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A recycled amber spacer bead from Forat de Conqueta, Catalonia, Spain

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Abstract

Archaeological investigations during 2005–2007 showed Forat de Conqueta to be a small but archaeologically rich funerary cave that was utilised from the Late Neolithic through the Bronze Age. It lies on the Catalanian Pre-Pyrenees, 150 km north-west of Barcelona. Excavations revealed the remains of over 40 individuals. Among the retrieved grave goods, there was a rather unique amber ornament that seems to have been initially a spacer bead like those often described from Bronze Age Europe. The Conqueta spacer broke at some point and one of the fragments was remodelled into a bead/pendant. Though it is not clear where this spacer was manufactured, the ultimate source of the amber is likely the Baltic. The Conqueta spacer is of interest because, despite an abundance of amber beads and pendants, only another spacer is known from Spain.

Keywords: Remodelled amber spacer, funerary cave, Bronze Age, Catalonia, Iberian Peninsula, amber sources.

13.1 Introduction

In 2008 E. Garcia-Guixé showed M. Núñez the vast material retrieved from the Forat de Conqueta site, where he had briefly participated in excavations in 2005. She inquired about the nature of a small quadrangular bead-like object, which he identified as amber and assumed to be a Baltic import. However, after reading recent literature on amber in the Iberian Peninsula, it became clear that it was not that simple. Our purpose is to describe this amber object in the light of newly gathered facts.

13.2 The Conqueta cave

Forat de Conqueta was discovered in connection with a prospection program in 2004 and it was excavated during 2005–2007 by archaeologists from the Centre d'Estudis del Patrimoni Arqueològic de la Prehistòria of the Autonomous University of Barcelona. The Catalanian word *forat* means hole

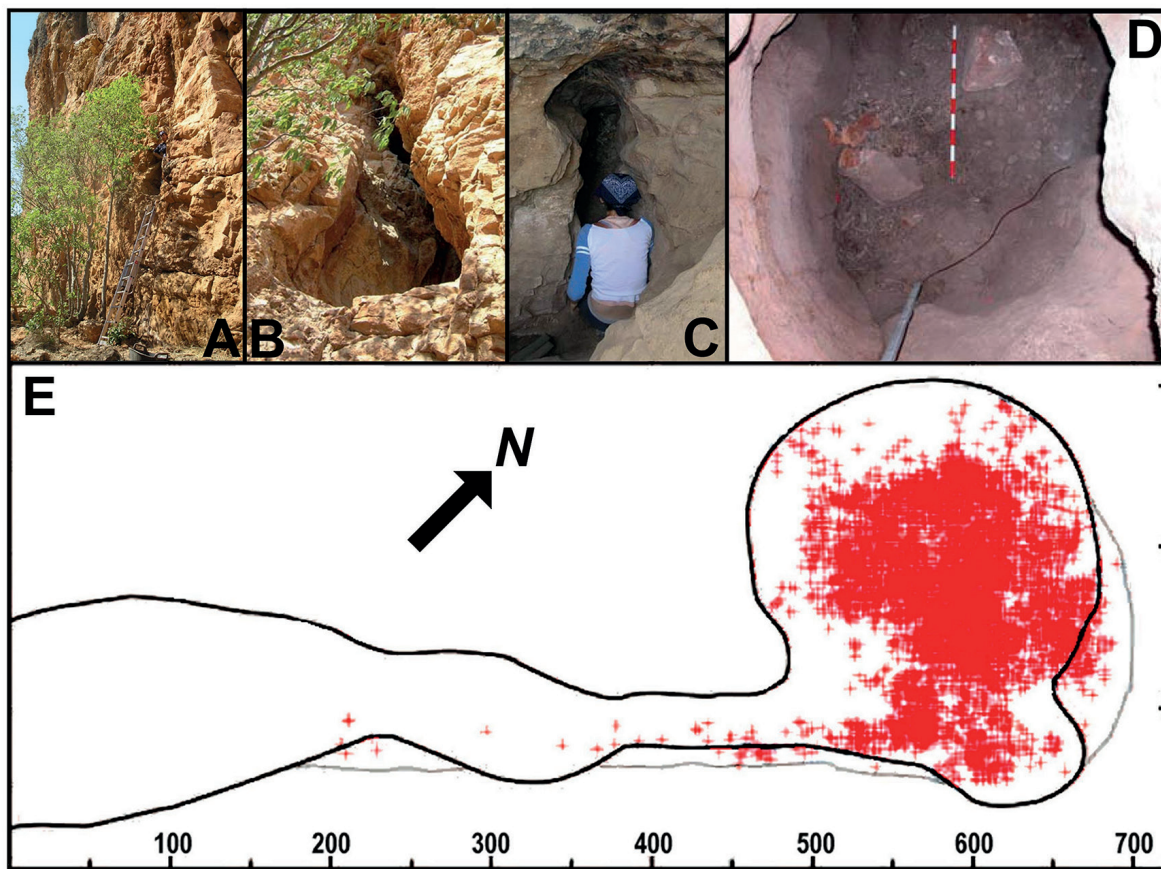


Figure 13.1. The Conqueta cave. A – The lower entrance ca. 3 m above the base of the vertical rock wall. B – the roughly triangular lower entrance. C – the narrow 35-cm passage. D – the burial chamber seen from the upper entrance. E – plan of the cave with the distribution of the human remains (Garcia-Guixé 2010; Mora Torcal et al. 2010).

or cavity and it is often used to name caves in the area. Forat de Conqueta could thus be translated as Conqueta Cave, a name that will be used here.

The results of the archaeological investigations at Conqueta Cave have been described in two monographs published in 2010 and 2011. The cave lies 500 m.a.s.l. on the Pyrenees foothills, in the Noguera County of the Lleida Province, 150 km north-west of Barcelona. The terrain is relatively barren with steep rock faces and the caves typical of karst. According to 11 AMS dates from human dentine, the Conqueta Cave was used for burial purposes during 3400–1100 calBC. That is from the Late Neolithic through the Bronze Age, which agrees with the archaeological material. (González Marcén et al. 2010, 2011; Mora Torcal et al. 2010).

The lower entrance of the Conqueta Cave is situated 3 m above the base of a vertical rock wall in a ravine (Fig. 13.1A). A narrow, roughly triangular opening (3 x 1.5 m) leads into a 5 m long passage that narrows to 35 cm before opening into a larger cylindrical cavity (a doline) that served as collective burial chamber (Fig. 13.1B–D). A second broader entrance at the top of the rock leads directly into the burial chamber through a nearly vertical passage (Fig. 13.1D–E) which was probably used to lower the dead (Garcia-Guixé 2011; Garcia-Guixé et al. 2010).

The excavations revealed over 40 burials of men, women and children, represented by comingled bones in various degrees of cremation and four partially articulated skeletons. The human bones and grave goods were concentrated in the inner chamber (Fig. 13.1E). In addition to human remains,

numerous animal bones from domestic and wild species were retrieved. Some are intrusive to the archaeological context, but others form part of the funerary rites. Potsherds and lithic and bone artefacts were also among the finds. Most were retrieved with the human remains and were probably grave goods or part of funerary ritual. Body ornaments formed an important find group and were represented by two bronze rings and over 40 pendants and beads made mainly of mollusc shells but also marble, bone and amber. (Garcia-Guixé 2011; Garcia-Guixé et al. 2010; González Marcén et al. 2010, 2011; Martínez-Moreno 2010).

Two amber objects were recorded. One was a badly preserved fragmentary bead 6 mm in diameter (Martínez-Moreno 2010). This type of amber bead is relatively common – dozens were found at another Bronze Age funerary cave nearby, Cova dels Muricecs (Murillo-Barroso & Martín-Torres 2012; Rovira i Port 1994).

13.3 The Conqueta spacer

The second and most interesting amber object from Conqueta Cave is roughly quadrangular (Fig. 13.2A) measuring 16 x 16 x 6 mm (Martínez-Moreno 2010). It is reddish brown with lighter orange-brown veins. At first sight there was a general resemblance to some amber beads/spacers from a 3rd-millennium barrow in Denmark (Odgaard & Rostholm 1987: 93). But the Danish ambers are larger and, furthermore, certain cross-sectional details clearly separate them from the Conqueta find. Instead of the rounded-rectangular or lenticular cross-sections of the Danish ambers, that of the Conqueta object is trapezoidal. Moreover, both trapezoid sides are slightly concave, which contrasts with the convexity of the Danish cross-sections.

The unusual cross-section together with the nature and location of two secondary bipolar perforations (Fig. 13.2A c, d) suggest that the Conqueta ornament was recycled from a damaged object. The edges of those perforations are relatively sharp (Fig. 13.2B) and, furthermore, their alignment does not follow the general orientation of the object (Fig. 13.2A), as stated in the brief published report:

The surface is smooth and the sides rounded, but the lower edge is broken and subsequently re-worked, which has resulted in a trapezoidal shape. One can observe 3 perforations and traces of 2 more, which allow us to infer some details about the possible utilization. The first [oldest] is a central perforation with a diameter of 2 mm that traverses the bead longitudinally. There are 2 small perforations (1.3 mm), at the sides. The one on the right side is oblique and traverses the object diagonally. The other one enters the left side and is oriented towards the superior face of the object. On the inferior face of the object one can observe two furrows that point to former perforations and the breaking of the object. The ruptures follow the orientation of the large longitudinal perforation. The remodelling suggests an intention to prolong the object's use (Martínez-Moreno 2010: 91; translation: M. Núñez).

In its present form, the Conqueta amber appears to have served as a bead or pendant, but there are clear indications that it is the recycled portion of a broken spacer bead, which was a common and widespread artefact group in Europe from the Neolithic to the Iron Age. They were made of different materials (amber, bone, ivory, metal, stone) and have been published with various names based on their morphology (multiperforated plates, *placas/plaquetas multiferadas*, *placchette multiferate*, *plaquettes multiferés*) or their function of separating bead strings (*distanziatori*, *écarteurs*, *espaceurs*, *espaciadores*, *Schieber*, *separadores*, spacers).

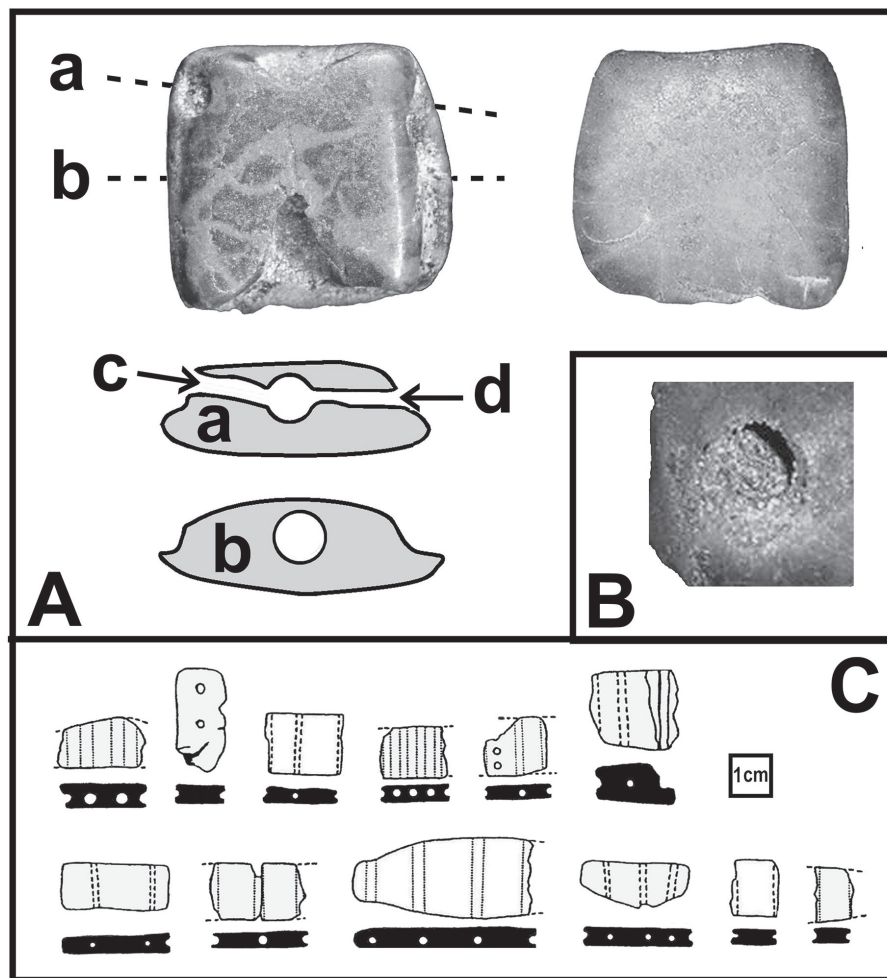


Figure. 13.2. Cross-sections of the Conqueta ornament and other broken amber spacers. A – The Conqueta ornament with two cross-sections, one coinciding with the new perforation (a) and one across its middle (b). Observe that new perforations c and d are bipolarly made and meet at the central larger original perforation and, moreover, that they are oblique to this and to the general orientation of the object. Despite remodelling, the roughly trapezoidal cross-section with partially concave sides still reflects the former spacer shape: at some point the original spacer broke along the two perforations that are parallel to the extant central one. B – Close up of perforation d showing its relatively sharp border. C – Broken spacers from France and Germany showing similarity with the sides of the Conqueta object, particularly if one takes into consideration rounding-off in connection with remodelling. Drawings in C after du Gardin 1986, 2003. Photos R. Mora Torcal.

The strain on spacer beads was sometimes too much, causing them to break at the weakest places: along the perforations. Such fractures tend to leave ridges and furrows along the spacer sides that resemble those in the Conqueta amber object (Fig. 13.2C). Even if the sides of the Conqueta amber object have been rounded off in connection with remodelling and/or wear, traces of ridges and furrows are still observable (Fig. 13.2A).

Typologically the Conqueta spacer falls within du Gardin's (2003) category of spacers with simple perforations. Although the original cross-section of the Conqueta spacer has changed through breakage and remodelling, it seems safe to assume that it was roughly rectangular. The dimensions of spacers of this type range within 21–47 mm in length, 6–23 mm in breadth, and 3–9 mm in thickness (du Gardin 2003), which agree with the Conqueta spacer. Its original breadth and thickness can be

measured directly as approximately 16 and 6 mm respectively, but the original length is unknown. It could be estimated to 22–26 mm if the spacer had only the three parallel perforations detectable today, but it would have been longer if there were more.

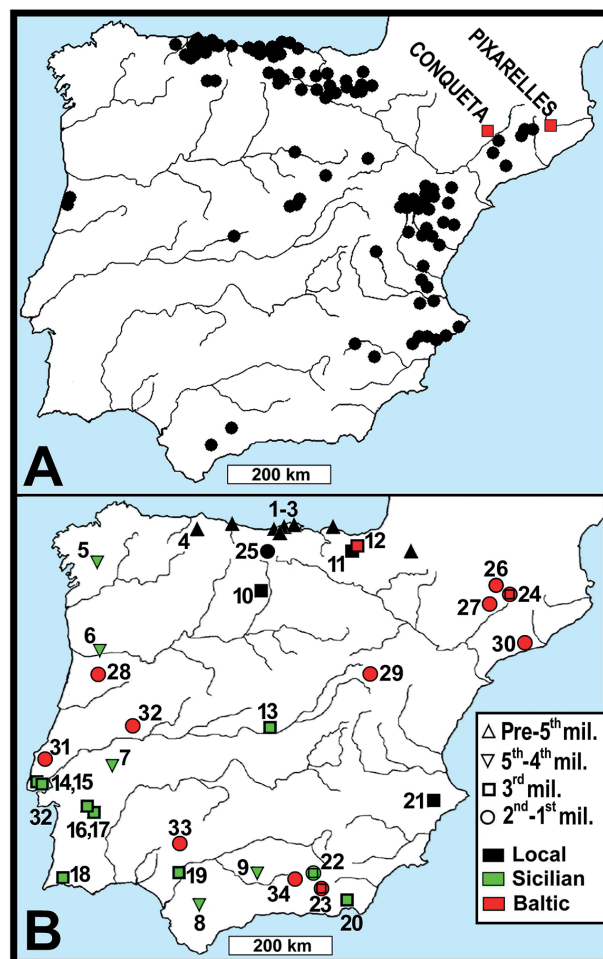
13.4 Discussion

The first assumption that the Conqueta spacer was made of Baltic amber was based both on similarities to the mentioned Danish finds and on *a priori* notions that the Baltic was the only logical source. However, we became cautious after reading about paleontological and archaeological amber in the Iberian Peninsula. There are over 150 localities with Triassic-Cretaceous amber outcrops in the Iberian Peninsula (Fig. 13.3A), some within 10 km of the Conqueta Cave. (Arbizu et al. 1999; Martínez-Moreno 2010; Murillo-Barroso et al. 2018a, 2018b; Peñalver & Delclòs 2010; Rovira i Port 1994).

The inhabitants of Spain's Cantabrian Ledge (Asturias, Cantabria, Basque Country) were aware of the local amber outcrops and collected the material as early as 40000 years ago. The Upper Palaeolithic use of local amber in northern Spain involved mainly the raw material, but some finds show signs of manipulation and there are even a few beads (Álvarez Fernández et al. 2005; Murillo-Barroso et al. 2018b). Another interesting Palaeolithic amber use comes from the famous Cantabrian rock art site of Altamira, where analyses showed some red pigments to contain hematite with amber powder admixture (Cabrera-Garrido 1978).

Fourier Transform Infrared (FTIR) analyses of amber finds from four Upper Palaeolithic sites of the Cantabrian region showed them all to be of local origin (Álvarez Fernández et al. 2005; Murillo-Barroso & Martínón-Torres 2012; Murillo-Barroso et al. 2018b). The Up-

Figure 13.3. Amber localities in the Iberia Peninsula: A – Important amber outcrops and location of the two Catalonian funerary caves with amber spacers: Conqueta and Pixarelles. B – Location and date of archaeological sites with FTIR-analysed ambers and their sources. The four periods correspond roughly to Upper Palaeolithic-Middle Neolithic, Late Neolithic, Chalcolithic and Bronze Age. The square within a circle symbol represents sites that were first utilised in the 3rd millennium and then reused in the 2nd. All site numbers correspond to those in Table 13.2. The few unnumbered black triangles in the north represent ambers that have not been FTIR-analysed but are most likely local based on their Upper Palaeolithic date. (Murillo-Barroso & Martínón-Torres 2012; Odriozola et al. 2017; Murillo-Barroso et al. 2018a, 2018b).



No	Site	Date	Source	Reference
1	Cueva Morín	Aurignacian	Local	1,2,3
2	El Pendo	Aurignacian	Local	1,2,3
3	La Garma	Gravettian	Local	1,2,3
4	Las Caldas	Magdalenian	Local	1,2
5	Chousa Nova	5th–4th mil.	Sicilian	2,3,4,5
6	Chã de Arcas	5th–4th mil.	Sicilian	2,3
7	Anta da Capela	5th–4th mil.	Sicilian	5
8	Dolmen de Alberite	5th–4th mil.	Sicilian	2,3,4,5
9	Cueva de los Cuarenta	5th–4th mil.	Sicilian	3,4,5
10	La Velilla	3rd mil.	Local	1,2,3,4,5
11	Trikuaizti	3rd mil.	Local	1,2,3,5
12	Larrarte	3rd mil.	Baltic	1,2,3,5
13	Valle de las Higueras	3rd mil.	Sicilian	2,3,4,5
14	Sao Paulo	3rd mil.	Sicilian	3
15	Quinta do Marcelo	3rd mil.	Baltic	2,3
16	Anta Grande de Igreja	3rd mil.	Sicilian	2,4,5
17	Anta Grande de Zambujeiro	3rd mil.	Sicilian	2,5
18	Alcalar monuments	3rd mil.	Sicilian	2,4,5
19	Montelirio monuments	3rd mil.	Sicilian	2,3,4,5
20	Los Millares	3rd mil.	Sicilian	2,3,4,5
21	Cova de la Pastora	3rd mil.	Local	2,4,5
22	Llano de la Sabina	3rd–2nd mil.	Baltic	2,3,4,5
23	Llano de la Teja	3rd–2nd mil.	Sicilian	2,3,4,5
24	Moro de Colomera	3rd–2nd mil.	Baltic	3,4,5,6
25	Los Lagos 1	2nd–1st mil.	Local	1,2,3,5
26	Pedra Cabana	2nd–1st mil.	Baltic	2,3,5,6
27	Cova dels Muricecs	2nd–1st mil.	Baltic	2,3,5,6
28	Senhora de Guia	2nd–1st mil.	Baltic	2,3
29	Herrerías	2nd–1st mil.	Baltic	2,3
30	Fossa del Gegant	2nd–1st mil.	Sicilian	4,5,6
31	Pragança	2nd–1st mil.	Baltic	5
32	Moreirinha	2nd–1st mil.	Baltic	2,3
33	Palacio	2nd–1st mil.	Baltic	3
34	Cueva de las Ventanas	2nd–1st mil.	Baltic	5

Table 13.1. FTIR-analysed ambers from Iberian Peninsula sites (numbers as in Fig. 6B) with dates, sources and references. 1 – Álvarez Fernández et al. 2005; 2 – Murillo-Barroso & Martín-Torres 2012; 3 – Murillo-Barroso et al. 2018b; 4 – Murillo-Barroso et al. 2018a; 5 – Odriozola et al. 2017; 6 – Rovira i Port 1994.

per Palaeolithic utilization of amber in the Iberian Peninsula is mostly restricted to northern Spain, but amber ornaments become increasingly common and widespread in the Peninsula during Chalcolithic and Bronze Age – a period when the Conqueta Cave served as a collective tomb. The spread of amber ornaments through the Peninsula seems to be associated with a diversification of amber sources, undoubtedly linked with the ever-increasing trade activity of the 3rd and, particularly, the 2nd millennia BC. The FTIR results of ambers from Iberian sites from the Neolithic through the Early Bronze

Age indicate a variety of sources: local, Sicilian (simeite) and Baltic (succinite) (Fig. 13.3B; Table 13.1).

The production and trade of Sicilian amber ornaments in Italy seems to begin sometime in the 4th millennium BC (Angelini & Bellintani 2017). The earliest imports of Sicilian amber objects in the Iberian Peninsula also go back to the 4th millennium (Murillo et al. 2018b), indicating trade along the Mediterranean coast. Indeed, the Iberian sites with Sicilian amber lie relatively close to the coast and/or river-connected to it (Fig. 13.3B).

Baltic amber became accessible in late glacial times, and the earliest evidence of its use comes from a few Magdalenian and Mesolithic sites in northern Europe (e.g. Burdukiewicz 2009; Larsson 2001). Amber exploitation flourished in the amber-rich East Baltic shores around 5000 BC and amber ornaments soon spread throughout the Circum-Baltic sphere and slightly later southwards (Beck & Bocquet 1982; Beck et al. 2003; Czebreszuk 2007; du Gardin 1986). In southern Europe, Baltic amber imports both inspired and competed with local amber, practically replacing the local industries by the Late Bronze Age (Angelini & Bellintani 2005, 2017; Beck & Shennan 1991; Beck et al. 1970, 1972, 2003; Bellintani 2010; Cultraro 2007; du Gardin 1986, 2003; Murillo-Barroso & Martín-Torres 2012; Murillo-Barroso et al. 2018b).

Amber spacers appear to have been common in the Bronze Age, particularly in Germany, France, England and Greece (Table 13.2). However, they are very rare among the amber finds from the Iberian Peninsula, which are dominated by beads and pendants. Among over 450 amber finds from the 90 known amber sites, there is only one spacer (Murillo-Barroso & Martín-Torres 2012). Interestingly, it comes from another Catalonian funerary cave, Cova de les Pixarelles. No dimensions or illustrations are provided, but it is described as a '*rectangular elongated plate/spacer of Kakovatos type with three vertical/transversal perforations*' (Rovira i Port 1994: 72). Two AMS determinations place the Pixarelles spacer within 1680–835 calBC (Rovira i Port 1994). This partly coincides with the period of utilization of the Conqueta Cave, and the sites lie only 100 km apart.

Although the funerary activity at Conqueta Cave coincides with the mentioned period of multiple amber sources in the Iberian Peninsula, certain albeit circumstantial arguments speak for the Conqueta spacer being of Baltic amber:

- The Conqueta find was originally an amber spacer, which were exceedingly rare in the Iberian Peninsula. Therefore, it is most probably an import and eliminates the possibility of being of local amber.
- Sites with Sicilian amber occur in the south-western half of the Iberian Peninsula and mainly near the coast, whereas Baltic ambers occur both in southwestern and north-eastern Iberia (Fig. 13.3B). This dual distribution probably reflects different trade networks – Sicilian by sea, Baltic by both land and sea – and reduces the possibility of Sicilian amber in Catalonia.
- The FTIR analyses of dozens of European amber spacers from Greece to England have shown them to be overwhelmingly of Baltic origin (Angelini & Bellintani 2005; Beck & Shennan 1991; Beck et al. 1970, 1971, 1972; du Gardin 1986, 2003), including five from the French Bronze Age funerary cave of Hasard, some 350 km north-east of Conqueta Cave (du Gardin 1986, 2003; Roudil & Soulier 1976).

Country	Spacers
Germany	121
France	49
Great Britain	39
Greece	21
Latvia	16
Czechoslovakia	11
Switzerland	8
Denmark	6
Austria	3
Spain	2

Table 13.2. Number of amber spacers of du Gardin's type A (spacers with simple perforations) and their find localities by country (after du Gardin 2003), including the two known spacers from Spain.

One may wonder why prehistoric Iberians chose to ignore the local amber deposits. The reason may be its nature, which traditionally has been deemed as brittle, difficult to work and worthless.

It generally occurs as chunks that are intense red brown in colour and very weakened by cracking, and since it is not suitable for polishing, it is sometimes burnt instead of incense, but without meriting any proper exploitation (Calderón 1910: 490; translation: M. Núñez).

According to Arbizu et al. (1999), there are good quality amber nodules of within the prevalent matrix weakened by tensional cracks; but attempts to make beads showed that the material is very difficult to work with. Though polishing was no problem, drilling was tricky with about 65% of the beads breaking in the process. Brittleness would be a plausible reason for the rejection of local amber, particularly with the increasing competition of Baltic imports in the Bronze Age.

13.5 Concluding remarks

Despite its small size and worn appearance, the quadrangular amber artefact from the Conqueta Cave is rather special. It reflects an interesting and somewhat unique history. A chunk of raw amber collected somewhere, possibly on the Baltic shores, and made into a spacer bead that ended up in Catalonia. It is not known how many stops and detours were in the way, nor is it clear whether the object was already damaged upon arrival. But at some point, the spacer broke and was remodelled into a bead/pendant. Judging by the sharp edges of the secondary perforations, the remodelling took place soon before its deposition in the funerary cave – perhaps for that very purpose.

Amber was undoubtedly exotic, but if the object reached Catalonia as a spacer, it would have been even more so: only another amber spacer is known from Spain. Although the ultimate confirmation of the Baltic origin of the Conqueta amber object awaits future FTIR analysis, the fact that it was originally a spacer implies that it was an import and that, as the overwhelming majority of FTIR-analysed amber spacers throughout Europe, it was made of Baltic amber.

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