

Amphorae from Heslington East 2008-2011 [YORYM: 2011.1129]

David Williams, FSA
Department of Archaeology, University of Southampton

TABLE OF AMPHORAE

% Total of each fabric

	% By weight		% By count	
Dressel 20	13,183.2gms	85.1%	185	56.2%
Gallic	1,973.5gms	12.8%	132	40.2%
?Dressel 2-4	125.4gms	0.8%	3	0.9%
?Southern Spanish	8.2gms	-	1	0.3%
Undesignated	208.9gms	1.3%	8	2.4%
Totals	<u>15,499.2gms</u>		<u>329 sherds</u>	

COMMENTS

Nearly all of the amphorae sherds recovered from Heslington East consist of small abraded bodysherds, a few of them burnt. Out of the 329 amphorae sherds from the site there was only one rim, one near complete unstamped handle and one complete base. The majority of the sherds belong to the globular-shaped commonly found Dressel 20, which carried olive-oil from Baetica in southern Spain [Peacock and Williams, 1986, Class 25;

Carreras in Williams and Keay, 2006]. The extant rim [HE 10 1002] and near complete handle [HE 11 1045] belong to this form. On typological grounds the rim can be approximately dated by comparison with Martin-Kilcher's stratigraphical classification of Dressel 20 rims from the well-dated Swiss forts of Augst and Kaiseraugst [1987]. This suggests a date for the rim in the period *c.* AD 210-280 [cf. Martin-Kilcher, 1987, Beilage 2G, no. 104], while shape of the handle appears to be slightly earlier and is probably Antonine in date [Berni Millet, 2008, fig. 9]. The remainder of the Dressel 20 sherds, mostly undistinguished bodysherds, are difficult to date closely and could belong anywhere from the Conquest to the second half of the third century AD [Peacock and Williams, 1986, Class 25; Carreras in Williams and Keay, 2006]. One of the bodysherds has a graffito in the form of a loose cross cut into the wet clay before firing [HE 09 445]. This is difficult to interpret; it could perhaps be a batch number, though as the sherd is small the letter may have formed part of a longer inscription.

The vast majority of the non-Dressel 20 sherds have been grouped as "Gallic" and are made up of material representing the series of flat-bottomed amphora that were made in Gaul and which predominantly carried wine [Laubenheimer, 1985; Laubenheimer and Schmitt, 2009; Laubenheimer in Williams and Keay, 2006]. In the above table they amount to 129 sherds, only just behind Dressel 20 in numbers. However, in terms of weight they only represent a fifth of the Dressel 20 total. This is because the Gallic group consists mainly of thin-walled bodysherds, some of them quite small, compared to the thicker-walled bodysherds of the much heavier Dressel 20 vessels. There are also a few small fragments of Gallic handle and a complete flat base [HE 09 367]. It is likely that most, perhaps even all, of this material belongs to the Gauloise 4 type, which was mostly made in *Narbonnensis* and which in Britain dates from the second half of the first century AD to the end of the third century [*ibid.*]. This was the commonest wine amphora imported into Roman Britain during the second and third centuries AD.

Also present are three plain bodysherds [HE 09 486 and HE 10 991] which may possibly come from the Dressel 2-4 amphora form, though it is difficult to be sure. This type of amphora normally carried wine and was produced in many different regions of the empire [Williams and Keay, 2006]. The main thrust of exports in this form was in the first centuries BC and AD, though Italian production did continue on a small scale until at least the early third century AD [Freed, 1989].

A small plain bodysherd [HE 09 447] may possibly be from a Southern Spanish amphora form, though it is difficult to be certain with such a small sherd or indeed attempt to identify the particular form involved [Peacock and Williams, 1986, Classes 16-19; Martin-Kilcher, 1990; Williams and Keay, 2006]. According to *tituli picti* associated with the general type, these amphorae predominantly carried fish-based products such as *muria*, *liquamen* and *garum* and were produced in several different places around the coastal areas of southern Spain [*ibid.*]. The date range varies according to the particular form, though as a class they span from the late first century BC to the mid second century AD [*ibid.*].

In addition to the above, there are a small number of undesignated amphora sherds in

the assemblage.

Catalogue

HE 08:

- [002] 1 Dressel 20 bodysherd (39.9gms)
- [012] 1 Dressel 20 bodysherd (88gms)
- [015] 1 Gallic bodysherd (6.3gms)
- [021] 1 Dressel 20 bodysherd (59.1gms)
- [022] 1 Dressel 20 bodysherd (12.8gms)
- [022] 1 Dressel 20 bodysherd (482gms)
- [023] 1 Dressel 20 bodysherd (7.4gms)
- [033] 4 Gallic bodysherds (31.1gms)
- [073] 1 Dressel 20 bodysherd (28.7gms)
- [107] 1 Gallic bodysherd (12.4gms)
- [109] 1 Dressel 20 bodysherd (281.9gms)
- [120] 1 Dressel 20 bodysherd (34.1gms)
- [120] 1 Dressel 20 bodysherd (316gms)
- [145] 1 oval-shaped handle (133.3gms). This handle is in a “gritty” sandy fabric containing prominent quartz grains with some feldspar and dark coloured rock fragments. A Baetican origin is suggested, though it is difficult to be sure of this or indeed to indicate a particular form in this case.
- [170] 4 Dressel 20 bodysherds (625.7gms)
- [187] 1 Dressel 20 bodysherd (321gms)
- [217] 1 Dressel 20 bodysherd (158.9gms)
- [231] 1 Dressel 20 bodysherd (227.6gms)
- [234] 4 Gallic bodysherds (36.5gms)
- [258] 2 Dressel 20 bodysherds, burnt (194.1gms)

HE 09:

- [0] 2 Gallic bodysherds (14.6gms)
- [*TP F Machine/TS*] 2 Gallic bodysherds (16gms)
- [294] 1 Gallic bodysherd (13.5gms)
- [305] 1 Dressel 20 bodysherd (197.3gms)
- [308] 1 Dressel 20 bodysherd (59.1gms)
- [323] 3 very small and thin bodysherds. Probably non-amphora (4gms)
- [336] 1 Dressel 20 bodysherd (24.3gms)
- [347] 2 Gallic bodysherds (12.5gms)
- [358] 2 Dressel 20 bodysherds (25.6gms)
- [359] 1 Dressel 20 bodysherd (5.2gms)
- [366] 1 undesignated bodysherd (8gms)
- [367] 1 Gallic bodysherd, part of the neck (24gms)

- [367] 1 Gallic flat base (282.2gms)
- [371] 1 mortarium rim (94gms)
- [372] 1 Dressel 20 bodysherd (174.9gms)
- [401] 1 undesignated bodysherd (14.3gms)
- [403] 1 Gallic bodysherd, burnt (22.4gms)
- [438] 1 ?non-amphora bodysherd (36.2gms)
- [438] 1 Dressel 20 bodysherd (51.9gms)
- [443] 1 Dressel 20 bodysherd (124gms)
- [445] 2 Dressel 20 joining bodysherds with an X graffito cut into the wet clay before firing (91.9gms)
- [447] 1 ?Southern Spanish bodysherd (8.2gms)
- [447] 2 Dressel 20 bodysherds (43.7gms)
- [450] 3 Gallic bodysherds (20.7gms)
- [450] 1 Dressel 20 bodysherd (62gms)
- [461] 1 Gallic bodysherd from neck and handle join (60.2gms)
- [480] 2 Dressel 20 bodysherds (199gms)
- [480] 1 Dressel 20 bodysherd (234gms)
- [482] 1 Gallic bodysherd (34.4gms)
- [483] 1 Gallic bodysherd (21.2gms)
- [484] 2 Gallic bodysherds (5gms)
- [484] 1 Dressel 20 bodysherd (11.4gms)
- [485] 1 Dressel 20 bodysherd (79.7gms)
- [485] 1 Gallic bodysherd (19gms)
- [485] 1 Dressel 20 bodysherd (68.3gms)
- [486] 2 ?Dressel 2-4 bodysherds (86.1gms)
- [497] 1 Dressel 20 bodysherd (3.1gms)
- [497] 1 Gallic bodysherd (2.8gms)
- [529] 1 Dressel 20 bodysherd (70.8gms)
- [537] 1 Dressel 20 bodysherd (197.1gms)
- [537] 1 Dressel 20 bodysherd (2.7gms)
- [537] 1 Dressel 20 bodysherd (28.1gms)
- [537] 1 Gallic bodysherd from neck (50.4gms)
- [650] 1 Dressel 20 bodysherd (14gms)
- [703] 1 Dressel 20 bodysherd (121gms)
- [733] 1 Dressel 20 bodysherd (41.2gms)

HE 10:

- [289] 4 Dressel 20 bodysherds (14.4gms)
- [767] 2 undesignated bodysherds (35.3gms)
- [773] 1 Dressel 20 bodysherd (24.9gms)
- [781] 2 Gallic bodysherds (23.5gms)
- [782] 4 Gallic bodysherds (36.1gms)
- [787] 1 Dressel 20 bodysherd (127gms)

[791] 2 Dressel 20 bodysherds (30.2gms)
 [810] 1 Gallic bodysherd (1.1gms)
 [906] 1 Dressel 20 bodysherd (70.3gms)
 [991] 1 ?Dressel 2-4 bodysherd (39.3gms)
 [991] 3 undesignated bodysherds (18gms)
 [997] 2 Gallic bodysherds (24.5gms)
 [997] 1 Gallic bodysherd (6.3gms)
 [998] 1 Gallic bodysherd (4.7gms)
 [1002] 15 Gallic bodysherds (131.2gms)
 [1002] 3 Gallic bodysherds (36.8gms)
 [1002] 7 Gallic bodysherds (99.2gms)
 [1002] 1 Dressel 20 bodysherd (46.6gms)
 [1002] 1 Dressel 20 rim [cf. Martin-Kilcher, 1987, Beilage 2G, no. 104, AD 210-280]
 (236.9gms)
 [1002] 1 Gallic bodysherd (8gms)
 [1033] 6 Gallic bodysherds (110.9gms)
 [1036] 1 Dressel 20 bodysherd (78.5gms)
 [1036] 3 Gallic bodysherds (101gms)
 [1045] 1 Dressel 20 bodysherd (23.9gms)
 [1045] 7 Gallic bodysherds (21.2gms)
 [1063] 2 Dressel 20 bodysherds (346gms)
 [1093] 1 Dressel 20 bodysherd (283gms)
 [1093] 1 Gallic bodysherd (12.3gms)
 [1093] 1 Gallic bodysherd (24gms)
 [1128] 1 Dressel 20 bodysherd (89.5gms)
 [1162] 2 Gallic bodysherds (10gms)
 [1197] 3 Gallic bodysherds (19.6gms)
 [1199] 1 Dressel 20 handle-stub (86.9gms)
 [1238] 8 Dressel 20 bodysherds (339.4gms)
 [1238] 25 Dressel 20 bodysherds (255.4gms)
 [1238] 16 Dressel 20 bodysherds (135.7gms)
 [1242] 24 Dressel 20 bodysherds, burnt (230.5gms)
 [1632] 1 Dressel 20 handle, burnt (59gms)

HE 11:

[*unstratified*] 2 Gallic bodysherds (42gms)
 [*well fill*] 1 Gallic bodysherd (3gms)
 [1015] 1 Gallic bodysherd (22.1gms)
 [1015] 1 Dressel 20 bodysherd (70.1gms)
 [1018] 1 Dressel 20 bodysherd (184.4gms)
 [1018] 1 Dressel 20 bodysherd (112.3gms)
 [1032] 1 Dressel 20 bodysherd (44.5gms)
 [1045] 1 Dressel 20 bodysherd plus 1 unstamped handle [Berni Millet, 2008, fig. 9,
 Antonine] (719.4gms)

[1045] 2 Gallic bodysherds (14.3gms)
[1045] 1 Dressel 20 bodysherd (33.4gms)
[1045] 2 Dressel 20 bodysherds (299.8gms)
[1045] 1 Dressel 20 bodysherd (36gms)
[1049] 1 Dressel 20 bodysherd (338gms)
[1063] 1 Gallic bodysherd (7.3gms)
[1063] 1 Gallic part-handle (25.1gms)
[1093] 5 Dressel 20 bodysherds (525gms)
[1099] 2 Gallic bodysherds (47.7gms)
[1106] 1 Gallic bodysherd (6.5gms)
[1106] 1 Gallic bodysherd (5.2gms)
[1139] 1 Dressel 20 bodysherd (19.6gms)
[1277] 1 Dressel 20 bodysherd with handle-stump (286gms)
[1419] 2 Dressel 20 bodysherds (47.8gms)
[1419] 3 Gallic bodysherds (50gms)
[1477] 1 Dressel 20 bodysherd (6.3gms)
[1480] 1 Dressel 20 bodysherd, burnt (112.7gms)
[1558] 2 very small bodysherds, probably Dressel 20 (1gm) plus small piece of flint
[1599] 1 Dressel 20 bodysherd (30gms)
[1602] 3 Gallic bodysherds (29.8gms)
[1610] 1 Gallic bodysherd (13gms)
[1619] 1 Dressel 20 bodysherd (584.5gms)
[1651] 3 Dressel 20 bodysherds (576.3gms)
[1653] 1 Dressel 20 bodysherd (189.2gms)
[1653] 3 Dressel 20 bodysherds (452.7gms)
[1653] 3 Dressel 20 bodysherds (163.3gms)
[1699] 3 Dressel 20 bodysherds (161.1gms)
[1758] 1 Dressel 20 bodysherd (36.1gms)
[1758] 5 Gallic bodysherds (69.1gms)
[1764] 1 Dressel 20 bodysherd (227.6gms)
[1888] 6 Gallic bodysherds (37.9gms)
[1906] 2 Dressel 20 bodysherds (66.9gms)
[1907] 2 Dressel 20 bodysherds (549.6gms)
[2093] 5 Gallic bodysherds (103.3gms)
[2093] 1 Gallic bodysherd (7.5gms)
[2109] 2 Gallic bodysherds, burnt (106.1gms)

YAT Backfill:

[138 Area A] 1 Dressel 20 bodysherd (24gms) plus 1 non-amphora bodysherd.

Dressel 20

HE 08:

- [002] 1 Dressel 20 bodysherd (39.9gms)
- [012] 1 Dressel 20 bodysherd (88gms)
- [021] 1 Dressel 20 bodysherd (59.1gms)
- [022] 1 Dressel 20 bodysherd (12.8gms)
- [022] 1 Dressel 20 bodysherd (482gms)
- [023] 1 Dressel 20 bodysherd (7.4gms)
- [073] 1 Dressel 20 bodysherd (28.7gms)
- [109] 1 Dressel 20 bodysherd (281.9gms)
- [120] 1 Dressel 20 bodysherd (34.1gms)
- [120] 1 Dressel 20 bodysherd (316gms)
- [170] 4 Dressel 20 bodysherds (625.7gms)
- [187] 1 Dressel 20 bodysherd (321gms)
- [217] 1 Dressel 20 bodysherd (158.9gms)
- [231] 1 Dressel 20 bodysherd (227.6gms)
- [258] 2 Dressel 20 bodysherds, burnt (194.1gms)

HE 09:

- [305] 1 Dressel 20 bodysherd (197.3gms)
- [308] 1 Dressel 20 bodysherd (59.1gms)
- [336] 1 Dressel 20 bodysherd (24.3gms)
- [358] 2 Dressel 20 bodysherds (25.6gms)
- [359] 1 Dressel 20 bodysherd (5.2gms)
- [372] 1 Dressel 20 bodysherd (174.9gms)
- [438] 1 Dressel 20 bodysherd (51.9gms)
- [443] 1 Dressel 20 bodysherd (124gms)
- [445] 2 Dressel 20 joining bodysherds with an X graffito cut into the wet clay before firing (91.9gms)
- [447] 2 Dressel 20 bodysherds (43.7gms)
- [450] 1 Dressel 20 bodysherd (62gms)
- [480] 2 Dressel 20 bodysherds (199gms)
- [480] 1 Dressel 20 bodysherd (234gms)
- [484] 1 Dressel 20 bodysherd (11.4gms)
- [485] 1 Dressel 20 bodysherd (79.7gms)
- [485] 1 Dressel 20 bodysherd (68.3gms)
- [497] 1 Dressel 20 bodysherd (3.1gms)
- [529] 1 Dressel 20 bodysherd (70.8gms)
- [537] 1 Dressel 20 bodysherd (197.1gms)
- [537] 1 Dressel 20 bodysherd (2.7gms)
- [537] 1 Dressel 20 bodysherd (28.1gms)
- [650] 1 Dressel 20 bodysherd (14gms)
- [703] 1 Dressel 20 bodysherd (121gms)
- [725] 3 Gallic bodysherds (28gms)

[733] 1 Dressel 20 bodysherd (41.2gms)

HE 10:

[289] 4 Dressel 20 bodysherds (14.4gms)

[773] 1 Dressel 20 bodysherd (24.9gms)

[787] 1 Dressel 20 bodysherd (127gms)

[791] 2 Dressel 20 bodysherds (30.2gms)

[906] 1 Dressel 20 bodysherd (70.3gms)

[1002] 1 Dressel 20 bodysherd (46.6gms)

[1002] 1 Dressel 20 rim [cf. Martin-Kilcher, 1987, Beilage 2G, no. 104, AD 210-280]
(236.9gms)

[1036] 1 Dressel 20 bodysherd (78.5gms)

[1045] 1 Dressel 20 bodysherd (23.9gms)

[1063] 2 Dressel 20 bodysherds (346gms)

[1093] 1 Dressel 20 bodysherd (283gms)

[1128] 1 Dressel 20 bodysherd (89.5gms)

[1199] 1 Dressel 20 handle-stub (86.9gms)

[1238] 8 Dressel 20 bodysherds (339.4gms)

[1238] 25 Dressel 20 bodysherds (255.4gms)

[1238] 16 Dressel 20 bodysherds (135.7gms)

[1242] 24 Dressel 20 bodysherds, burnt (230.5gms)

[1632] 1 Dressel 20 handle, burnt (59gms)

HE 11:

[1015] 1 Dressel 20 bodysherd (70.1gms)

[1018] 1 Dressel 20 bodysherd (184.4gms)

[1018] 1 Dressel 20 bodysherd (112.3gms)

[1032] 1 Dressel 20 bodysherd (44.5gms)

[1045] 1 Dressel 20 bodysherd plus 1 unstamped handle [Berni Millet, 2008, fig. 9,
Antonine] (719.4gms)

[1045] 1 Dressel 20 bodysherd (33.4gms)

[1045] 2 Dressel 20 bodysherds (299.8gms)

[1045] 1 Dressel 20 bodysherd (36gms)

[1049] 1 Dressel 20 bodysherd (338gms)

[1093] 5 Dressel 20 bodysherds (525gms)

[1139] 1 Dressel 20 bodysherd (19.6gms)

[1277] 1 Dressel 20 bodysherd with handle-stump (286gms)

[1419] 2 Dressel 20 bodysherds (47.8gms)

[1477] 1 Dressel 20 bodysherd (6.3gms)

[1480] 1 Dressel 20 bodysherd, burnt (112.7gms)

[1558] 2 very small bodysherds, probably Dressel 20 (1gm)

[1599] 1 Dressel 20 bodysherd (30gms)

[1619] 1 Dressel 20 bodysherd (584.5gms)

[1651] 3 Dressel 20 bodysherds (576.3gms)

[1653] 1 Dressel 20 bodysherd (189.2gms)

[1653] 3 Dressel 20 bodysherds (452.7gms)

[1653] 3 Dressel 20 bodysherds (163.3gms)
[1699] 3 Dressel 20 bodysherds (161.1gms)
[1758] 1 Dressel 20 bodysherd (36.1gms)
[1764] 1 Dressel 20 bodysherd (227.6gms)
[1906] 2 Dressel 20 bodysherds (66.9gms)
[1907] 2 Dressel 20 bodysherds (549.6gms)

YAT Backfill:

[138 Area A] 1 Dressel 20 bodysherd (24gms)

Gallic

HE 08:

[015] 1 Gallic bodysherd (6.3gms)
[033] 4 Gallic bodysherds (31.1gms)
[107] 1 Gallic bodysherd (12.4gms)
[234] 4 Gallic bodysherds (36.5gms)

HE 09:

[0] 2 Gallic bodysherds (14.6gms)
[TP F Machine/TS] 2 Gallic bodysherds (16gms)
[294] 1 Gallic bodysherd (13.5gms)
[347] 2 Gallic bodysherds (12.5gms)
[367] 1 Gallic bodysherd, part of the neck (24gms)
[367] 1 Gallic flat base (282.2gms)
[403] 1 Gallic bodysherd, burnt (22.4gms)
[450] 3 Gallic bodysherds (20.7gms)
[461] 1 Gallic bodysherd from neck and handle join (60.2gms)
[482] 1 Gallic bodysherd (34.4gms)
[483] 1 Gallic bodysherd (21.2gms)
[484] 2 Gallic bodysherds (5gms)
[485] 1 Gallic bodysherd (19gms)
[497] 1 Gallic bodysherd (2.8gms)
[537] 1 Gallic bodysherd from neck (50.4gms)
[725] 3 Gallic bodysherds (28gms)

HE 10:

[781] 2 Gallic bodysherds (23.5gms)
[782] 4 Gallic bodysherds (36.1gms)
[810] 1 Gallic bodysherd (1.1gms)
[997] 2 Gallic bodysherds (24.5gms)
[997] 1 Gallic bodysherd (6.3gms)
[998] 1 Gallic bodysherd (4.7gms)

[1002] 15 Gallic bodysherds (131.2gms)
[1002] 3 Gallic bodysherds (36.8gms)
[1002] 7 Gallic bodysherds (99.2gms)
[1002] 1 Gallic bodysherd (8gms)
[1033] 6 Gallic bodysherds (110.9gms)
[1036] 3 Gallic bodysherds (101gms)
[1045] 7 Gallic bodysherds (21.2gms)
[1093] 1 Gallic bodysherd (12.3gms)
[1093] 1 Gallic bodysherd (24gms)
[1162] 2 Gallic bodysherds (10gms)
[1197] 3 Gallic bodysherds (19.6gms)

HE 11:

[*unstratified*] 2 Gallic bodysherds (42gms)
[*well fill*] 1 Gallic bodysherd (3gms)
[1015] 1 Gallic bodysherd (22.1gms)
[1045] 2 Gallic bodysherds (14.3gms)
[1063] 1 Gallic bodysherd (7.3gms)
[1063] 1 Gallic part handle (25.1gms)
[1099] 2 Gallic bodysherds (47.7gms)
[1106] 1 Gallic bodysherd (6.5gms)
[1106] 1 Gallic bodysherd (5.2gms)
[1419] 3 Gallic bodysherds (50gms)
[1602] 3 Gallic bodysherds (29.8gms)
[1610] 1 Gallic bodysherd (13gms)
[1758] 5 Gallic bodysherds (69.1gms)
[1888] 6 Gallic bodysherds (37.9gms)
[2093] 5 Gallic bodysherds (103.3gms)
[2093] 1 Gallic bodysherd (7.5gms)
[2109] 2 Gallic bodysherds, burnt (106.1gms)

?Southern Spanish

HE 09:

[447] 1 ?Southern Spanish bodysherd (8.2gms)

?Dressel 2-4

HE 09:

[486] 2 ?Dressel 2-4 bodysherds (86.1gms)

HE 10:

[991] 1 ?Dressel 2-4 bodysherd (39.3gms)

Undesignated

HE 08:

[145] 1 oval-shaped handle - ? Baetican (133.3gms)

HE 09:

[366] 1 bodysherd (8gms)

[401] 1 bodysherd (14.3gms)

HE 10:

[767] 2 bodysherds (35.3gms)

[991] 3 bodysherds (18gms)

Non-Amphora

HE 09:

[323] 3 very small and thin bodysherds. Probably non-amphora (4gms)

[371] 1 mortarium rim (94gms)

[438] 1 ?non-amphora bodysherd (36.2gms)

HE 11:

[1558] Small piece of flint

YAT Backfill:

[138 Area A] 1 non-amphora bodysherd.

ON LIST BUT CANNOT FIND:

HE 10:

[138] 1 bodysherd (22.6gms)

[788] 1 bodysherd (22.2gms)

[991] 2 bodysherds (16.9gms)

[1026] 3 bodysherds (97.4gms)

HE 11:

[0] 2 bodysherds (239.2gms)

[1196] 1 bodysherd (27.7gms)
[1551] 1 bodysherd (104.4gms)

REFERENCES

Berni Millet, P. [2008] *Epigrafía anfórica de la Bética. Nuevas formas de análisis*, Col Lecció instrumenta, 29, Barcelona.

Freed, J. (1989) "Late stamped Dressel 2/4 amphorae from a Deposit dated post 200 A.D. at a Villa site on the Via Gabina", *Amphores romaines et histoire économique: dix ans de recherche. Actes du colloque de Sienne (22-24 mai 1986). Collection de l'École Française de Rome*, 616-617.

Laubenheimer, F. [1985] *La Production Des Amphores En Gaule Narbonnaise*, Paris.

Laubenheimer, F. and Schmitt A. [2009] *Amphores vinaires de Narbonnaise. Production et grand commerce. Création d'une base de données géochimique des ateliers*. Lyon.

Martin-Kilcher, S. [1987] *Die Romischen Amphoren aus Augst und Kaiseraugst*, Bern.

Martin-Kilcher, S. [1990] "Fischsaucen und Fischkonserven aus dem römischen Gallien", *Archeologie Schweiz*, 13[1990], 37-44.

Peacock, D. P. S and Williams, D. F. [1986] *Amphorae and the Roman Economy*, London.

Williams, D.F. and Keay, S.J. [2006] Roman Amphorae: a digital resource, http://ads.ahds.ac.uk/catalogue/archive/amphora_ahrb_2005/index.cfm