

Perforated *Homalopoma sanguineum* from Tito Bustillo (Asturias): mobility of Magdalenian groups in northern Spain

ESTEBAN ÁLVAREZ FERNÁNDEZ*

Finds of perforated Homalopoma sanguineum from Tito Bustillo add to the evidence of long-distance contact between Magdalenian groups. The new finds are placed in their European context.

Key-words: Upper Palaeolithic ornaments, marine molluscs, Magdalenian, Spain

The Cave of Tito Bustillo

The Cave of Tito Bustillo is in the karstic massif of Ardines, in eastern-most Asturias, which contains other well-known prehistoric caves (La Lloseta, La Cueva, Les Pedroses or El Cierro). The cave is located c. 200 m from the left bank of the Sella River, 1 km from the modern estuary (6–7 km in the Magdalenian). The coastal landscape is typically Cantabrian: mountains near the sea and two circulation networks at right angles (the coastal corridor and the valley of the Sella).

There are two prehistoric areas of the cave: the Living Area (*Área de Estancia*) (its former entrance covered by a collapse) and the Area of the Paintings (*Área de las Pinturas*) (below the principal panel of the paintings, discovered in 1968). The first excavations were by M.A. García Guinea (1970) and renewed by A. Moure Romanillo (1975) (García Guinea 1975; Moure Romanillo 1975; 1989; 1990; 1997; Moure Romanillo & Cano Herrera 1976).

The excavations of the Living Area found two stratigraphic levels inside the collapse, covering about 20 sq. m. Level 1 had numerous hearths and human activity in less than 50 cm, comprising an Upper Complex (Level 1c.1) and a Lower Complex (Level 1c.2–1c.4). Both complexes have similar Magdalenian industries. Level 2 was a period of sedimentary activity in the cave. The excavations in the area of the paintings documented a hearth for illumination and some technological remains related to the execution of the paintings and engravings on the walls (fragments of colouring, lithics with use-wear marks, etc.). The archaeological radiometric dating suggest the

same date of approximately between the end of the Middle Magdalenian and the beginning of the Early Upper Magdalenian (Moure Romanillo 1997) (TABLE 1).

Some 13 radiocarbon measurements, obtained from charcoal, bone and marine shells, span the time interval from archaeological level 2 at the base of the Magdalenian sequence (Ly-4212: 14,890±410; Moure 1989) to level 1a (weighted mean of CSIC-154 and CSIC-261: 14,228±154; Moure 1975; 1989) at the top of the stratigraphy. Thus Tito Bustillo is a key stratigraphy for the transition from the Late Middle (former Magdalenian IV) to the Early Upper Magdalenian (former Magdalenian V). FIGURE 1 shows the calibrated radiocarbon ages of the levels 2, 1c, 1b/c and 1a in their palaeoclimatological context, roughly between 16,000 and 14,500 cal BC (FIGURE 1).¹ Two ¹⁴C dates from marine shells from Tito Bustillo (CSIC-155A and CSIC-155B) have been discarded because of palaeo-reservoir values (*cf.* Rubinos Pérez *et al.* 1999: 50) and samples I-8331, I-8332 and OxA-6262 because of stratigraphical unreliability.

Art from Tito Bustillo: *Homalopoma sanguineum* L.

Tito Bustillo has one of the most important Cantabrian collections of decorative art, rivaled only by the Cave of Las Caldas (Priorio, Asturias). Antler, bone or teeth of different animals (goat, red deer, etc.) were utilized for decorative art, and various perforated marine molluscs

¹ Data calibrated, using radiocarbon calibration software <CalPal> (Program Version May 2001; *cf.* Weninger & Joris 2001; www.calpal.de).

* Universidad de Salamanca, Departamento Prehistoria, Historia Antigua y Arqueología, C. Cervantes s/n, 37007 Salamanca, Spain. epanik@gugu.usal.es

Received 6 August 2001, accepted 20 November 2001, revised 28 February 2002

level	¹⁴ C	lab. no.	sample	reference
1a	14,250±300	CSIC 154	charcoal	Moure 1975
1a	15,180±300	CSIC-155A	marine shells	Moure 1975
1a	15,400±300	CSIC-155B	marine shells	Moure 1975
1a	14,220±180	CSIC-261	charcoal	Moure 1989
1b	12,850±90	OxA-6259	bone	Moure 1997
1bc	14,550±110	OxA-6260	bone	Moure 1997
1c	13,870±220	I-8331	bone	Moure 1975
1c	13,520±220	I-8332	bone	Moure 1975
1c.1	14,440±100	OxA-6261	bone	Moure 1997
1c.2	14,930±70	GrN-12753	charcoal	Moure 1989
1c.2	14,680±110	OxA-6262	bone	Moure 1997
1c.3	14,910±110	OxA-6858	bone	Moure 1997
2	14,890±410	Ly-4212	bone	Moure 1989

TABLE 1. Radiocarbon dates from the 'living area' at Tito Bustillo.

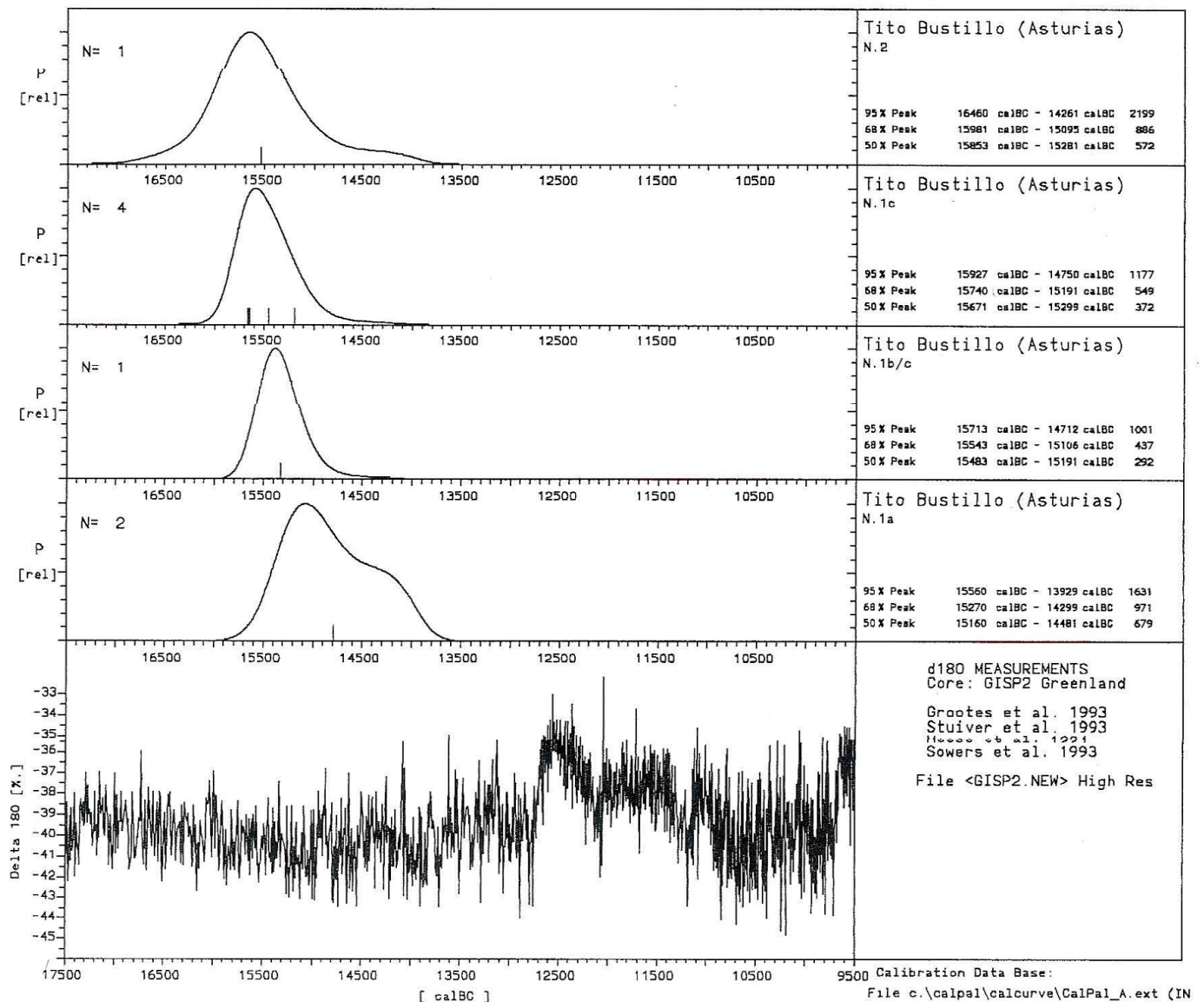


FIGURE 1. Calibrated radiocarbon dates for archaeological levels 2, 1c, 1bc, and 1a from the 'living area' at Tito Bustillo.

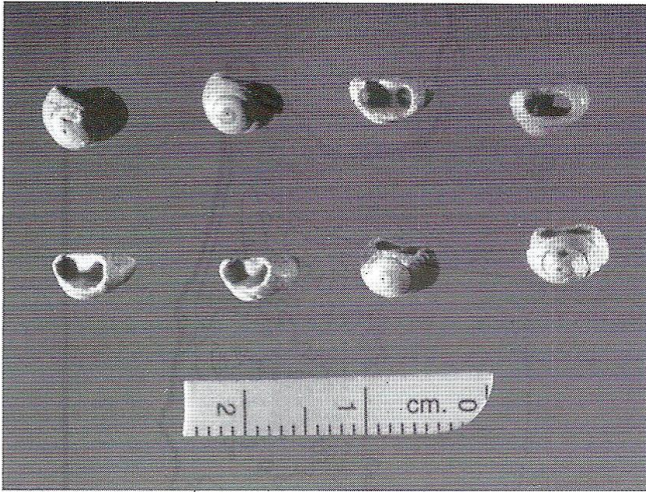


FIGURE 2. *Homalopoma sanguineum* from Tito Bustillo.

are equally abundant, particularly *Littorina obtusata* L. and *Trivia* sp.²

There are at least eight examples of *Homalopoma sanguineum* L. (FIGURE 2). This gastropod of the family Turbinidae (Subclass: Prosobranchia; Order: Archeogastropoda) is extremely small (3.5–4 mm high and c. 6.5 mm wide, and has five tight, slightly dense spirals decorated with delicate bands on the lower part, and a reddish-pink rounded opening (FIGURES 3a & 3b). This herbivorous snail lives and feeds in colonies of algae, inhabiting rocks and other surfaces in the Mediterranean (Fechter & Falkner 1993: 48; Riedl 1986: 275; Stiner 1999; Strauch & Tembrock 1978: 232; Taborin 1993: 354).

All the specimens are from the 1975 excavations of A. Moure (Level 1c of the Living Area of the site (now Levels 1c2–1c4 of the Lower Complex), in Square XII F (Moure Romanillo & Cano Herera 1975: 108; Moure Romanillo 1990: 114)).³

The eight specimens⁴ are intact, albeit eroded, particularly in three cases. The last dorsal spiral

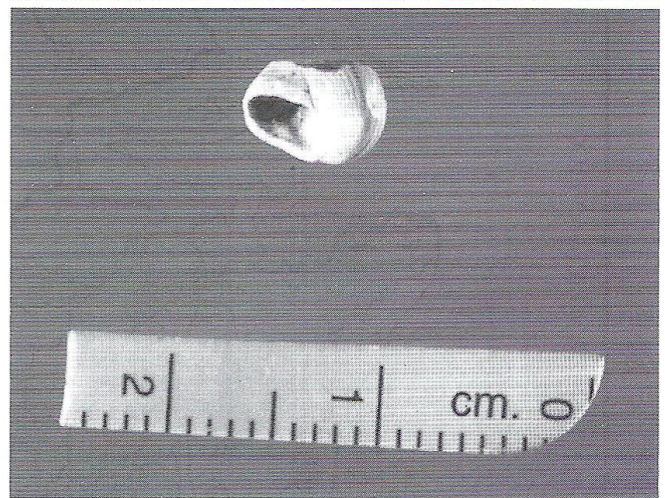
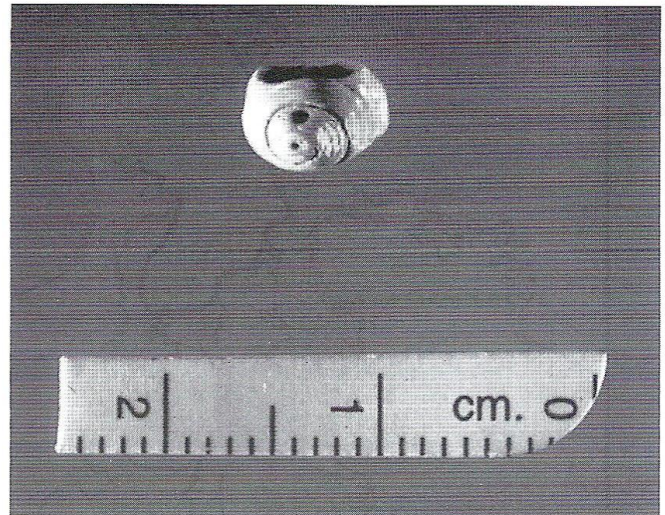


FIGURE 3. *Homalopoma sanguineum* from Tito Bustillo. a lateral view; b inferior view.

was perforated with, in five cases, a well-preserved irregular, oval hole, without visible preparation. The preservation of the perforation is fair in two and very poor in one. Due to the hardness of the shell in this species, the perforations were performed using vigorous percussion, subsequently regularized by use. The average size of the perforations is 4.2 mm (3.6 mm–4.8 mm). The mean distance from the edge of the perforations to the mouth of the shell is 2.5 mm (minimum=1.2 mm in two specimens, maximum=4.0 mm).

Use-marks are few, due to the great hardness of the shell walls; for example, there is no deformation of the perforation, although the perforations are rounded in the part closest to the shell opening.

All of the specimens bear traces of ochre on their surfaces, which are more visible in the existing hollows between the spirals, and none of the specimens exhibits traces of concretion, imprints of fire or organic material.

2 The author is working on his doctoral thesis, whose theme is the study of Palaeolithic and Mesolithic ornamentals from Northern Spain.

3 These shells were initially (and incorrectly) identified by B. Madariaga as *Cyclostrema serpuloides* Mtg.: 'We have observed, in this same level (1c), various mollusc shells of a small gastropod which we suppose is *Cyclostrema serpuloides* Mtg.' (Madariaga de la Campa 1975: 219; Deibe Balbas 1985).

4 Eight of these were found, but not the two pertaining to Level 1ab, Upper Complex of the Living Area; according to A. Moure, they were also *Cyclostrema serpuloides* (Moure Romanillo 1990: 108). These two specimens have not been located either in the Archaeological Museum of Oviedo or in the Regional Museum of Prehistory and Archaeology of Cantabria.



FIGURE 4. Magdalenian sites in Western Europe with *Homalopoma sanguineum*.

Magdalenian use of *Homalopoma sanguineum* L. in western Europe

The presence of Mediterranean molluscs in Upper Palaeolithic Cantabrian sites is rare. Until our discovery only one unperforated specimen of *Glycymeris bimaculata* Poli had been documented in Level 8 of the cave of El Castillo, as well as one perforated specimen of

Sphaeronassa mutabilis L. in Level 4 (Azilian) at the same site (Fischer 1925; Madariaga de la Campa 1994: 137). The important conclusion is that the shells had been brought a distance of 500–600 km. We are therefore dealing with the only Upper Palaeolithic Cantabrian site in which a Mediterranean marine species has been documented.

These shells have been found in Solutrian Catalan sites: for example *H. sanguineum*, both perforated and unperforated, in the Upper Solutrean of Cau des Goges (Serinyá, Gerona) (Corominas Planellas 1946). The most important site with these shells is Reclau Viver (Serinyá, Gerona), where more than 3500, almost 70% of them perforated, came from the Upper Solutrean levels (Corominas Planellas 1946; Soler I Masferrer 1994).

Magdalenian sites in France, Switzerland, Germany and Italy also produced shells of this species (FIGURE 4). The sites in the French Pyrenees with this species are: Le Mas d'Azil (27 examples); Espéluges (15 examples); La Vache (3 examples); and Enlène (Morts) (1 example). French Mediterranean sites with *H. sanguineum* are: Canecaude I (4 examples) and Le Tournal (1 example). In the central region of France, one unperforated specimen has been found at Château des Eyzies and four unperforated at Abri Murat (Álvarez Fernández 2001; Taborin 1993). Perforated specimens of *H. sanguineum* are known in the Rhine-Rhone area: Les Pêcheurs (1 example) and Pierre Châtel (3 examples) (southwest France); Kohlerhöhle (1 specimen) (Switzerland); Petersfels (1 example) and Munzingen (1 example) (south Germany). In the Rhine area we find the specimens furthest from the Mediterranean: Gönnersdorf (5 examples) and Andernach-Martinsberg-2 (48 examples) (Álvarez Fernández 2001; Féblot-Augustins 1997; Floss 1994; 2000). In the Epi-Gravettian of Italy (c. 12,000–9000 BP), some 100 specimens were recorded at Riparo Mochi (Balzi Rossi) (Stiner 1999).

Other evidence of contacts between human groups during the Magdalenian of western Europe

During the Magdalenian, particularly the Middle–Upper Magdalenian transition, there was an expansion of long-distance relationships in western Europe, in both portable art and rock art.

In the portable art, for example, we note at La Viña hyoid bones perforated in the form of a horse's head (*Contours decoupées*), decorated bone discs (*Rondelles*) at La Viña and Llonín or specific types of decoration in shafts and other supports at sites such as La Viña or Las Caldas, where typically Pyrenean conventions are observed at sites such as Le Mas d'Azil, Raymondén, Isturitz, Lortet or Enlène

(Barandiarán Maestu 1994; Corchón Rodríguez 1997; Fortea Pérez 1989). Closer to the Pyrenees, the portable art of the Navarran site of Abauntz has similarities with examples of the same period at Isturitz or Duruthy (Utrilla Miranda & Mazo Pérez 1996).

In rock art, similarities also exist in the techniques of execution of the figures: the manes of horses represented by short parallel lines or shaded interiors of long lines at Las Monedas, Santimamiñe, Hornos de la Peña or Pindal, and at Niaux or Les Trois Frères; the theme of a bison sticking out its tongue at Covaciella, Llonín or Altamira, and at Le Portel and Les Trois Frères, or the claviforms at El Pindal, La Cullalvera or La Pasiega and at Les Trois Frères or Le Portel (Fortea Pérez 1989; Fortea Pérez *et al* 1995).

Conclusions

The eight specimens of *Homalopoma sanguineum* L. in Levels 1c2–1c4 (Lower Complex) of the Living Area at Tito Bustillo (c. 15,500 cal BC) contribute additional evidence of the long-distance relationships which united the South of France with the Cantabrian coast during the Upper Palaeolithic. The hypothesis of the existence of relationships through the movement of perforated marine molluscs from the Mediterranean to the Cantabrian sites of this period was unthinkable decades ago, as were the *Rondelles* or the *Contours decoupées* (Leroi-Gourhan 1976: 29).

Thus the presence of these perforated shells utilized as ornamentals, as well as similarities in portable art and rock art, suggest a strongly interwoven social fabric, facilitated by communication through the river valleys between remote territories, some situated, as we have seen here, hundreds of kilometres from each other (Álvarez Fernández 2001). It seems that, rather than seasonal migrations of people occupying an extensive territory, it is a matter of contacts between groups carried out in an occasional manner (Moure Romanillo 1994: 328), in which the interchange of ideas, objects and people was an element of connection between the different Magdalenian human groups.

Acknowledgements. I would like to thank Dr Benito Madariaga de la Campa and Dr Jose Templado, for the exchange of information and discussions we had on this theme, as well as Dr Olaf Jöris, who helped us with the calibration of the ¹⁴C dates.

References

- ÁLVAREZ FERNÁNDEZ, E. 2001. L'axe Rhin-Rhône au Paléolithique supérieur récent: l'exemple des mollusques utilisés comme objets de parure, *L'Anthropologie* 105(4): 547-64.
- BARANDIARÁN MAESTU, I. 1994. Arte mueble del Paleolítico cantábrico: una visión de síntesis en 1994, in Chapa Brunet & Menéndez Fernández (ed.): 45-79.
- CHAPA BRUNET, T. & M. MENÉNDEZ FERNÁNDEZ (ed.). 1994. Arte Paleolítico, *Complutum* 5. Madrid: Ed. Complutense.
- CORCHÓN RODRÍGUEZ, M.S. 1997. La corniche cantabrique entre 15,000 et 13,000 ans BP: la perspective donnée par l'art mobilier, *L'Anthropologie* 101(1): 114-43.
- COROMINAS PLANELLAS, J.M. 1946. La cueva del Reclau-Viver en Serriá, *Anales del Instituto de Estudios Gerundenses* I: 209-23.
- DEIBE BALBAS, M.A. 1985. *Los colgantes magdalenienses de la cueva de Tito Bustillo*. Unpublished Memoria de licenciatura, Universidad de Cantabria, Santander.
- FÉBLLOT-AUGUSTINS, J. 1997. *La circulation des matières premières au Paléolithique: Synthèse des données. Perspectives comportementales*. Liège: ERAUL 75.
- FECHTER, R. & G. FALKNER. 1993. *Moluscos. Guías de Naturaleza Blume*. Barcelona: Naturart.
- FISCHER, P.-H. 1925. Mollusques Quarternaires récoltes dans la grotte de Castillo (Espagne, province de Santander), *Journal de Conchyliologie* 68: 320-23.
- FLOSS, H. 1994. *Rohmaterialversorgung im Paläolithikum des Mittelrheingebietes*. Bonn: Römisch-germanisches Zentralmuseum. Forschungsinstitut für Vor- und Frühgeschichte, Monographien Band 21. Dr R. Habelt GMBH.
2000. Le couloir Rhin-Saône-Rhône: axe de communication au Tardiglaciaire?, in A. Richard, C. Cupillard, H. Richard & A. Thevenin (ed.), *Les derniers chasseurs-cueilleurs d'Europe Occidentale (13,000-5500 av. J.C.)* (Actes du Colloque International de Besançon, 23-25 octobre 1998 (Doubs, France)): 313-21. Besançon: Presses Universitaires Franc-Comtoises. Annales Littéraires 699; Série Environnement, sociétés et archéologie 1.
- FORTEA PÉREZ, J. 1989. El magdaleniense medio en Asturias. Cantabria y País Vasco, in M. Otte (ed.), *Le Magdalénien en Europe, Le structuration du Magdalénien* (Actes du Colloque de Mayence 1987): 419-37. Liège: ERAUL 38.
- FORTEA PÉREZ, J., V. RODRÍGUEZ OTERO, M. HOYOS GÓMEZ, FEDERACIÓN ESPAÑOLA DE ESPELEOLOGÍA, H. VALLDAS & T. DE TORRES. 1995. Covaciella, *Excavaciones Arqueológicas en Asturias III (1991-1994)*: 258-70. Oviedo: Principado de Asturias.
- GARCÍA GUINEA, M.A. 1975. *Primeros sondeos estratigráficos en la cueva de Tito Bustillo (Ribadesella, Asturias. Excavaciones de 1970.)* Santander: Publicaciones del Patronato de las cuevas prehistóricas de la Provincia de Santander XII.
- LÉROI-GOURHAN, A. 1976. L'Art mobilier au Paléolithique supérieur et ses liaisons européennes, in Z. Abramova & P. Graziosi (ed.), *Les courants stylistiques dans l'art mobilier au Paléolithique supérieur* (IX Congrès U.I.S.P.P. (13-18 Septembre 1976-Colloque XIV): 25-35. Nice.
- MADARIAGA DE LA CAMPA, B. 1976. Estudio de la fauna marina de la cueva de Tito Bustillo, (Oviedo). Campaña 1975, in Moure Romanillo & Cano Herrera: 208-25.
1994. Consideraciones sobre la fauna malacológica en el Paleolítico cantábrico, en J.A. Lasheras (ed.), *Homenaje al Dr. Joaquín González Echegaray*: 131-9. Santander: Museo y Centro de Investigación de Altamira. Monografía 17.
- MOURE ROMANILLO, J.A. 1975. *Excavaciones en la Cueva de Tito Bustillo (Asturias): Campañas de 1972 y 1974*. Oviedo: Instituto de Estudios Asturianos.
1989. La Caverne de Tito Bustillo (Asturies, Espagne). Le gisement paléolithique, *L'Anthropologie* 93(2): 407-34.
1990. La cueva de Tito Bustillo (Ribadesella, Asturias): el yacimiento paleolítico, *Excavaciones Arqueológicas en Asturias, I (1983-1986)*: 107-27. Oviedo: Principado de Asturias.
1994. Arte paleolítico y geografías sociales. Asentamiento, movilidad y agregación en el final del Paleolítico cantábrico, in Chapa Brunet & Menéndez Fernández (ed.): 313-30.
1997. Dataciones AMS de la Cueva de Tito Bustillo (Asturias), *Trabajos de Prehistoria* 54(2): 135-42.
- MOURE ROMANILLO, J.A. & M. CANO HERRERA. 1976. *Excavaciones en la Cueva de "Tito Bustillo" (Ribadesella, Asturias): Trabajos de 1975*. Oviedo: Instituto de Estudios Asturianos.
- RIEDL, R. 1986. *Fauna y Flora del Mar Mediterráneo*. Barcelona: Omega.
- RUBINOS PÉREZ, A.; R. FÁBREGAS VALCARCE, F. ALONSO MATHIAS & A. CONCHEIRO COELLO. 1999. Las fechas C-14 del Castro de O Achadizo (Boiro, A Coruña): problemática de la calibración de conchas marinas, *Trabajos de Prehistoria* 56(1): 147-55.
- SOLER I MASFERRER, N. 1994. Le Solutrén en Catalogne, en: *Le Solutrén en Péninsule Ibérique*: 31-8. Solutré: Musée Départemental de Préhistoire de Solutré.
- STINER, M.C. 1999. Palaeolithic mollusc exploitation at Riparo Mochi (Balzi Rossi, Italy): food and ornaments from the Aurignacian through Epigravettian, *Antiquity* 73: 735-54.
- STRAUCH, F. & M.-L. TEMBROCK. 1978. Marine Mollusquenreste, in K. Brunnacker (ed.), *Geowissenschaftliche Untersuchungen in Gönnersdorf*: 231-3. Wiesbaden: Franz Steiner Verlag GMBH. Gönnersdorf, Band 4.
- TABORIN, Y. 1993. La parure en coquillage au Paléolithique. Paris: CNRS. XXIX supplément à *Gallia Préhistoire*.
- UTRILLA MIRANDA, P. & C. MAZO PÉREZ. 1996. Arte mueble sobre soporte lítico de la Cueva de Abauntz, en M.A. Querol & T. Chapa (ed.), *Homenaje al Profesor Manuel Fernández Miranda, Complutum Extra* 6 (I): 41-62.
- WENINGER, B. & O. JÖRIS. 2001. *Manual <Calpal>, Program Version May 2001: Glacial Radiocarbon Conversion 0-50 Ka*.

ANTIQUITY

VOLUME 76 NUMBER 293 SEPTEMBER 2002