wikimedia Commons:

https://commons.wikimedia.org/wiki/File:Iberian-Guanche_inscriptions.pdf

Arnaiz-Villena A. & Alonso-García J. 2008. Diccionario Etrusco-Euskera-Castellano. Madrid, Spain: Ed. Vision Libros. Amazon: <https://www.amazon.es/Diccionario-etrusco-euskera-castellano-Diccionarios-Bilingües-Arnáiz-Villena/dp/8490119368>

Arnaiz-Villena A, Martínez-Laso J, Gómez-Casado E, Diaz-Campos N, Santos P, Martinho A., Breda-Coimbra H. 1997. Relatedness among Basques, Portuguese, Spaniards, and Algerians studied by HLA allelic frequencies and haplotypes. *Immunogenetics*. 47: 37-43.

Arnaiz-Villena A., Martínez-Laso J., Alonso-García J. 1999a. Iberia: Population Genetics, Anthropology and Linguistics. *Human Biology*. 71: 725-743.

Arnaiz-Villena A, Iliakis P, González-Hevilla M, Logás J, Gómez-Casado E, Syfidaki K, ... Martínez-Laso J. 1999b. The origin of Cretan population as determined by characterization of HLA alleles. *Tissue Antigens*. 53: 213–26.

Arnaiz-Villena A., Martínez-Laso J., Alonso-García J. 2001a. The correlation between languages and genes: the Usko-Mediterranean peoples. *Human Immunology*. 62: 1051-1061.

Arnaiz-Villena A, Dimitroski K, Pacho A, Moscoso J, Gómez-Casado E, Silvera-Redondo C, ... Martínez-Laso J. 2001b. HLA alleles in Macedonians and the Sub-Saharan origin of the Greeks. *Tissue Antigens*. 57: 118-127.

Arnaiz-Villena A, Karin M, Bendikuzé N, Gómez-Casado E, Moscoso J, Silvera C, ... Martínez-Laso J. 2001c. HLA alleles and haplotypes in the Turkish population: relatedness to Kurds, Armenians and other Mediterraneans. *Tissue Antigens*. 57: 118-127.

Arnaiz-Villena A., Gómez-Casado E., Martínez-Laso J. 2002. Population genetic relationships between Mediterranean populations determined by HLA allele distribution and historic perspective. *Tissue Antigens*. 60: 111-121.

Arnaiz-Villena A., Alonso-Rubio J., Ruiz-del-Valle V. 2013. Tiwanaku (Titikaka Lake, Bolivia) and Alberite Dolmen (Southern Spain) ritual “ears”. Celtic, Iberian, Aymara and Basque languages. *Int. J. Mod. Anthropol.* 6: 61 - 76

Arnaiz-Villena A., Muñiz E., Campos C., Gómez-Casado E., Tomasi S., Martínez Quiles N., ... Palacio-Gruber J. 2015. Origin of Ancient Canary Islanders (Guanches): presence of Atlantic/Iberian HLA and Y chromosome genes and Ancient Iberian language. *Int. J. Mod. Anthrop.* 8: 67-93

Arnaiz-Villena A., Carballo A., Juarez I., Muñiz E., Campos C., Tejedor B., ... Palacio-Gruber J. 2017. HLA Genes in Atlantic Celtic populations: Are Celts Iberians? *Int. J. Mod. Anthrop.* 10: 50 - 72.

Arnaiz-Villena A., Medina M., Palacio-Gruber J., Lopez-Nares A., Ruiz-del-Valle V. 2018. Malta and Lanzarote (Canary Islands, Spain) Cart-ruts and Rock Prehistoric Calendar at Zonzamas, Lanzarote-“Quesera”/Cheeseboard-. *Int. J. Mod. Anthrop.* 11: 214-231.

Arnaiz-Villena A., Medina M., Lopez-Nares A., Rodriguez-Rodriguez, J., Ruiz-del Valle V. 2019a. Cart-ruts in Lanzarote (Canary Islands, Spain) and Malta: first evidence of dating supported by dated ceramics. *Int. J. Mod. Anthrop.* 2: 115-140.

Arnaiz-Villena A. Lopez-Nares A., Ruiz-del-Valle V. Juarez I., Bello A. and Sanchez-Romero G. 2019b. The Rock of the Dead: A New "Latin" or "Iberian-Guanche" Inscriptions found in Tenerife Is. (CanaryIslands, Spain). *Int. J. Mod. Anthrop.* 2: 214-232.

Arnaiz-Villena A., Lopez-Nares A., Juárez I., Ruiz-del-Valle V., Callado A., H-Sevilla A., Gomez-Casado E. 2019c. “Latin” rock scripts in Canary Islands are ancient Iberian inscriptions (Iberian-Guanche). A story of forgotten genetics, scripts, pyramids and other prehistoric artifacts. *Int. J. Mod. Anthrop.* 12: 189 – 212.

Arnaiz-Villena A., Medina M., Ruiz-Del-Valle V., Lopez-Nares A., Rodriguez-Rodriguez J., Suarez-Trujillo F. 2020a. The Ibero-Guanche (Latin) rock inscriptions found at Mt. Tenezara volcano (Lanzarote, Canary Islands, Spain): A Saharan hypothesis for Mediterranean/Atlantic Prehistory. *Int. J. Mod. Anthrop.* 2 (13): 140 – 162.

Arnaiz-Villena A., Suárez-Trujillo F., Ruiz-del-Valle V., López-Nares A., Pais-Pais F.J. 2020b. The Iberian-Guanche rock inscriptions at La Palma Is.: all seven Canary Islands (Spain) harbour these scripts. *Int. J. Mod. Anthrop.* 2 (14): 318 – 336.

Arnaiz-Villena A., Medina M., Ruiz-del-Valle V., Lopez-Nares A., Rodriguez-Rodriguez J., Suarez-Trujillo F. 2020c. Cart-ruts in Lanzarote (Canary Islands, Spain) volcanoes tops point to Equinoxes, Summer and Winter Solstices. *Int. J. Mod. Anthrop.* 2 (13): 123 – 138.

Asociación sociocultural Archinife. 2016. Chinech, la isla de los Letreros. Inscripciones de Piedra en Tenerife. Santa Cruz de Tenerife, Islas Canarias, España: Ed. Idea.

Atoche Peña P. & Ramirez Rodriguez M.A. 2009. Manifestaciones rupestres protohistoricas de Lanzarote pp 187-209, in "Rock carvings of the European and AfricanAtlanticFaçade". BAR 2043, Archaeopress, Oxford (UK).

Barrios García J. 2004. Sistemas de numeración y calendarios de las poblaciones bereberes de Gran Canaria y Tenerife en los siglos XIV-XV. Thesis doctoral. Universidad de La Laguna, Tenerife, Islas Canarias (Spain). http://www.etnomatematica.org/publica/trabajos_doctorado/tenerife.pdf

Barrios García J., Valencia Alfonso V., Brito Mayor A. 2018. Investigaciones arqueológicas astronómicas en Gran Canaria. La recámara equinoccial de la cueva de la virgen de la Candelaria (Tara, Telde) XXIII Coloquio de Historia Canario Americana. Las Palmas, Gran Canaria. (Islas Canarias, Spain), 1-23.

Benito-Mateo C., del Arco-Aguilar M.M., Rosario-Adrián M.C., González-Antón R., del Arco-Aguilar C. 2016. Cerámicas antiguas en Rosita del Vicario (Fuerteventura, Islas Canarias). Una propuesta de trabajo. IN: XV Jornadas de estudios sobre Fuerteventura y Lanzarote. Puerto del Rosario, Spain: Cabildo de Fuerteventura.

Botigue L.R., Henn B.M., Gravel S., Maples B.K., Gignoux C.R., Corona E., ... Bustamante C.D. 2013. Gene flow from North Africa contributes to differential human genetic diversity in southern Europe. *Proceedings of the National Academy of Sciences*, 110 (29): 11791–6.

Chabot J.B., Beguinot F. 1940a. “Apunti di Epigr”. Libicadansl’Africa italiana . Mencionada en Recueil des Inscriptions Libyques. Imprimerie Nationale, Paris (France).

Chabot J.B. 1940b. Recueil des Incriptions Libyques (fascicule premier). Imprimerie Nationale. París (France).

Chabot J.B. 1941. Recueil des Incriptions Libyques (fascicule second). Imprimerie Nationale. París (France).

Clarke J., Brooks N. 2018. The Archaeology of Western Sahara. Oxford Books. Oxford (UK).

Collins R. 1989. Los Vascos. Madrid, Spain: Alianza Universidad.

Corriente-Cordoba F. 1977. Dictionnaire Kabyle-Français. Paris, France: Selaf.

Curat M., Poloni E.S., Sanchez-Mazas A. 2010. Human genetic differentiation across the Strait of Gibraltar. *BMC Evol. Biol.* 10: 237-243.

D’Aneusa A. 1997. Crestomazza Etrusca Epigrafica. Brescia, Italy: Paideta Editrice.

De Balbín-Behrmann R., Bueno-Ramírez P., González-Antón R., del Arco-Aguilar C. 2009. Sea-land relationships in the rock art of the Prehispanic Canary Islands. IN: Grabados rupestres de la fachada atlántica europea y Africana. Rock Carvings of the European and African Atlantic Façade. Oxford, England: Arhcaeopress.

De Cola L., Preisser P. 1990. Iscrizione latina dipinta in località Ti-m Missaou (Sahara Cenrale). Sahara. Vol. 3: p 12.

De Cola L., Preisser P. 1991. Iscrizione latina in località Ti-m Missaou (Sahara Cenrale). Sahara. Vol. 4: p 154.

Del Arco-Aguilar C., González-Antón R., Rosario-Adrián M.C., del Arco-Aguilar M.M., González-Ginovés L., Benito-Mateo C., de Balbín-Behrmann, Bueno-Ramírez P. 2009. Algo más que canalillos y geométricos . El valor simbólico de las estaciones rupestres guanches. *Canarias Arqueológica*. 17: 79-131.

Elvira MA. 1988. El enigma Etrusco. Madrid, Spain: Historia 16, Historias del Viejo Mundo (No.11).

Gomez-Casado E., del Moral P., Martinez-Laso J. et al. 2000. HLA genes in Arabic-speaking Moroccans: close relatedness to Berbers and Iberians. *Tissue Antigens*. 55: 239–49.

Gómez-Moreno M. 1949. Las lenguas hispánicas. Discurso de recepción en la Real Academia Española. Madrid, España.

Gómez-Moreno M. 1962. La escritura bardulo-turdetana. Madrid, España: Primitiva Hispánica. Madrid.

González-Antón R., de Balbín-Behrmann R., Bueno-Ramírez P., del Arco-Aguilar C. 1995. La piedra Zanata. Tenerife, Spain: Ed. OAMC, Cabildo de Tenerife.

González-Antón R., del Arco-Aguilar C., Rosario-Adrián M.C., Benito-Mateo C., del Arco-Aguilar M.M. 2016. Terracotas antropomorfas canarias antiguas. Una propuesta iconográfica. Datos para un poblamiento multiétnico. IN: XV Jornadas de estudios sobre Fuerteventura y Lanzarote. Puerto del Rosario, Spain: Cabildo de Fuerteventura.

Gonzalez-Fortes G., Tassi E., Trucchi E., Henneberger K., Paijmans J.L.A., Diezdel.Molino D., et al. 2019. A western route of prehistoric human migration from Africa into the Iberian Peninsula. *Pro Royal Soc B*. DOI: 10.1098/rspb2018.2288.

Hachid M. 2000. Les premier berebers entre Mediterranee, Tassili et Nil. Edited by EDISUD. Aix-en-Provence (France).

Hachid M. 2003. Postface de L'ouvrage "Aux Origines de L'écriture au Maroc. Corpus des Inscriptions Amarcighes des Sites D'art Rupestre du Marok". Edited by: Skounti A., Lemdjidi A. and Nami M . Publication de L'Institute Royal de la Culture Amazighe . CEALPA, Rabat (Morocco).

Hajjej A., Almawi W.Y., Arnaiz-Villena A., Hattab L., Hmida S. 2018. The genetic heterogeneity of Arab populations as inferred from HLA genes. *PLoS ONE*, 13(3): e0192269.

Harden D.1971. The Phoenicians. London, UK: Ed. Penguins Books.

Henshilwood C.S. & Dubreuil B. 2011. The Still Bay and Howiesons Poort, 77–59 ka. Symbolic Material Culture and the Evolution of the Mind during the African Middle Stone Age. *Current Anthropology*. 3 (52): 361-400.

<https://www.openculture.com/2019/03/40000-year-old-symbols-found-in-caves-worldwide-may-represent-the-earliest-written-language.html>

Intxausti J. 1992. Euskera, la lengua de los vascos. San Sebastián, Spain: Elkar-EuskoJurlaritz.

Keretxeta J. 1990. Diccionario Amaia de la lengua vasca. Madrid, Spain: Ed. Ernesto Gutierrez.

Martínez-Laso J, Gazit E, Gómez-Casado E *et al.* 1996. HLA DR and DQ polymorphism in Ashkenazi and non-Ashkenazi Jews: comparison with other Mediterraneans. *Tissue Antigens*. 47: 63–71.

Medina M., Arnaiz-Villena A. 2018a. A Lunisolar Prehistoric Calendar in Lanzarote Island: "La Quesera" (Cheeseboard) from Zonzamas. *In. J. Mod. Anthropol.* 2: 147-161.

Medina M., Arnaiz-Villena A. 2018b. The Moon: in Prehistoric Lunisolar Rock Calendar "Quesera"-Cheeseboard- at Lanzarote, Canary Islands, Spain. *Int. J. Mod. Anthropol.* 2: 182-212.

Muñoz-Gamero J.M. 2019. El origen de la escritura. La magia de los símbolos. Málaga, España: Ed. Fundación Unicaja.

Pellón J.R. 2001. Diccionario Íbero. Madrid, Spain: Espasa Calpe.

Pichler W. 1997. Sahara. Vol. 9: p 150.

Pichler W. 2003. Las inscripciones rupestres de Fuerteventura. Ed. Cabildo de Fuerteventura. Puerto del Rosario. Fuerteventura. Canary Islands (Spain)

Poulianos A.N. 1969. Anthropological data of the origin of the Creta. Athens, Greece: Proceedings 2nd International Cretan Studies.

Ruhlen M. 1994. The Origin of Language. New York, USA: Ed. John Wiley and Sons, inc.

Sellier J, Sellier A. 1993. Atlas des Peuplesd'Orient. Paris, France: Editions La Découverte.

Sota M., Lafitte P., Akesolo L. 1976. Diccionario Retana de Autoridades del Euskera. Bilbao, Spain: Ed. La Gran Enciclopedia Vasca.

Strabo. 1998. Geografía. Book III, Part 6, lastparagraph. Madrid, Spain: Ed. Biblioteca Clásica Gredos.

Texier P.J., Porraz G., Parkington J., Rigaud J.P., Poggenpoel C., Miller C., ... Verna C. 2010. A Howiesons Poort tradition of engraving ostrich eggshell containers dated to 60,000 years ago at Diepkloof Rock Shelter, South Africa. *PNAS*. 107 (14): 6180-6185.

Ulbricht M.J. 2016. Canarian "pyramids" revisited – are they pre-Hispanic or recent? *Almogaren*. 46-47: 139-146.

Vázquez-Hoys A.M. 2008. Las golondrinas de Tartesos: sobre el origen de la escritura. Córdoba, España: Ed. Almuzara.

Venemann T. 2003. Europa Vasconica. Berlin, Germany: Ed. Monton-de-Gruyter.

von Petzinger G. 2017. The first signs: unlocking the mysteries of the world's oldest symbols. New York, USA: Atria Paperback.

To cite this article:

Arnaiz-Villena A., Ruiz-del-Valle V., López-Nares A., Suárez-Trujillo F. 2021. Iberian inscriptions in Sahara Desert rocks (Ti-m Missaou, Ahaggar Mts. area, Algeria): first evidence of incise Iberian rock scripts in continental North Africa.

International Journal of Modern Anthropology. 2 (15): 440 – 467

DOI: <http://dx.doi.org/10.4314/ijma.v2i15.3>



This article, as all articles published in this journal, is under The Creative Commons Attribution: Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0).

<https://creativecommons.org/licenses/by-nc-nd/4.0/>