ASPECTS OF THE NEOLITHIC AND COPPER AGES IN THE BASINS OF THE RIVERS SEGURA AND VINALOPÓ, SOUTH-EAST SPAIN

APPENDIX I : ILLUSTRATIONS

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Maps 1,2 — Distribution of centres of present-day population (over 50,000 inhabitants) by contours and by river valleys.

Maps 3,4 — Distribution of Middle Palaeolithic and Upper Palaeolithic stations.

Key to numbers:

1 Venta Miña
2 Ca del Volcán del Faro
3 Ca de les Mallaetes
4 Ca del Parpallé
5 Ca de les Meravelles
6 Ca del Barranc del Llop
7 Ca de les Rates Penaes
8 Covacha del Barranc Blanc
9 Ca Negra
10 Ca de la Pechina
11 Ca de les Calaveres
12 Ca del Cuervo
13 Ca del Salt
14 Abrigo del Pastor
15 Els Dubots
16 Cantos de la Visera
17 Viñas
18 Ca del Cochino
19 Aspe
20 Ca del Ciervo
21 Fte de la Zarza
22 Rinconada del Canalizo de El Rayo
23 Barranco de la Serrana
24 Rambla de Lébor
25 Cejo del Pantano
26 Fte de Lentiscosa
27 Los Mortolitos
28 Ca Ambrosio
29 Ca Chiquita

30 Ca del Tesoro

31 Ca de los Palomarioos

32 Ca de las Palomas

33 Ca de la Bermeja

34 Ca de las Perneras

35 Ca del Serrón

36 Ca de la Zájara I

37 Ca de la Zájara II

38 El Moralico

39 Ca de los Murciélagos

40 El Algarrobal

41 Sites in Beas de Segura valley (Breuil)

42 Santiesteban del Puerto (Breuil)

43 Sites in Guadlimar valley (Breuil)

44-6 Cueva del Puntal; Horá; Llano de Huélago (Obermaier)

47 Ca de la Carigüela

48-51 Llano de la Venta de las Navas; Venta de las Navas; Loma del Rubio, Haza de la Cabaña (Obermaier)

Not shown: Rambla del Agua Salada (new find; see text)

(Postdatum: Còva de l'Edra, Barig, Valencia — 'upper palaeolithic' but potsherds also found: La Labor del SIP ..... 1931 (1932) .)

Maps 5,6 Distribution of rock art stations.

Key to numbers:

1 - 4 Dos Aguas group

5 Barranco de las Cañas

6 Cuevas de la Araña

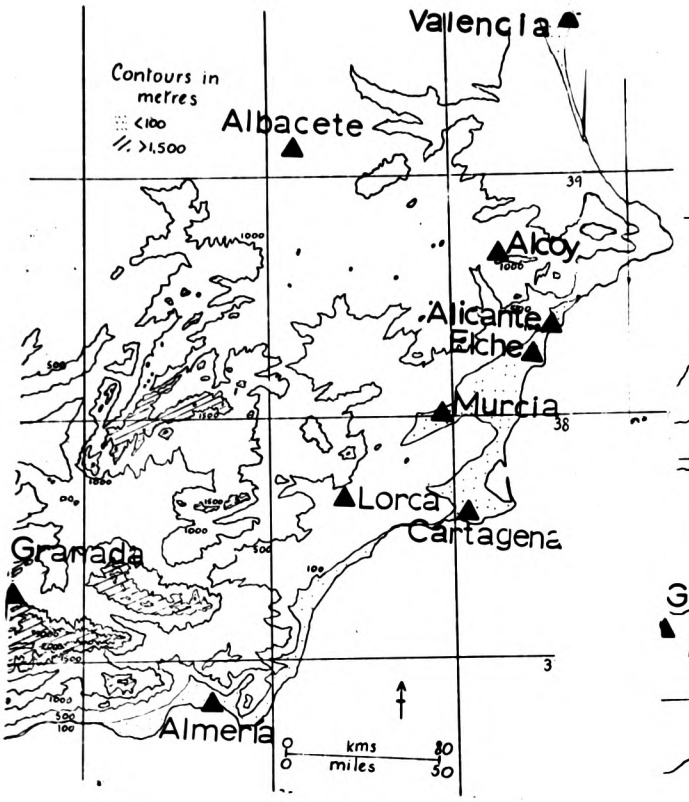
7 Les Carasetes

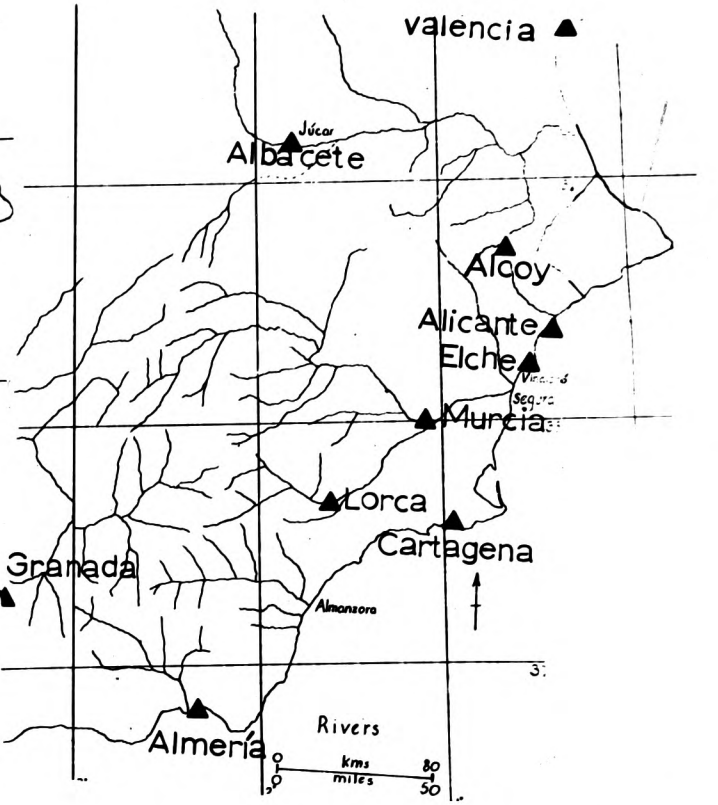
8 Cueva del Pernil

9.	Castellat
10	Peña Escrita
11	Cueva de la Sarga
12, 13	Cueva de la Tortosilla, Cueva del Sordo
14	Barranco dels Ullets
15 - 19	Alpera group
20 - 21	Mugrón group
22 - 25	Monte Arabí group
26	Cueva del Pelicjego
27 - 32	Minateda group
33 - 35	Barranco de los Grajos group
36 - 37	Socovos group
38	Collado del Guijarral
39 - 56	Taibilla valley group
57	Almaciles
58	Cueva de la Zarza
59	Letrero de los Martires
60 -65	Lavaderos de Tello
66, 67	Cueva del Tío Labrador, Cueva del Parador
68 - 69	Gabal group
70 - 73	Muela-Gigante group
74 - 80	Maimón group (incl. Ca de los Letreros)
81 - 84	Chirivel group
85	Las Piedras de Cera
86	Gergal
87	Cabra de Santo Cristo
88	Cueva de la Graja
89 - 105	Despeñaperros - Aldeaquemada groups

Maps 7,8 Distribution of later upper palaeolithic and early neolithic stations, the former indicated by the denomination 'Preceramic'. Where earlier upper or middle palaeolithic layers are present at a site, the square or triangle symbol encloses that for the later period. The interrogation mark refers to a typological rather than a stratigraphical identification. As indicated in the text, the Cueva d'En Pardo is not a transitional site; there are later upper palaeolitnic and neolithic layers separated by a sterile hiatus.

Key/

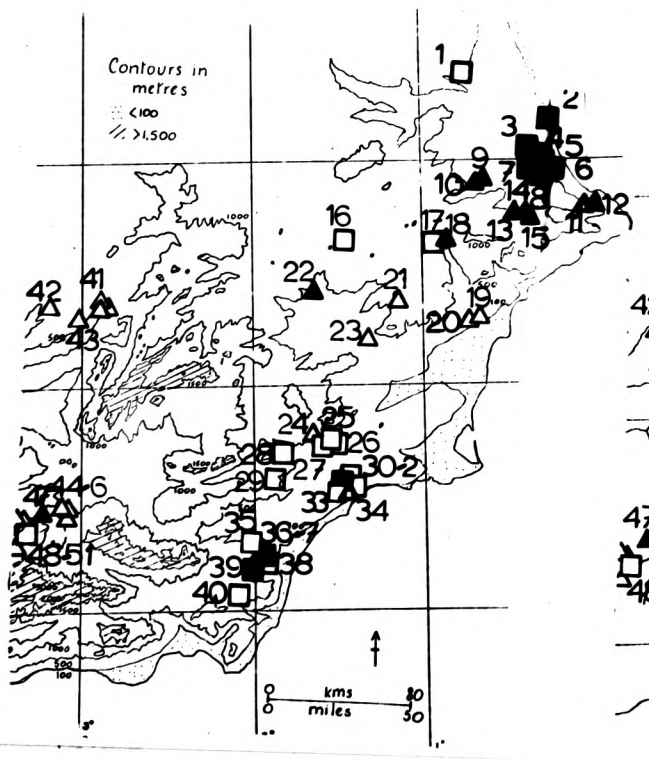


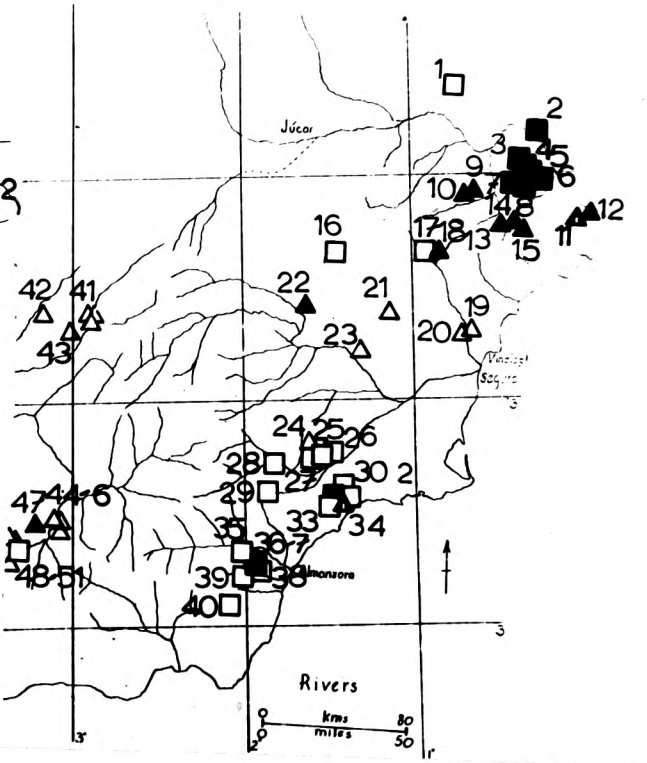


Maps 1, 2

MIDDLE PALAEOLITHIC ▲ secure △ insecure

UPPER PALAEOLITHIC ■ secure □ insecure

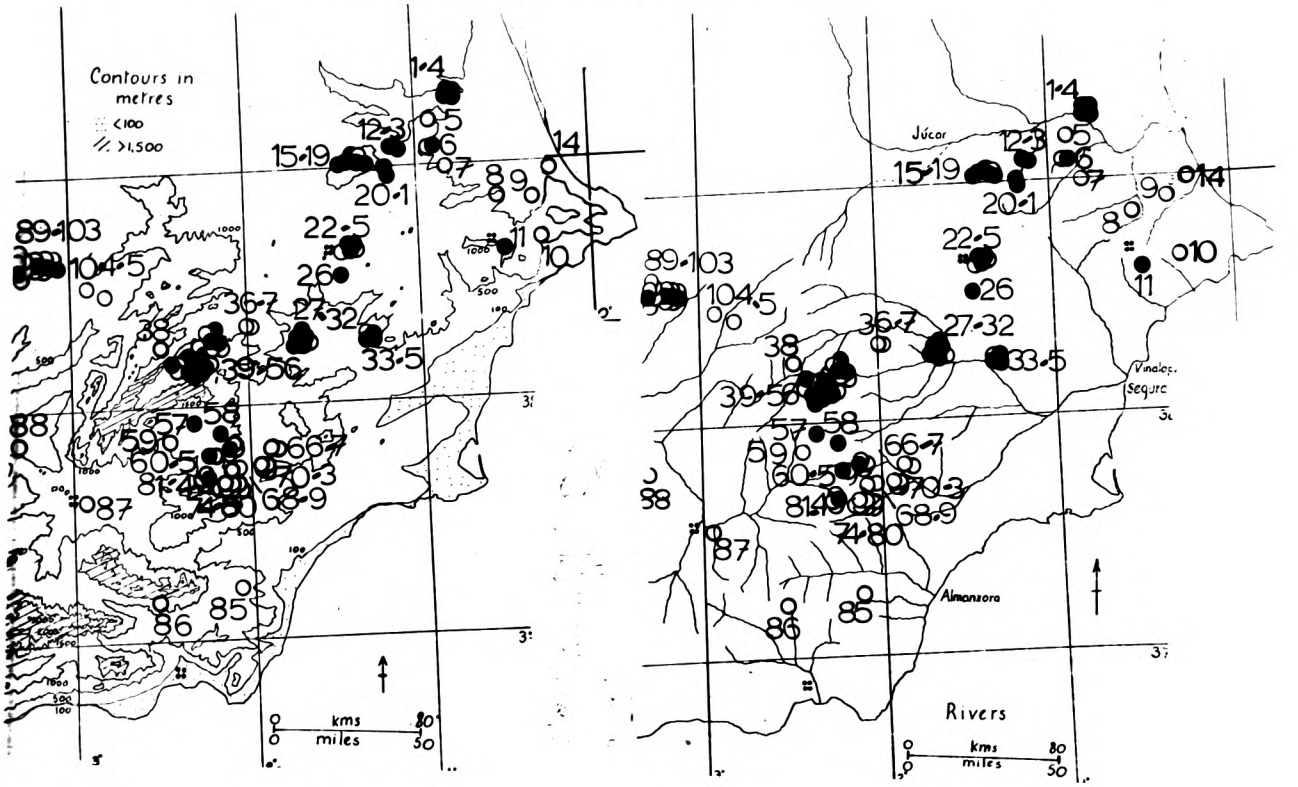




Maps 3, 4

NATURALISTIC ROCK ART ●

SCHEMATIC ROCK ART o



Maps 5, 6

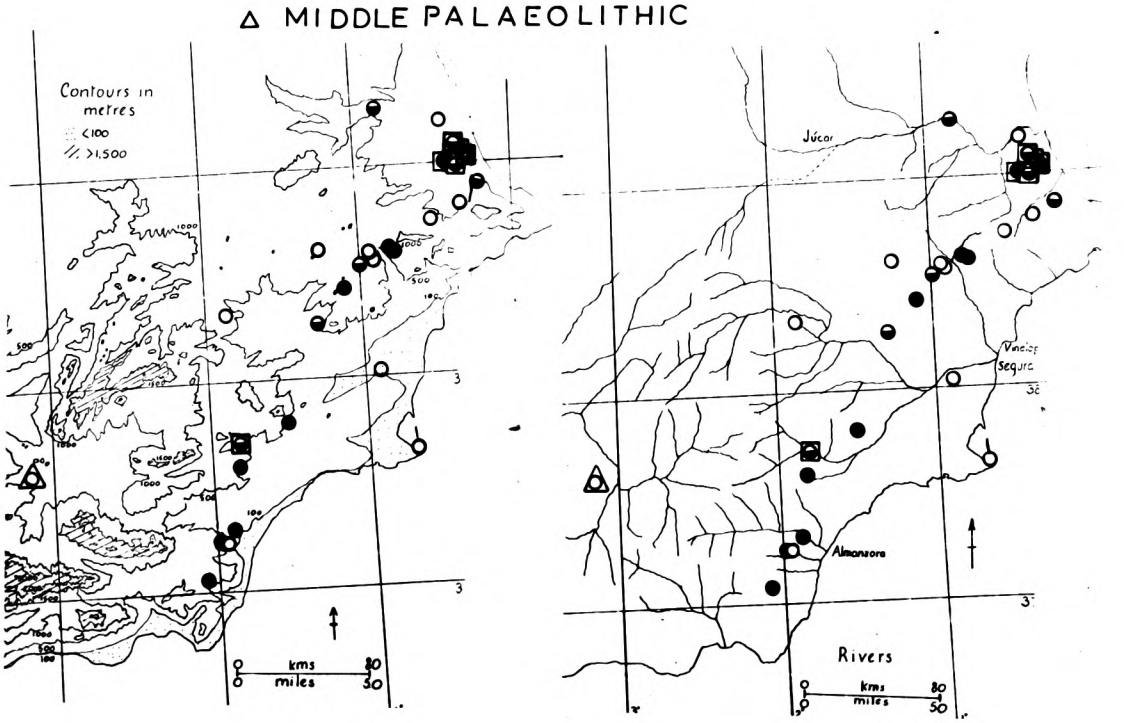
o CERAMIC

● PRECERAMIC - CERAMIC TRANSITION

● PRECERAMIC

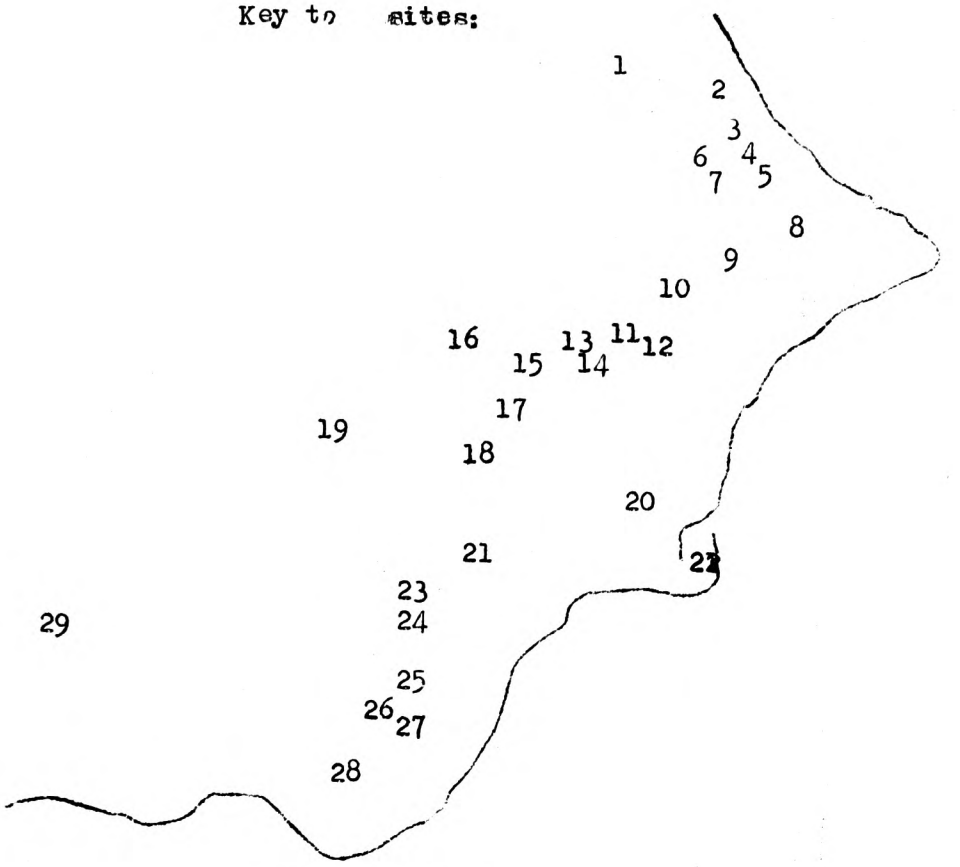
□ UPPER PALAEOLITHIC

△ MIDDLE PALAEOLITHIC



Maps 7, 8

Key to sites:



Key to numbers:

1	Cueva de la Cocina
2	Cueva Redonda (?)
3	Cueva de les Mallaetes
4	Cueva del Parpalló
5	Cueva de les Meravelles (?)
6	Cueva de les Rates Penaes (?)
7	Covacha del Barranc Blanc
8	Cueva d'En Pardo
9	Coveta de l'Or
10	Cueva de la Sarsa (?)
11	Cueva Grande de la Huesa Tacaña (?)
12	Cueva Pequeña de la Huesa Tacaña (?)
13	Casa de Lara (?)
14	Arenal de la Virgen (?)
15	Cueva del Lagrimal
16	Cantos de la Visera (?)
17	Fuente de la Zarza (?)
18	Abrigo Grande
19	Cueva del Gato (?)
20	Cañadas de San Pedro (?)
21	Fuente Lentiscosa (?)

22 Dunas de las Amoladeras (?)

23 Cueva Ambrosio

24 Cueva del Serrón

25 El Moralico (?)

26 Cueva de la Palica

27 El Gárcel

28 El Algarrobal (?)

29 Cueva de la Carigüela

Map 9 Distribution of Levantine art and Franco-Cantabrian rock and mobiliary art in the Iberian Peninsula.

Key to lettered and numbered sites:

Letters refer to Franco-Cantabrian art stations outside the northern Spanish Cantabro-Asturic and Pyrenean zone, as follows:

A Gruta da Escoural, Évora, Portugal (dos Santos, 1964; Glory et al., 1965)

B Cueva de Maltravieso, Cáceres (Almagro,1960)

C Cueva de las Palomas, Cádiz (Breuil & Burkitt, 1929)

D Cueva de la Pileta, Málaga (Breuil et al., 1915)

E Doña Trinidad de Ardales, Málaga (Breuil, 1921; Giménez Reyna, 1964)

F Cueva de la Cala, Málaga (Breuil, 1921)

G Cueva de Nerja, Málaga (Giménez Reyna, 1965; Ucko & Rosenfeld, 1967)

H Cueva del Parpalló, Valencia (Ballester Tormo 1929; Pericot, 1942a)

I Cueva de les Mallaetes, Valencia (Jordá, 1954a)

J Cueva de les Rates Penaes, Valencia (Gurrea & Peñalba , 1952; Jordá, 1954a)

K Balma de Sant Gregori, Tarragona (Vilaseca, 1932 - 1934)

L,M Cueva de los Casares, Cueva de la Hoz, Guadalajara (Cabré, 1934, 1940 - 1941; Beltrán & Barandiarán, 1968)

N Cueva del Reguerillo, Madrid (de Loriana, 1942)

P Sierra de Monstía, Tarragona (Ripoll, 1964a)

?Q Alcañiz (?), Teruel (Breuil, 1964)

(Almagro, 1954, also indicates a site in Gerona unknown to the present writer.)

Numbers refer to Levantine naturalistic paintings:

1 Desfiladero de Leira (Lavaderos de Tello), Vélez Blanco, Almería (Breuil & Obermaier, 1914; Cabré, 1915; Breuil & de Motos, 1915; Burkitt, 1925; Breuil, 1935).

2 Estrecho de Santonge, Vélez Blanco, Almería (Breuil & de Motos, 1915; Cabré, 1915; Burkitt, 1925; Breuil, 1935).

3 Cueva chiquita, cortijo de los Treinta, Chirivel, Vélez Blanco, Almería (Breuil & Obermaier, 1914; Cabré, 1915; Breuil & de Motos, 1915; Burkitt, 1925; Breuil, 1935).

4 Cueva del Coto de la Zarza, Topares, Almería (Cabré, 1915)

5 Cueva de las Grajas, Almaciles, Granada (Breuil & de Motos, 1915)

6 Peñón de la Tabla de Pochico, Aldeaquemada, Jaén (Cabré, 1915)

7 Cueva del Prado del Azogue, Aldeaquemada, (Cabré, 1915)

8 Cueva del Santo, Santa Elena, Jaén (Obermaier, 1921 - 1922)

9 - 17 Nerpio group of paintings, Albacete

Solana de las Covachas
Abrigo del Prado del Tornero 1
Hornacina de la Pareja
Abrigo de las Cabritas
Covacho de la Llagosa
Abrigo de Sautuola
Abrigo del Cazador
Abrigo primero de las casas de los ingenieros de la Presa del Taibilla
Abrigo de la Casa del Sapo

(Sánchez Carrilero, 1956 - 1961; García Guinea & Krapovickas, 1958 - 1959; García Guinea, 1961 - 1962, 1962; Carbonell ~~Escob~~ Escobar - private communication).

18 - 23 Minateda group, Albacete

La Higuera 1 - 4
Barranco de la Mortaja
Canalizo de El Rayo
(Breuil, 1920, 1928, 1935)

24 - 29 Alpera group, Albacete

Cueva de la Vieja
Cueva del Queso
Cueva del Venado(Cueva de los Ciervos)
Fuente de la Arena (Cueva del Bosque)
Cueva Negra
rock shelter 'near' Cueva Negra
(Breuil et al., 1912; Breuil & Obermaier, 1912; Breuil, 1915; Cabré, 1915; Burkitt, 1925).

30 - 31 Almansa group, Albacete

Monte Mugrón
Abrigo del Rey Moro
(Cabré, 1915)

32 Abrigo de la Mujer, Moratalla, Murcia (Beltrán, 1968).

33 - 34 El Sabinar group, Moratalla, Murcia

Fuente del Sabuco
Cañaica del Calar 2
(Martínez Sánchez, 1969; Beltrán, 1968; Walker, 1969; Carbonell Escobar, 1970)

35 - 37 Cieza group, Murcia

Barranco de los Grajos 1 - 3
(López Pascual, 1968; Beltrán, 1968, 1968a, 1968b, 1968c; Walker,1971, 1972)

38 - 40 Monte Arabí group, Yecla, Murcia

Cantos de la Visera 1 - 2
also an overhang near Cueva del Mediodía
(Cabré, 1915; Breuil & Burkitt, 1915; Burkitt, 1925; Breuil, 1935; J. Prats - private communication)

41 Cueva del Peliciego, Jumilla, Murcia

Fernández de Avilés, 1939 - 1940
(This site also called Ca de los Muriélago

42 Cueva de la Sarga, Alcoy, Alicante (Rey Pastor, 1952).

43 Cueva de la Tortosilla, Ayora, Valencia (Breuil et al., 1912; Cabré, 1915).

44 Cueva del Sordo, Ayora, Valencia (Sánchez, 1947)

45 Cuevas de la Araña, Bicorp, Valencia (Hernández-Pacheco, 1924; Breuil, 1935).

46 - 49 Dos Aguas group, Valencia

Cinto de la Ventana
Cinto de las Letras

50 Barranco de las Cañas, Millares, Valencia
(Plá, 1966, 1966a)

51 Barranc dels Covarjos, Benasal, Valencia
(La Labor del SIP ... 1935-1939, 1942).

52 - 59 Villar del Humo group, Cuenca

Cueva del Bullón
Abrigo de la Selva Pascuala
Fuente de la Selva Pascuala
Peña del Escrito
Marmalo 1 -4
(Breuil, 1935; Almagro, 1947; Hernández-Pacheco, 1959; Beltrán, 1968)

60 Boniches de la Sierra, Cuenca (Breuil, 1935; Almagro, 1947)

61-72 Tormón-Albarracín-Bezas group, Teruel

Huerta de las Tajadas de Bezas
Paridera de las Tajadas de Bezas
Barranco de las Olivanas
Ceja de la Piezarrodilla
Cerrada del Tío José
Cocinilla del Obispo
Prada del Navazo
Abrigo del Arquero
Cueva de Doña Clotilde
Barranco del Cabrerizo
Barranco del Pajarejo
Los Callejones Cerrados
(Breuil & Cabré, 1911; Cabré, 1915; Obermaier & Breuil, 1927; Almagro, 1944; 1947, 1947a, 1951,1952; Ortego, 1950)

73 - 81 Alacón group, Teruel

Frontón de los Cápridos
Cueva del Garroso (Cerro Felío)
Covacho Ahumado (" ")
Covacho de la Tía Mona (" ")
Covacho de Eudoviges(" ")
Covacho Ahumado (El Mortero)
Los Trepadores (" ")
Abrigo de los Borriquitos (El Mortero)
Abrigo de los Recolectores(" ")
(Ortego, 1948; Beltrán, 1961-1962; Beltrán & Vallespí, 1960)

82 Abrigo de la Cañada del Marco, Alacaine,Teruel
(Ortego, 1968)

83 Val del Charco del Agua Amarga,Alcañiz, Teruel
(Cabré,1915;Breuil,1915; Beltrán,1970)

84 Els Secans, Mazaleón, Teruel (Vallespí,1952)

85 Las Caídas del Salbime,Teruel (Pérez Temprado & Vallespí, 1954)

86 - 89 Ladruñán group, Teruel

El Pudial El Torico
Abrigo del Arquero Abrigo de la Vacada
(Ortego, 1946; Ripoll, 1961)

90 Valrobira, Cretas, Teruel (and also a painting reputed to be by the nearby road to San Hipólito: Cabré, 1915).

91 - 94 Calapatá group, Teruel

Roca dels Moros
Mas del Abogat
Font de la Bernarda
Barranc dels Gascons
(Breuil & Cabré, 1909; Cabré,1915; Bosch Gimpera, 1924; Vallespí, 1957)

95 La Joquera, Borriol, Castellón (Porcar Roig, 1932)

96- 101 Gasulla group, Castellón

Còva Remigia
Còva de dalt del Cingle de la Mola Remigia
Les Dogues
Mas Blanc
Abrigo Racò de Molero
Racò de Gasparo
(Porcar Roig, 1934; Porcar Roig et al., 1934-1935; Kühn, 1926, 1927; Obermaier, 1935, 1937; Martínez Santa Olalla, 1941-1942; Porcar Ripollés, 1935,1943,1950,1953; Thompson, 1960; Ripoll, 1963)

102-115 Valltorta group, Albocácer, Castellón

Còva del Civil
Còva dels Tolls Alts
Còva Rull
Còva dels Cavalls
Abrigo de Arco
Còva del Mas d'En Josep
Còva alta de la roca del Llandoner
Còva de la Saltadora
Coves del Puntal 1 - 4
Coveta de Montegordo
Cingle de l'Ermita del Barranco Fondo
(Duran 1915-1920;Obermaier & Wernert,1919; del Arco, 1917; Cabré, 1923)

116-118 Morella group, Castellón

Galería alta de la Masía
Còva del Roble
Covacho de la Viña
(Hernández-Pacheco, 1918)

119 Cueva del Polvorín, Puebla de Benifaza,Castellón (Vilaseca, 1948)

120-128 Tivisa group, Tarragona

Còva de Cabra Feixet
Còva de l'Escoda
Còva del Recó

Còva/

Còva d'En Perdigó
Còva del Ramat
Còva del Cingle
Còva del Pi
Còva de les Calobres
Còva de la Moleta de Cartagena
(Bosch Gimpera & Colominas, 1921-1926)

129-130 Rojals group, Tarragona

Mas del Llort
Mas de Ramón de Bessó
(Vilaseca, 1944, 1950-1951)

131 Barranc dels Porciules, Tarragona (Obermaier, 1921-1922)

132 Roca dels Moros, Cogul, Lérida (Cabré, 1915; Bosch Gimpera & Colominas, 1921-1926; Breuil 1935; Almagro, 1947, 1952a, 1957)

Note: Not included in the foregoing are carvings at Río Bernisa, Rótova, Valencia, and others in the canyon of Escalona, Navarrés, Valencia, which have been compared to the palaeolithic carvings at Rates Penaes (see Anon. 1966 'Actividades del S.I.P. - 9'). There are also rock art sites with animal paintings possibly similar to Levantine naturalistic art outside the Levante, viz. : Las Batuecas and Garcibuey, Salamanca (Breuil, 1918-1919, 1935; Hernández-Pacheco, 1923); Valdejunco, Esperança, Portalegre, Portugal (Breuil, 1917); Cueva de la Pretina, Casas Viejas, Cádiz (Cabré, 1915), Rabanero, Ciudad Real (Pericot, 1950).

The following is a list of sites with schematic motifs in the Levante. The list excludes sites in Andalusia except for a few in the immediate vicinity of the eastern watershed of the Sierra de Segura. Brackets refer to numbers on map and above lis

Almería

(1) Desfiladero de Leira (Breuil, 1935)
(2) Estrecho de Santonge (Breuil, 1935)
Cueva de los Letreros, Maimón, Vélez Blanco (Breuil, 1935)
*La Yedra, Maimon, Vélez Blanco (Breuil, 1935)
Las Colmenas, Maimón, Vélez Blanco (Breuil, 1935)
*Fuente de los Molinos, Vélez Blanco (Breuil, 1935)
Covachas, Maimón, Vélez Blanco (Breuil, 1935)
Rock shelter below Ca de los Letreros (personal visit)

(* The present writer has visited these and found no trace of paint.)

Cueva de Juan Pescador, Maïmón, Vélez Blanco (Breuil,1935
Los Hoyos, Maïmón, Vélez Blanco, (Breuil,1935)
Cueva Maïna, Sierra de María, Vélez Blanco (Breuil,1935,
Fuente de la Asa, Sierra de María, " " " "
El Queso, " " " " " " "
Cerro de la Tejera, Vélez Blanco (Breuil, 1935)
Gabal, Vélez Blanco (IDEAL (Granada) 21-iv-72,p.7)
(Cup marks: Grave 63, Los Millares, Gador, Leisner & Leisner, 1943, p. 51; Cobdar, Siret, 1893, fig. 271, p. 542 .)

Murcia

(38) Cantos de la Visera 1 (Cabré,1915; Breuil & Burkitt, 1915)

Cueva del Mediodía, Monte Arabí, Yecla (Breuil & Obermaier 1914; Breuil, 1935)

Cañaica del Calar 1 and 3 (Martinez Sánchez, 1969; Carbonell Escobar, 1970; Walker, 1969, 1971)

Cueva del Tío Labrador, (Breuil, 1935)

Cueva de los Paradores (Breuil, 1935)

(Cup marks: Monte Arabí — see illustrations below in this volume; Lomo de Bas, Ramonete, Siret, 1893, figs. 268 - 270, p. 542; La Bastida, Totana — stones in Museo L. Siret, Almería)

Jaén

Collado del Guijarral.

(The many sites further west around Despeñaperros - Aldeaquemada are not listed as they are outside the Segura basin - see Breuil, 1933 - 1935 for details.)

Albacete

Abrigo del Prado del Tornero 2, Nerpio (García Guinea & Krapovickas, 1958-1959; García Guinea, 1961-1962; 1962)

Abrigo del Ídolo, Nerpio (García Guinea, 1961-1962,1962)

Abrigo de los Ídolos, Nerpio (" " " " "

Abrigo del Castillo de Taibona, Nerpio(" " " " "

Abrigo de las casas de los ingenieros de la Presa del Taibilla (García Guinea, 1961-1962,1962)

Solana del Molinico 1-2, Socovos (Sánchez Jiménez,1956)

(22) Barranco de la Mortaja, Minateda (Breuil, 1920, 1928,19

(24) Cueva de la Vieja,Alpera (Breuil et al.,1912;Breuil & Obermaier, 1912;Breuil 1935)

(27) Fuente de la Arena, Alpera (Breuil, 1915, 1935)

(28) Cueva Negra, Alpera (Breuil, 1915, 1935)

Alicante

Pena Escrita, Tarbena (Breuil, 1935)

(Cup marks: Mas de Menente, Alcoy, Ponsell, 1926; San Antón, Orihuela, Furgús,1902a)

Valencia

Cueva del Pernil (Breuil, 1928a)

(45) Cuevas de la Araña (Hernández-Pacheco,1924;Breuil,1935)

Beniatjar (Breuil, 1933; La Labor del SIP ... 1935-1939. (1942)) El Castellet is name of hill with painting.

Bosquera de Escalona, Rótova (La Labor del SIP ..... 1935-1939 (1942))

Còva Fosca (ibidem)

Roca del Senallo (ibidem)

Bobalar (ibidem) (in término of Culla)

Covacha de Felix (ibidem)

Cuenca

Orrea (García Sánchez & Spahni, 1958) cup marks.

(52) Villar del Humo (Breuil,1935)

Castellón

(102) Còva del Civil (Breuil, 1935)

(103) Còva dels Tolls (Breuil,1935)

(109) Còva de la Saltadora (Breuil,1935)

Guadalajara

Miedes (García Sánchez & Spahni,1958)cup marks.

Teruel

(68) Cueva de Doña Clotilde (Almagro,1947,1947a)

(83) Val del Charco de Agua Amarga (Breuil,1935)

(91) Roca dels Moros, Calapatá (Breuil,1935)

(92) Mas del Abogat, " " "

Soria

Valdecaballos (Ortego, 1964)
Cañada del Nido del Cuervo (7 sites) (Ortego,1952)
Cañada Honda (8 sites) (Ortego,1952)
Covachas de Castro (García Sánchez & Spahni,1958)
Retortillo (" " " " ")
(Cup marks only: Canos, Castro, Conquezela,
Duruelo de la Sierra : García Sánchez & Spahni,1958)

Tarragona

(129) Llort (Vilaseca, 1943, 1944, 1950-1951)
Pobla de Montornés (Vilaseca, 1943)
Capafonts (Vilaseca, 1943)
Lloa (Vilaseca, 1943)
Alfarca (Breuil, 1935; Vilaseca, 1943)

(122) Còva del Pí(Breuil, 1935)
Brugent (Breuil, 1935)
Còva de les Creus (García Sánchez & Spahni, 1958)
Abrigo de Mas de Carles (García Sánchez & Spahni, 1958)
Font Vilella (Hernández-Pacheco, 1921)
(Cup marks only: Roca de Rogeralls : García Sánchez & Spahni, 1958)

Lérida

(132) Roca dels Moros, Cogul (Breuil, 1935)
Coins (García Sánchez & Spahni,1958)

Gerona

Campany (Bosch Gimpera & Colominas,1921-1926)
Barranc d'Espolla (" " " " " ")
Vinya d'En Berta (García Sánchez & Spahni,1958)
(The first two sites have schematic rock carvings, the latter cup markings (?).)

Granada

Baños de Alicún (5 rocks with cup marks and schematic carvings: García Sánchez & Spahni, 1958)
Montefrío grave L 15 (Leisner & Leisner,1943), schematic cervine carvings on orthostat.

ADDENDA : The aforegoing enumeration and list was prepared for an article/

article in MAN, 1971. A number of schematic art sites indicated on Maps 5,6 ought to be added, viz:

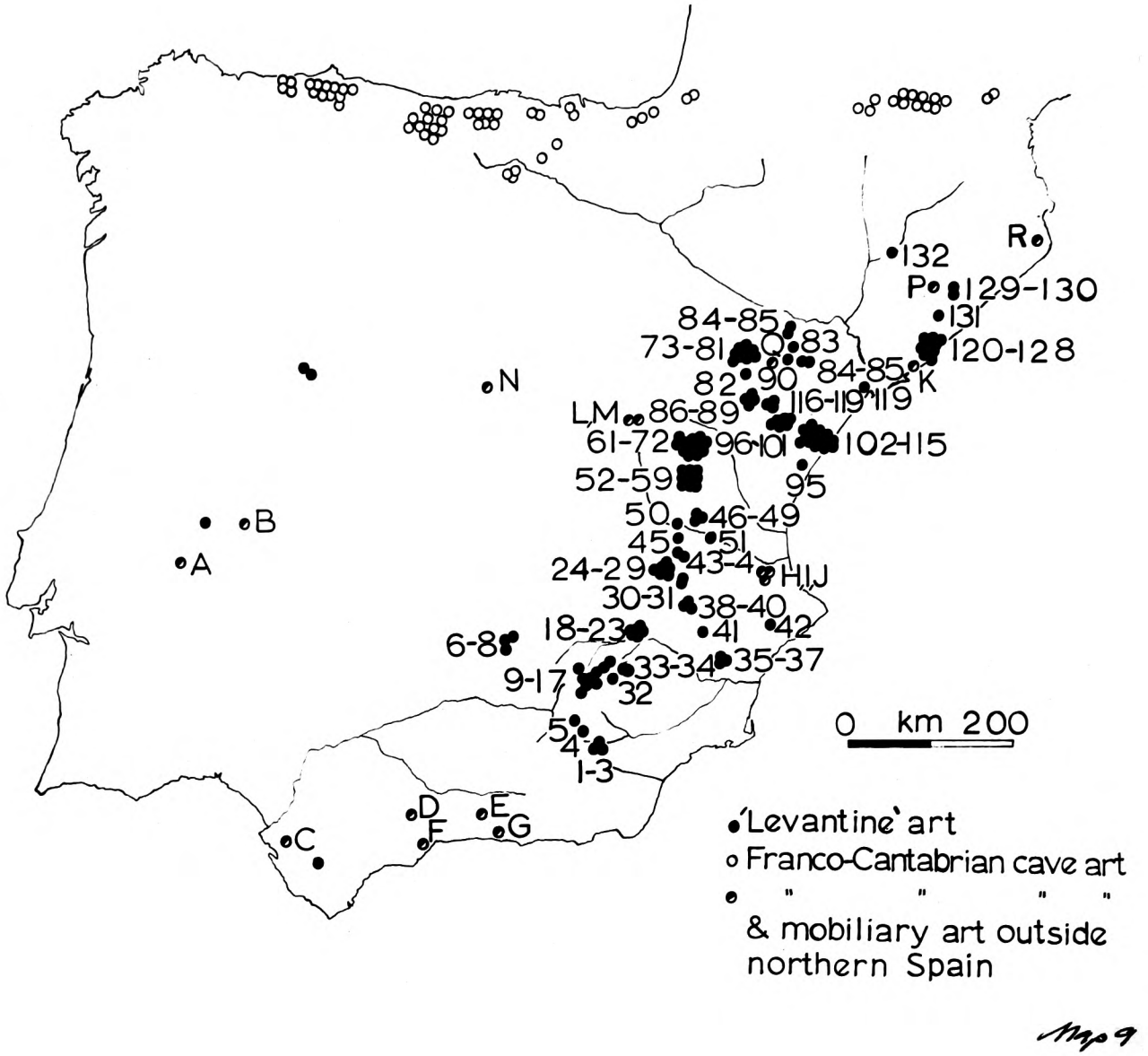
Les Carasetes, Navarrés, Valencia (La Labor del SIP ... 1934 (1935))

Las Piedras de Cera, Lubrín, Almería (Breuil, 1935)

Gergal, Almería (Breuil, 1935)

Letrero de los Martires, Huéscar, Granada (Breuil, 1935)

(Map 10 follows fg 51)


R
132
P
129-130
131
84-85
73-81
Q
83
120-128
84-85
K
82
90
N
116-119
119
LM
86-89
61-72
96-101
102-115
52-59
95
50
46-49
B
45
51
A
24-29
43-4
HIJ
30-31
38-40
18-23
41
42
6-8
33-34
35-37
9-17
32
0 km 200
5
4
1-3
D
E
F
G
C
'Levantine' art
Franco-Cantabrian cave art
" " " "
& mobiliary art outside northern Spain

Map 9

Maps 11, 12 Distribution of Burial Constructions.

Valencia

1 Near Castillo de Mosconea, Bicorp (Leisner & Leisner, 1943)

2 Castellet del Porquet, Ollería (Vilanova,1869; Ballester, 1937; Leisner & Leisner, 1943)

3 Ayelo de Malferit (Leisner & Leisner, 1943, Vilanova,1869)

Albacete

4 Cerrico Redondo, Montealegre del Castillo (Sánchez, 1948)

Cegarrón, La Cueva, Montealegre del Castillo (Sánchez, 1958)

4a Fontanar, Hoya Gonzalo (Sánchez, 1948; Dupuy de Lome et al., 1931).

5 Dehesa de Caracolares, Tiriez (Sánchez,1948)

6 Peñuela I, II, Pozo Cañada (Sánchez, 1948)

7 Vilches, Minateda, Hellín (Sánchez, 1948)

(Also illustrated in Sánchez 1948 are assemblages from tumuli at Dehesa de Lemas and Las Almagreras, otherwise unidentified.)

Alicante

8 Laderas del Castillo, Callosa de Segura (Colominas, 1936)

8a Laderas de S. Antón, Orihuela (Furgús, 1902 rep. 1937)

Murcia

9 Loma de los Paletones, Totana (Leisner & Leisner, 1943)

10 Sierra del Cano, Lorca (Vilanova & de la Rada 1894; Leisner & Leisner, 1943; Espín,1947

11 Piedras de Vergara, Lorca (Leisner & Leisner, 1943)

12 Cañada del Alba, Puerto Lumbreras (Vega del Sella, 1929)

13 Mazarrón (Leisner & Leisner, 1943)

14 Parazuelos, Ifre, Mazarrón(Siret & Siret,1887)

Almería

15 Vélez Blanco (de Motos, 1912)

16 Cerro de la Alquería, Vélez Rubio (Leisner & Leisner, 1943)

17 Loma del Jas and Loma Blanca, Urracal (ibid.)

18 Los Cabecicos, Overa and Loma del Alcanzón tombs Huercal Overa (Leisner & Leisner,1943)

19 Loma de los Pardos, Albox (Leisner & Leisner, 1943)

20 El Marchal, Serón (Leisner & Leisner, 1943)

21 Tíjola (Cabré, 1924)

22 Llano de la Media Legua, Fines (Leisner & Leisner 1943)

23 Llano del Pedregal, Los Ruriales and Loma de los Planes, Arboleas (Leisner & Leisner, 1943

24 Ballabona and Cuevas, Cuevas de Almanzora (Siret & Siret, 1887; Leisner & Leisner, 1943)

25 Palacés 1 - 4, Zurgeña (ibid., ibid.)

26 Cañada de Muro, Puerto Blanco, Loma de Garriquía Rambla de la Jática, Loma de los Caporchanes Vera (Siret & Siret, 1887; Leisner & Leisner 1943)

27 Loma de la Atalaya, Llano de la Lámpara, Loma and Barranco de Jocalla, Buena Arena, Llano del Jautón and Llano de las Churuletas, Purchena (Leisner & Leisner, 1943)

28 Cantoria (Leisner & Leisner, 1943)

29 Bédar (Leisner & Leisner, 1943)

30 Almizaraque, Herrerías (Leisner & Leisner, 1943)

31 Loma del Campo de Mojácar, Llano Manzano, Loma del Belmonte, Cabecito de Aguilar, Cañada Flores, Caldero de Mojácar, Pueblo de D. Jadrico, Mojácar (Siret & Siret, 1887; Leisner & Leisner, 1943)

32 Senes (Leisner & Leisner, 1943)

33 Turre (ibid.)

34 Sorbas (ibid.)

35 Carboneras

36 Turrillas

37 Rambla de los Pilares, Llano de la Rueda, Loma del Llano de las Eras, Loma de los Liniales Rambla de los Pozicos, Llano del Juncal, Los Rurialitos, Cañada de los Mesnes, Pozos de los Marchantillos, Rambla de las Piedras, Tabernas (Leisner & Leisner, 1943)

38 Alcolea (Leisner & Leisner, 1943)

39 Berja (Leisner & Leisner, 1943)

40 Los Millares, Gador (Siret, 1893; Leisner & Leisner, 1943; Almagro & Arribas, 1963)

41 Rambla de Huéchar (Leisner & Leisner, 1943)

42 Alhama la Seca (Leisner & Leisner, 1943)

43 Barranquete, Níjar (Leisner & Leisner, 1943)

Granada

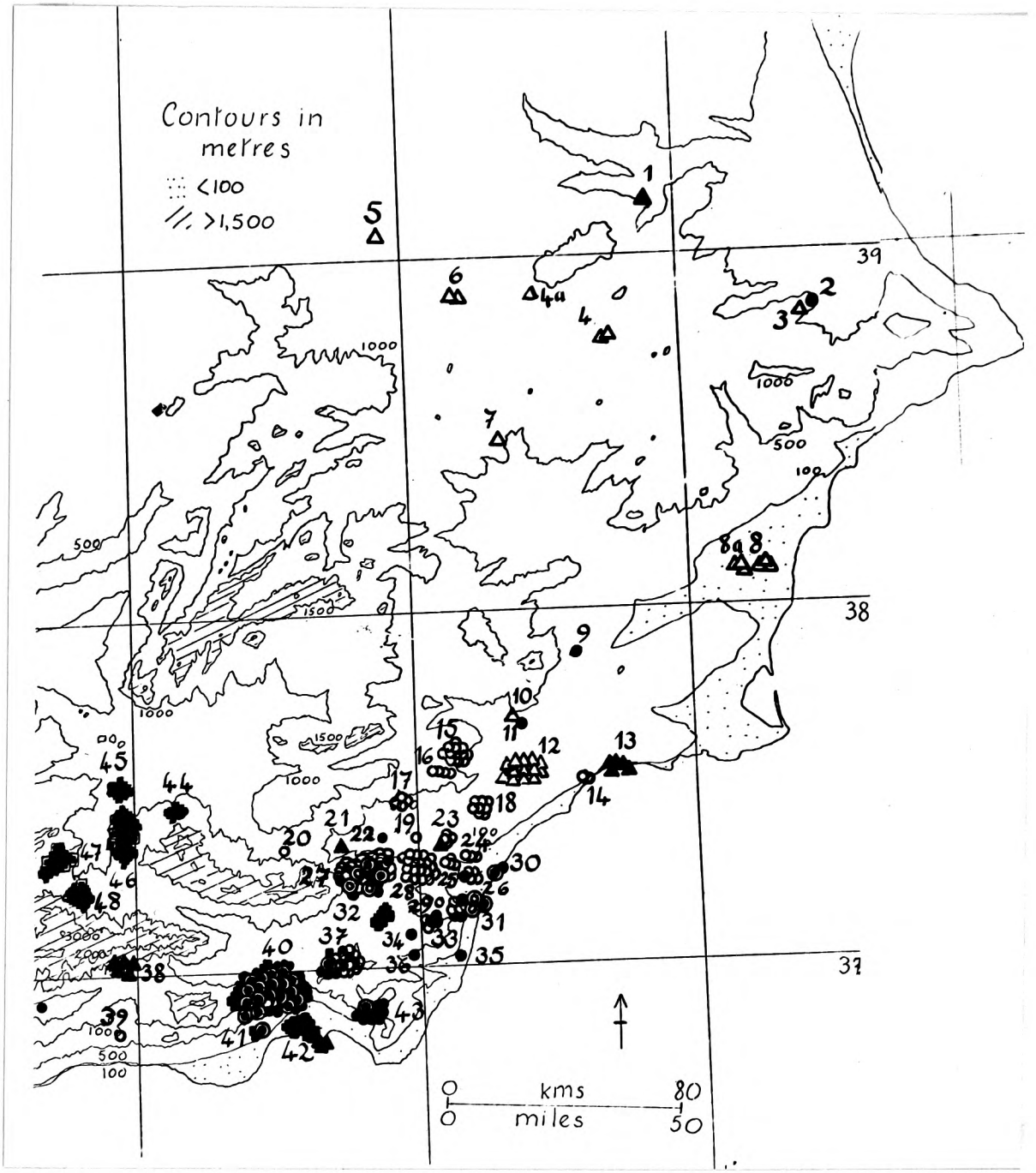
44 Baza (Leisner & Leisner, 1943)

45 Baños de Alicún (Leisner & Leisner, 1943)

46 Gor-Gorafe tombs (Leisner & Leisner, 1943; García Sánchez, 1960)

47 Laborcillas tombs (Leisner & Leisner, 1943)

48 Fonelas tombs (Leisner & Leisner, 1943)

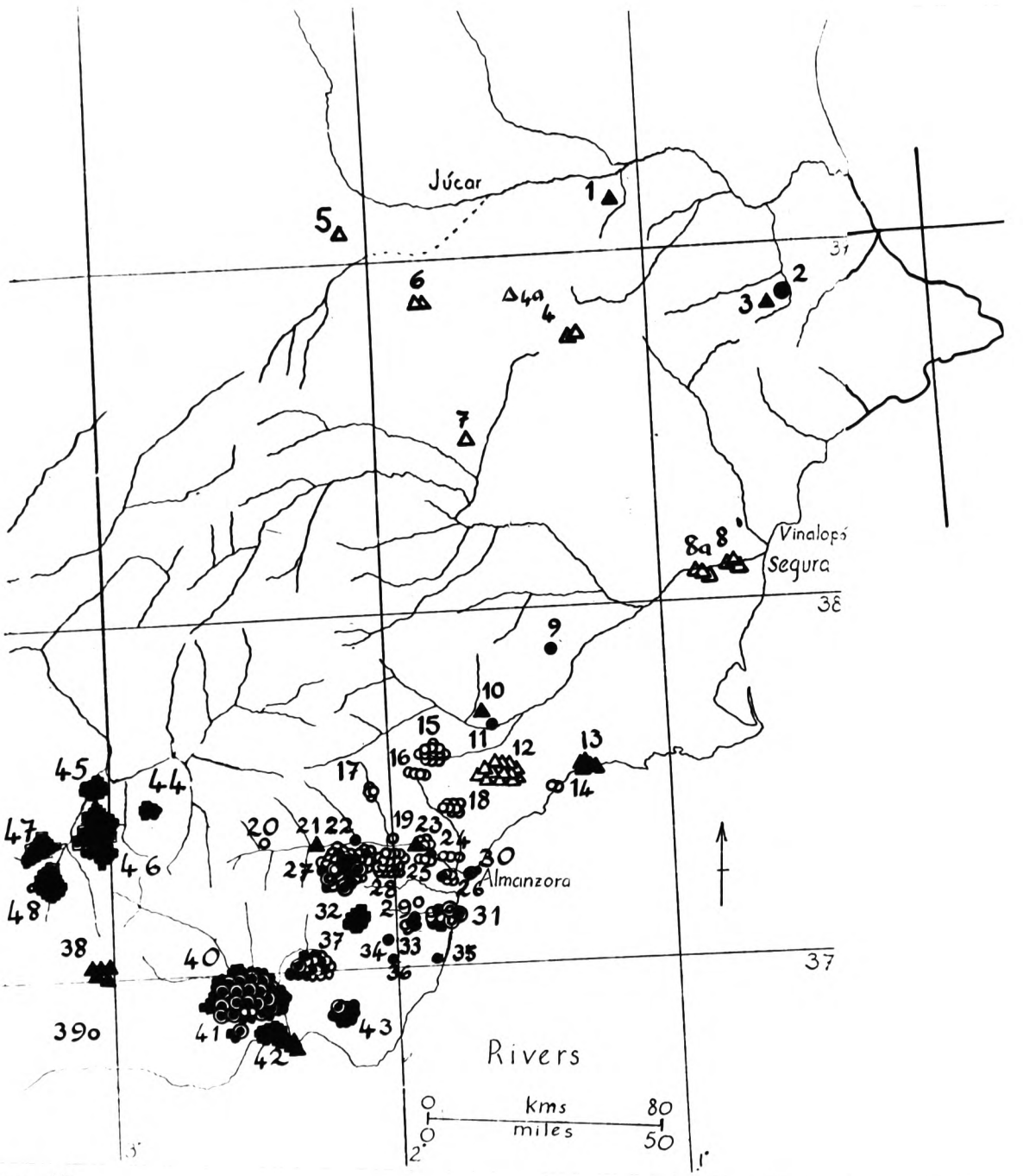


BURIAL CONSTRUCTIONS

- ▲ Uncertain
- ● Circular passage graves
- ◉ "Splendid" ditto
- ○ Round graves
- ◎ "Splendid" ditto
- ■ Angular passage graves
- ■ "Splendid" ditto
- ▲ Tumuli, cairns

(Some cemeteries under-represented)

Map 11


Júcar
Vinalopó
Segura
Almanzora
Rivers
kms
miles
0
80
0
50
37
38
2°
1°

map 12

Maps 13,14 Distribution of Cave Sites and Burials.

This distribution refers to all cave sites from which pottery, polished stone and bifacial flint implements, metal implements, and human skeletal material has been reported. Not all are necessarily burial caves in the sense that burial was their exclusive function. Human bones are known from cave occupations as at Coveta de l'Or. It is difficult to determine the purpose of most of the cave sites, however the grander cave burials are indicated, thus **. Caves with human bones are marked *

Valencia

*1 Cueva de Rocafort, Rocafort (La Labor del SIP....1935-1939 (1943), Ballester, 1944)

*2 Cueva de Matamón (Vilanova, 1869)

*3 Cueva de la Ladera del Castillo, Chiva (Fusté 1957; Fletcher, 1957)

4 Cueva Avellanera, Catadau (Llobregat, 1963)

5 Covacha de Ribera, Cullera (Plá, 1958)

*5a Covacha de la Casa Benéfica de las Niñas, Bort, Cullera (La Labor del SIP....1935-1939 (1942))

6 Cueva dels Gats (Coveta del Gat), Barranco de Aguas Vivas, Corbera, Alcira (Anon, Arch Prehist.Lev., 1966)

7 Cueva de Doña Pascual, Teresa de Cofrentes (Breuil & Obermaier, 1914)

8 Cueva Negra de la Honda, Ayora (Breuil & Obermaier, 1914)

**9 Cueva del Palanqués, Navarrés (for skulls, v. Fusté, 1957)

* 9a Vedat, Torrente (Fusté & Fletcher, 1953)

10 Cueva Redonda, Serratella (Esteve, 1943)

*11 Cueva de les Foietes, Tabernes de Valldigna (Ballester, 1928, quoting Valiente)

12 Cueva de l'Edra, Barig (La Labor del SIP... 1931 (1932))

*13 Coveta del Racó Tancat, Gandía (La Labor del SIP ... 1932 (1932)).

*14 Cueva Negra de la Marchuquera, Gandía (Breuil & Obermaier, 1914; La Labor del SIP...1932 1932; Bru, 1961)

*15 Cueva de l'Aigua, Gandía (La Labor del SIP.. 1932 (1932))

16 Cueva de la Recambra, Gandía (Llobregat, 1963 Tarradell, 1963, 1965)

17 Cueva de les Mallaetes, Gandía (La Labor del SIP....1931 (1932); Fletcher, 1956, 1956a)

*18 Cueva de les Meravelles, Gandía (Ballester, 1928; La Labor del SIP...1932 (1932); Breuil & Obermaier, 1914; Fletcher, 1956, 1956a)

19 Cueva de Zacarés, Gandía (Llobregat,1963)

*20 Cueva del Retoret, Gandía ([illegible],1963)

*21 Cueva Blanquisal, Palma de Gandía (unpublished reconnaissance by present writer and sr. S . Santamaría, Sept. 1971 - unexcavated)

*22 Cueva Bernarda, Palma de Gandía (Plá, 1961; La Labor del SIP ... 1959 (1961))

23 Covacho del Barranco del Nano, Real de Gandía (Llobregat, 1963)

24 Cueva de les Vueltes (Cueva Volta), Fontanet de Company, Gandía (Breuil & Obermaier,1912

**25 Cueva Frontó, Salem, Gandía (Pastor & Torres, 1970)

26 Cueva del Forat d'Aire, Rótova (La Labor del SIP .... 1959 (1964))

*27 Coveta del Barranco del Castellet, Carrícola, Albaida (Ballester, 1928; Plá, 1954)

**28 Camí Real d'Alacant, Albaida (Ballester, 1928)

29 Cueva Palop , Mogente (Llobregat, 1963)

*30 Cueva de Serruig, Mogente (La Labor del SIP .. 1931 (1932))

*31 Caseta de Molina, Bocairente (Ballester, 1928)

*32 Cueva de la Sarsa, Bocairente (Ponsell, 1928; Ballester, 1928; La Labor del SIP .... 1928 (1929), ...1931 (1932), ...1934 (1935); San Valero, 1950)

*33 Cueva Emparetá, Bocairente (Cuenca, 1973)

Alicante

*34 Cueva d'En Pardo, Vall de Gallinera, Beniali (Pascual, private communication)

**35 Cueva de Beni Sid, Vall d'Ebo (bones publ. by Fusté, 1957; mention by Llobregat, 1963; Tarradell, 1963, 1965)

*36 Coveta de l'Or, Beniarrés (La Labor del SIP .. 1934 (1935); Plá, 1961; Hopf & Schubart,1965

**37 Cueva Ampla de Mongó, Denia (v. fig. 59)

38 Cueva del Tío Gil, Denia (La Labor del SIP .. 1951 (1952); ...1959 (1964))

38a Cueva del Moro, Jávea (Explicación....Jávea, 1972)

39 Cueva de la Sendra (Ca. de les Cendres),Cabo de Moraira,Benitachell,Teulada (Breuil & Obermaier, 1914)

40 Cueva de las Maravillas, Jalón (Llobregat,1963)

41 Cueva del Somo,Castell de Castells (Sarrión,1971)

* 42 Cueva de Dalt, Tarbena (Sarrión, 1971)

*43 Cueva Blanca (Cueva Bolumini) Alfarara, Alcoy (Llobregat, 1963 Ponsell, 1952)

44 Cueva del Oro, Gayanes, Alcoy (Visedo, 1925; Ponsell, 1952)

45 Covatelles, Benicadell, Alcoy (Visedo, 1925; Plá, 1947)

**46 Cueva de la Pastora, Alcoy (Ballester, 1946; La Labor del SIP ... 1940-1948 (1949); Pericot, 1951; Riquet, 1953; Fusté, 1957; Tarradell, 1963)

*47 Cueva del Rebolcat, Alcoy (Ballester, 1928)

*48 Cueva & Grieta de les Llometes, Alcoy (Vilanova & Vilaplana, 1920-1922; Pascual, 1963) (v. fig. 67)

*49 Barranc del Sinc, Alcoy (Visedo, 1937)

**50 Cueva del Monte de la Barsella, Torremanzanas, Jijona (Ballester, 1928; Belda, 1929, 1931)

51 Cueva de les Canelobres, Cabezo de Oro, Busot (Breuil & Obermaier, 1914)

**52 Cueva de las Lechuzas, Villena (Soler, 1952) fig. 100

53 Cueva del Lagrimal (Soler, 1968-1969)

54 Cueva del Cochino, Villena (Soler, 1956)

*55 Cueva del Alto, Villena (fig. 102)

56 Cueva de las Delicias, Villena (fig. 98)

*57 Cueva del Font Calent, Alicante (Llobregat, personal communication)

*58 Cueva de la Serreta la Vella, Monóvar (Vilanova, 1881)

*59 Cueva del Peñón del Trinitario, Elda (fig. 68)

60 rock shelter, Bolón, Elda (below and to S of the fore-going)

*61 Cueva del Hacha, Petrel (Pl. CLXXX)

*62 Algorfa (Furgús, 1937)

**63 Cueva de Roca, Orihuela (Vilanova, 1893; Vilanova & de la Rada, 1890; Moreno, 1942; Ballester, 1928)

64 Cueva de la Murada, Peña Roja, Orihuela (Furgús, 1902 rep. 1937)

Albacete

**65 Cueva Santa, Caudete (fig. 75, Pl. LXXVI, LXXVII, CLXXXII)

66 Cueva del Queso, Alpera (sherds found in cave floor)

67 Cueva de las Calaveras, Sierra de Mediobarba Montealegre del Castillo (Zuazo, 1916; Sánchez, 1948)

68 Camarín, Pozo Cañada (personal visit)

69 Cueva la Bella (material in C.E. Petrel)

*70 Sima de los Tiestos, Riopar (Walker, in press. fig. 73) 70/ A:14

71 Cueva del Chorreón, Létur (Sánchez,1948)

72 Cueva de la Higuera,Létur (Sánchez, 1948)

73 Cueva de la Decorada,Férez(Sánchez, 1948) (fig. 103)

Murcia

74 Cerro del Cuchillo,Yecla (Fig. 79)

74a Cantos de la Visera, Monte Arabí, Yecla (Breuil & Burkitt, 1915)

75 Cueva del Peliciego, Jumilla (fig. 61)

76 Cueva del Poniente, Jumilla (material in Museo Municipal, Jumilla)

77 Cueva de Jaime el Barbudo, Jumilla (material in Museo Municipal, Jumilla)

78 Cueva del Cabezo de los Yeseros, Jumilla (material in Museo Municipal, Jumilla)

**79 Cueva de los Tiestos, Jumilla (fig. 61)

80 Cueva del Gato, Moratalla (Cuadrado, 1947)

81 Abrigo Grande, Barranco de los Grajos, Cieza

82 Cueva de la Loma, Molina de Segura

83 Cueva Negra, Fortuna (sherds in cave floor)

84 Cueva Amador, Cehegín (fig. 56)

85 Cueva de los Siete Pisos, Cehegín (fig. 55)

86 Cueva del Calor, Cehegín (fig. 55)

87 Cueva del Camino, Cehegín (fig. 55)

88 Cueva del Reptil, Cehegín (fig. 55)

**89 Cueva de la Loma de los Peregrinos, Alguazas (Sobejano, 1933; Fernández de Avilés, 1946;Nieto,1959)

90 Cueva de la Moneda, Alhama de Granada (possibly the same cave as that referred to by Pericot 1928 at Alhama)

***91 Cueva de los Blanquizares, Totana (~~Cabré~~ Cuadrado Ruiz,1930; Arribas, 1953)

92 Cueva del Campico del Centeno, Totana (fig.74)

93 Cueva de la Jabonera,Totana (map in Mus.Arq., Murcia)

94 Cueva del Palomarico,Totana (" " " ")

95 Cueva de la Tazona,Totana (Siret, 1893)

96 Cueva del Cejo del Pantano,Totana (Martínez Santa Olalla, et al., 1947)

97 Cueva de Montajú, Ramonete, Lorca (Siret & Siret, 1887)

98 Cueva de la Bermeja,Hinojar (map in Mus.Arq., Murcia)

99 cave at Naval Base, Cartagena (P. Urena, personal communication)

100 Cueva de Pelcheles, Ifre, Mazarrón (Siret & Siret, 1887)

101 Cueva Ahumada, Ifre, Mazarrón (Siret & Siret, 1887)

102 Cueva de Parazuelos, Ifre, Mazarrón (Siret & Siret, 1887)

103 Cueva del Agua, Ramonete, Lorca (Siret & Siret, 1887)

104 Cueva de los Toyos, Ifre, Mazarrón (Siret & Siret, 1887)

105 Cueva de Lucas, Águilas (Siret & Siret, 1887)

(The map in Mus.Arq., Murcia, also lists from Jumilla Covachos del Saltador, Abrigos de la Solana de Rincón de la Matanza, and Abrigos de la Solana del Molar as copper age sites.)

Almería

106 Cueva Ambrosio, Vélez Blanco (Jiménez, 1962)

107 Cueva de Fuente de los Molinos, Vélez Blanco (sherds in cave floor)

*108 Cueva de los Letreros, Vélez Blanco

109 Cerro de la Torre, Albox (Mus.L.Siret, Almería)

110 Cueva del Castillo, Cobdar(" " " ")

111 Cueva de la Cerra, Turre (" " " ")

112 Cueva de los Murcieguillos, Turre (" " " ")

113 Cueva de la Chimenea, La Huelga, Sorbas (Mus.L.Siret, Almería)

114 Cueva de la Gitana (ibidem)

115 Cueva Bajica, Canjayar (ibidem)

116 Grave 66, Los Millares, Gador (Leisner & Leisner, 1943)

Jaén

*117 Cueva Portillo, Navas de S. Pedro (Magariño, 1970; Informe General..., 1970)

118 Cueva Secreta, Poyo Manquillo (ibidem)

119 Cueva de Haza del Trillo, Peal de Becerro (de Mergelina, 1944)

120 Cueva de Cabra, Santo Cristo (Navarro, 1886)

121 Cueva de Fuente de las Víboras, Santo Cristo

Granada

122 Cueva del Cerro del Greal, Domingo Pérez (Pellicer, 1957-1958; Berdichewsky, 1964)

123 Cueva de Campotéjar (Spahni, 1958)

124a Cueva de la Campana, Carigüela, Piñar (Pellicer, 1964)

*124 Cueva de la Carigüela, Piñar (Pellicer, 1964)

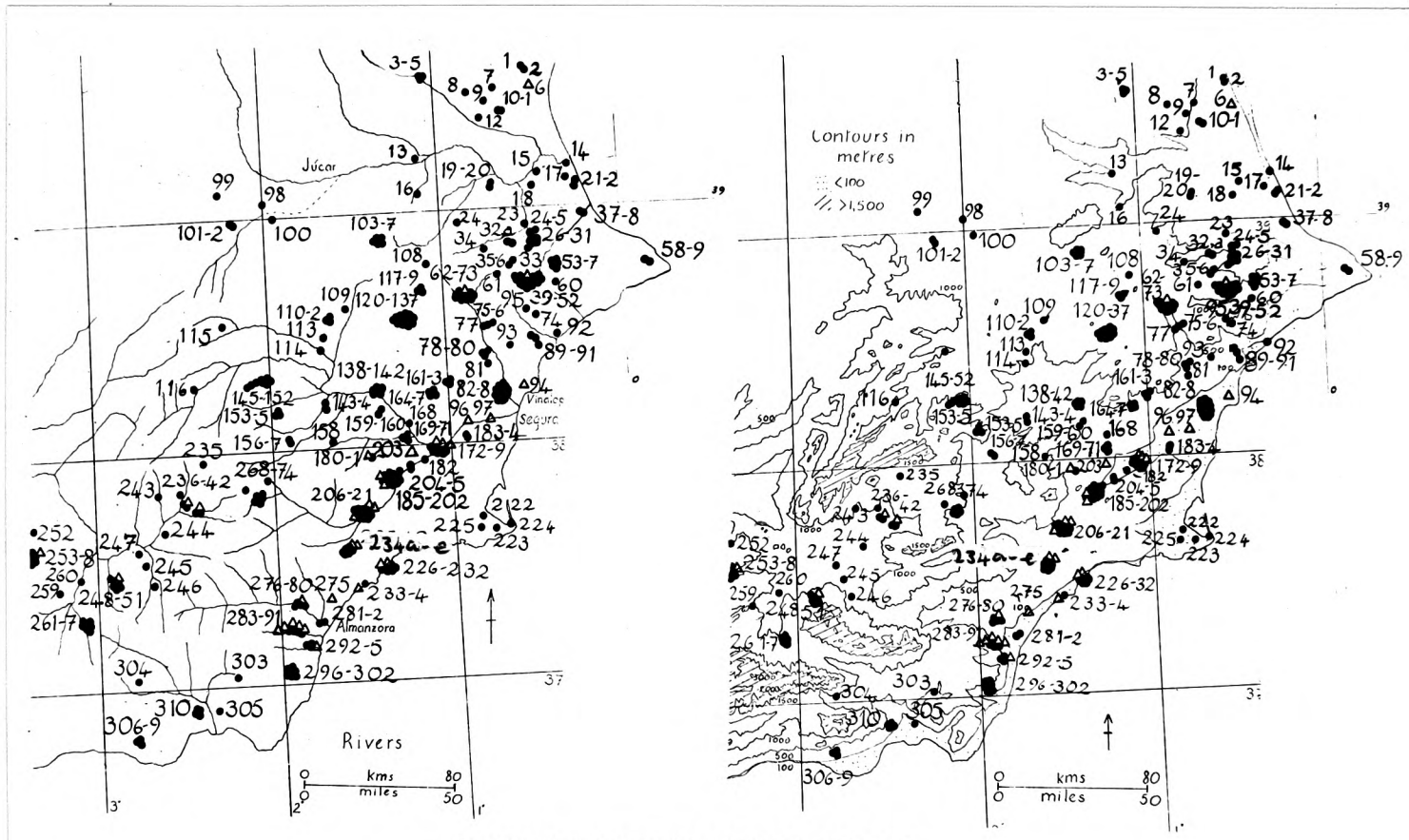
*125 Cueva del Agua, Iznalloz (Pellicer, 1964)

*126 Cueva del Barranco de las Palomas, Monachil (Taboada, 1929)

127 Cueva del Barranco del Picón, Monachil

128 Cueva de los Murciélagos, Albuñol (Góngora, 1868)

(Omitted: Cueva de la Vieja, Zubia and Cueva de Frage, Iznalloz: García Sánchez, 1963)

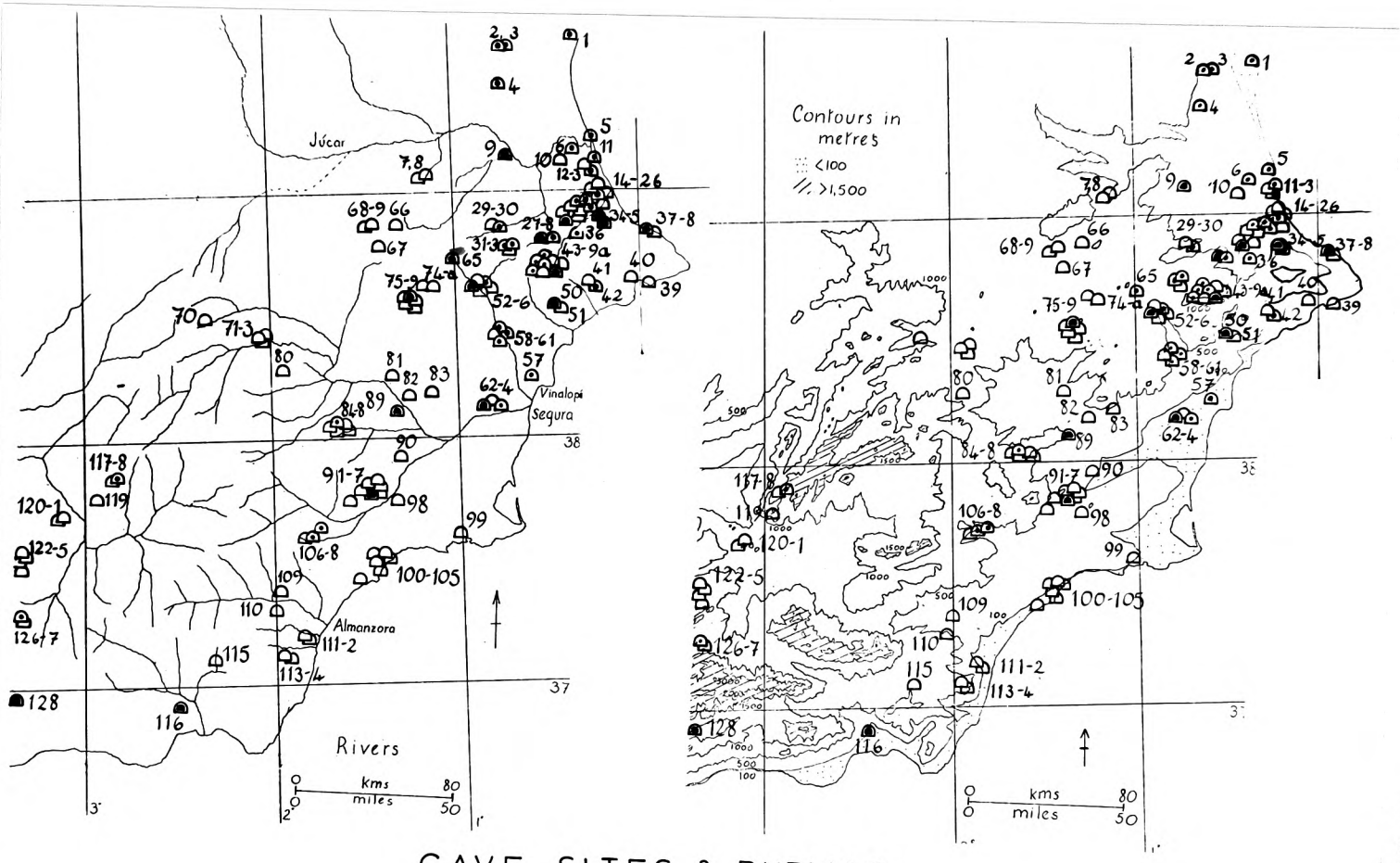


SETTLEMENTS, OPEN SITES, CISTS

●

△ "Argaric" finds

Map 15.16



CAVE SITES & BURIALS

- Caves with finds
- "Splendid" cave burials
- Caves with skeletons

Maps 13, 14

Maps 15,16

Distribution of Open Sites and Find Spots of pottery, bifacial flint arrow-points, metalwork and objects of personal adornment. Cists and other Argaric graves are included. Isolated finds of polished stone axes are not shown. Open triangles refer to sites with Argaric pottery or other typically Argaric material.

1 Castillarejo, Cheste (San Valero, 1944)

2 Alto de los Castillarejos (Tarradell, 1965)

3 Cerro del Tesoro, Requena (Tarradell, 1963, 1965)

4 Cerro de la Peladilla, Requena (" " "

5 Campo de Arcís, Requena (" " "

6 Montanyeta de Cabrera, Vedat, Torrente (La Labor del SIP ... 1931 (1932); Tarradell, 1963; Fletcher & Plá, 1956)

7 Chiva (Tarradell, 1963, 1965)

8 Castellar, Siete Aguas (Tarradell, 1963, 1965)

9 Cerro Turche, Buñol (Jiménez & San Valero, 1944)

10 Alto del Coll dels Barrancons, Torís (Tarradell, 1963, 1965)

11 El Castellot, Torís (Tarradell, 1963, 1965)

12 Montrotón, Yátova (Jiménez & San Valero, 1944)

13 Castillo de Basta, Cofrente (Tarradell, 1963, 1965)

14 Les Oliveretes, Cullera (Tarradell, 1963, 1965)

15 Alcira (Tarradell, 1963, 1965)

16 Peña de la Dueña, Teresa de Cofrentes (Alcácer, 1946; Tarradell, 1963)

17 Puntal de l'Aiguero, Corbera de Alcira (Tarradell, 1963, 1965)

18 Cabezo del Barranco del Mir, Carcagente (Tarradell, 1963, 1965)

19 Altico de la Hoya, Navarrés (Alcácer, 1961)

20 Ereta del Pedregal, Navarrés (La Labor...1945 (1946); Fletcher, 1961; Fletcher & Plá, 1964)

21 Serreta del Pas Buvar, Tabernes de Valldigna (Tarradell, 1963, 1965)

22 Pena del Migdía, Tabernes de Valldigna (ibidem

23 Játiva (ibidem)

24 Tossal Redó, Bellús (Tarradell, 1958)

25 Tossal del Caldero, Bellús (Tarradell, 1958)

26 Atarcó, Bélgida (Jornet, 1928)

27 Camino de Alforgás, Bélgida (ibidem)

28 Caseta del General, Bélgida (ibidem)

29 Mendola, Bélgida (ibidem)

30 Benipri, Bélgida (ibidem)

31 Rendaguana, Bélgida (ibidem)

32 Mollé de les Mintires, Ayelo de Malferit (Tarradell, 1963, 1965)

32a La Solana, Ayelo de Malferit (Plá, 1961)

33 Sefón de Fanegaes, Albaida (Tarradell, 1963, 1965)

34 El Serruig, Mogente (Tarradell, 1963, 1965)

35 Cabezo del Navarro, Onteniente (Tarradell, 1963, 1965)

36 Tossal d'Alforins, Bocairente (Tarradell, 1963, 1965)

37 Castell de S. Juan, Gandía (" " ")

38 Els Bancalets, Gandía (" " ")

Alicante

39 El Puig, Alcoy (Visedo, 1950)

40 El Cercat, Cayanes (Ponsell, 1952)

41 El Flare, Agres, Alcoy (Ponsell, 1952)

42 La Mola, Agres (Ponsell, 1952)

43 Cabezo de Muriola, Alcoy

44 Mola Alta de Serelles, Alcoy (Botella, 1926, 1928)

45 Adzaneta d'Albaida

46 Mas de Menente, Alcoy (Pericot & Ponsell, 1928; La Labor del SIP ... 1928 (1929))

47 Ull del Moro (Visedo, 1925)

48 Horno de Els Dubots (Pericot, 1946)

49 El Castellaret (Ponsell, 1952)

50 Les Roques, Alcoy (Visedo, 1959)

51 Mas del Corral, Alcoy (Visedo, 1959)

52 Mastec, Alcoy (Visedo, 1959)

52a San Cristóbal, Concentaina (Ponsell, 1952)

53 El Conico, Llorcha (Ponsell, 1952)

54 El Castellet, Margasida (Ponsell, 1952)

55 Tossal de Roca, Vall d'Alcalá (Ponsell, 1952)

56 Peña de la Retura, Vall d'Alcalá (Ponsell, 1952)

57 Peña Foradá, Vall d'Alcalá (Ponsell, 1952)

58 Cabo de S. Martín, Jávea (Tarradell, 1963, 1965

59 Isla de Portichol, Jávea (Tarradell, 1963, 1965

60 Peña Roja, Cuatretondeta (Pericot, 1928; La Labor del SIP...1928 (1929))

61 Peña de Blasca, Baneres (Ponsell, 1952)

62 El Serrico, Villena (Ponsell, 1952)

63 Casa de Lara, Villena (Soler, 1961)

64 Cabezo Redondo, Villena (fig. 102)

65 Cerrico de la Escoba, Villena (fig. 102)

66 La Macarolla, Acequia del Rey, Villena (Palacio Municipal, Villena)

67 Puntal de los Carniceros, Villena (fig. 97)

68 Peñón de la Zorra, Villena (fig. 102)

69 La Languilla, Villena (fig. 102)

70 Cabezos de Valera, Villena (Palacio Municipal)

71 Peñón del Rey, Villena (" ")

72 Las Peñicas, Villena (fig. 98)

73 Arenal de la Virgen, Villena (Soler, 1957)

74 Fregenal de la Fuente Mayor, Torremanzanas, Jijona (Belda, 1944)

75 Catí Foradá, Petrel (Jiménez de Cisneros, 1909a; 1911 (fig. 77)

76 Mirabuenos, Petrel (personal visit)

77 Monastil, Elda (Centro Excursionista Eldense)

78 La Loma del Cementerio, Novelda (Jiménez de Cisneros, 1909a; Explicación... 1950).

79 Murón de la Horna, Novelda (ibidem)

80 Cerro de la Mola, Novelda (ibidem)

81 Aspe (Jiménez de Cisneros, 1909a; Explicación... 1950)

82 Laderas de Vinalopó, Elche (fig. 67)

83 Figuera Redonda, Elche (fig. 66)

84 Castellar de Morera, Elche (fig. 66) Jiménez de Cisneros 1909, 1909a, 1910)

85 Tabayá, Elche (Jiménez de Cisneros, 1909a)

86 Carayala, Elche (Jiménez de Cisneros, 1919)

87 La Rata, Elche (Tarradell, 1963, 1965)

88 Casa Blanca, Elche (" " ")

89,90 San Vicente de Raspeig - 2 prehistoric settlements (Cuenca - personal communication)

91 Sierra Grossa, Alicante (Llobregat, 1964)

92 Isla de Campello (Figueras, 1934)

93 Cabezo de El Negret, Agost (Jiménez de Cisneros, 1912; Explicación.... 1950)

94 Santa Pola (Ibarra y Ruiz, 1895)

95 Peñón de Caro-Chita, La Torre de Massanes (Llobregat, 1964)

96 Laderas de San Antón, Orihuela (Albert, 1945; Furgús 1902, 1904 rep. 1937)

97 Laderas del Castillo, Callosa de Segura (Colominas, 1931; Furgús 1902, 1904 rep. 1937

(A megalithic construction described at Monforte del Cid by Fletcher, 1945, has been omitted.)

Albacete

98 Acequión, Albacete (Martínez Santa-Olalla, 1951 Sánchez, 1948)

99 Barrax (Sánchez, 1948)

100 Las Carrineras de D. Camino, Ojos de S. Jorge (Sánchez, 1948)

101 Las Morras de Hoyas Vacas (Sánchez, 1948)

102 Vandelaras (Sánchez, 1948)

103 Cerro de los Moros, Montealegre del Castillo (Sánchez, 1948)

104 Cortijo del Conde, Montealegre del Castillo (Sánchez, 1948)

105 Los Castillicos, Montealegre del Castillo (Sánchez, 1948)

106 Cerro de los Castellares, Montealegre del Castillo (Albacete Museum)

107 El Cegarrón, Montealegre del Castillo (Sánchez, 1948) (fig. 103)

108 Atalaya, Caudete (Sanchez, 1948)

109 Morrón de la Flórida, Ontur (Sánchez, 1948)

110 Puntal de los Conejeros, Tobarra (Sánchez, 1948

111 Cerrico de los Moros, Tobarra (Sánchez, 1948)

112 Los Toriles, Tobarra (Sánchez, 1948)

113 Cerro del Pino, Hellín (Sherds in Mus. Arq., Murcia)

114 Los Calderones, Azaraque, Agramón (Sánchez, 1948) (fig. 103)

115 Peñón del Tesoro, Riopar (S. Santomaría - personal communication)

116 Esquina de la Peña, Parolís, Yeste (Gonzalo - personal communication)

Murcia

117 Cerrico de los Moros, Monte Arabí, Yecla

118 Cerro de la Campana (figs. 78, 79)

119 Los Torrejones, Yecla (fig. 79)

120 La Morra del Moro, Jumilla (Map in Mus. Arq., Murcia)

121 Cerrico Conejero, Peñas Blancas (ibidem)

122 Cerrico de los Conejos, Jumilla (ibidem)

123 Cerro del Moro, Jumilla (ibidem)

124 Gargociles del Escabezado, Jumilla (ibidem)

125 Cerro de los Tiestos, Jumilla (ibidem)

126 Cerro del Buen Aire, Jumilla (ibidem)

127 Cerrico Redondo, Jumilla (ibidem)

128 El Castillo, Jumilla (ibidem)

129 La Muralla, Jumilla (ibidem)

130 Cerrico de Sta. Ana la Vieja, Jumilla (ibidem)

131 Coimbra de la Buitrera, Jumilla (ibidem)

132 Los Castillicos, Jumilla (ibidem)
133 Cabezo del Oro, Jumilla (ibidem)
134 La Zella, Jumilla (ibidem)
135 Fuente Pino, Jumilla (ibidem)
136 El Portichuelo, Jumilla (ibidem)
137 El Prado, Jumilla (fig. 62-4)
138 Castillico, Cieza (Map in Mus. Arq., Murcia)
139 Las Marirías, Cieza (Martínez Santa-Olalla et al 1947; Millán, 1950)
140 Saltador de Marín, Cieza (Map in Mus.Arq., Murcia)
141 Monte de las Cruces, Cieza (ibidem)
142 Morrón de Bolbax, Cieza (ibidem; fig. 55)
143 Cañaverosa, Calasparra (Cuadrado, 1944)
144 Santuario, Virgen de la Esperanza, Calasparra (Map in Mus. Arq., Murcia)
145 Peña Jarota, Moratalla-Nerpio (ibidem)
146 Peñón del Cerro del Castellar, El Sabinar, Moratalla (possibly Cuadrado 1947; see text)
147 Muela de Sorbas, Moratalla (Map in Mus.Arq., Murc
148 Molata de Fuensanta, Moratalla(" " " " "
149 Puntal de la Cueva de la Higuera, Moratalla (ibidem)
150 Moratalla la Vieja, Moratalla (ibidem)
151 Cerro de las Víboras, Bagil, El Sabinar, Moratalla (visited by present writer)
152 Cerrico de la Estación, Moratalla (Map in Mus. Arq., Murcia)
153 Robledillo, Caravaca (ibidem)
154 Barranco de las Cañas, Caravaca (Jiménez de Cisneros, 1929)
155 Loma de Horadada, Archivel, Caravaca (Jiménez de Cisneros , 1904)
156 El Saltador, Cehegín (Map in Mus.Arq., Murcia)
157 La Marroda, Cehegín (ibidem)
158 Fuente la Higuera Bullas (ibidem)
159 Cabezo del Judío, Abarán (ibidem)
160 Cabezo de la Carrahila, Abarán (ibidem)
161 Barranco de la Gotera, Abanilla (Jiménez de Cisneros, 1914; Explicación ... 1950)
162 Sierra de la Espada, Abanilla (Explicación... 1950)
163 Sierra de Abanilla (Jiménez de Cisneros, 1912a)
164 Cabezo de la Mesa, Caprés, Fortuna (Mus. Arq., Murcia; fig.80)
165 Sierra del Baño, Fortuna (Map in Mus.Arq., Murcia
166 Castillejo de los Baños, Fortuna (ibidem)

167 Castillico de las Peñicas,Fortuna (Map in Mus. Arq., Murcia)

168 Cabezo Redondo, Lorquí (ibidem)

169 Cabezo de la Zobrina, Alguazas (ibidem)

170 La Presa, Alguazas (material in Mus. Arq., Murcia, fig. 55)

171 Cabezo de Lubina, Alguazas (same as 169 ?) (Mus. Arq.,Murcia, fig. 55)

172 Monteagudo, Murcia (fig. 90)

173 Puntarrón del Chico, Beniaján, Murcia (fig.71)

174 Santa Catalina del Monte, Murcia (fig. 80)

175 Fuensanta,Murcia (Map in Mus.Arq.,Murcia)

176 Castillo del Puerto de la Cadena, Murcia(fig.8

177 Castillo de la Puebla, Murcia (Map in Mus.Arq.)

178 Cerro del Santuario de la Luz,Murcia (ibid.)

179 Cabecico del Tesoro, Verdolay (ibid.)

180 La Almolaya, Pliego (Cuadrado,1945; de la Cierva & Cuadrado, 1945) (fig. 96)

181 El Sangrador de las Anguilas,Pliego (Map in Mus. Arq.,Murcia)

182 Alcartarilla (Fernández de Avilés & Cssorio, 1930, and fig. 72)

183 Cabezo Negro, Zeneta (personal visit)

184 Lo Bellando, Cañadas de S. Pedro,Zeneta (Fernández de Avilés & Ossorio, 1930)

185 Morrón de Totana (Map in Mus.Arq.,Murcia)

186 La Bastida, Totana (Martínez Santa-Olalla et al 1948) (fig. 92 - 95)

187 Cerro de los Sombreros,Totana (Map in Mus.Arq. Murcia)

188 Las Anchuras, Totana (Siret & Siret, 1887)

189 Cerro de la Cabeza Gorda,Totana (fig. 91)

190 Llano Alto de la Parrilla, Totana (Map in Mus Arq., Murcia)

191 Cabezo de la Embestida, Totana (Map in Mus.Arq Murcia)

192 Cabezo de Juan Climaco,Totana (Martínez Santa-Olalla et al.,1948)

193 Campico de Lébor, Totana (del Val , 1948)

194 Los Picaricos,Totana (Martínez Santa-Olalla et al., 1948)

195 Los Mortolitos,Totana (ibidem)

196 Las Palomas,Totana (Map in Mus.Arq.,Murcia)

197 Rincón de Yechar, Totana (ibidem)

198 Huerto del Corazón de Jesús,Totana (ibidem)

199 Cejo del Pantano, Totana (Martínez Santa-Olalla et al., 1948)

200 La Presa. Totana (ibidem)

201 Las Cabezuelas, Totana (Map in Mus.Arq.,Murcia)

202 Altos de la Sierra de Chichar,Alhama (ibidem)

203 Cabezo Redondo, Archena (del Val, 1945)

204 El Castellar, Librilla (Map in Mus. Arq.,Murcia)

205 Escalera de los Moros, Casas Nuevas,Librilla (fig. 101)

206 Cabezo del Moro, Lorca (Map in Mus.Arq.,Murcia

207 Cabezo de la Yesera,Tercia,Lorca (ibidem)

208 Solana de Benarrubia, Béjar,Lorca (fig. 72)

209 Cabezo de los Gitanos, S. Cristóbal,Lorca (Map in Mus. Arq., Murcia)

210 Cordillera de Tarabes, Lorca (ibidem)

211 Casa del Niño School foot-ball ground, Lorca (fig. 70)

212 Monte del Castillo and Los Pilones, Lorca (personal visit)

213 Cabezo del Madroño, Avilés, Lorca (Map in Mus. Arq., Murcia)

214 Cabezo de la Encanta, Coy, Lorca (Torno,1958)

215 Cerro de las Viñas, Coy, Lorca (Torno, 1958)

216 La Alcanara, La Escucha, Furia,Lorca (fig. 81)

217 La Capellana, Furias, Lorca (Map in Mus.Arq., Murcia)

218 Canteras de Murviedro, Lorca (fig. 54)

219 Castellón, Lorca (Map in Mus. Arq., Murcia)

220 Vilaverde, Lorca (Fernández de Avilés & Ossorio 1930)

221 Rambla Bermeja, Lorca (Jiménez de Cisneros,1903

221a Fuensanta, Lorca (Map in Mus. Arq., Murcia)

222 Los Almendros, Torre Pacheco, (fig. 72)

223 Cabezo Agudo, La Unión (fig. 65)

224 Dunas de las Amoladeras, Cabo de Palo, Cartagena (fig. 65)

225 Pozo Estrecho, Cartagena (Mus. Arq., Murcia)

226 Parazuelos, Ifre, Mazarrón (Siret & Siret,1887)

227 Zapata, Ifre, Mazarrón (ibidem)

228 La Roca, Ifre, Mazarrón, (ibidem)

229 Cabezo de Ifre, Ifre, Mazarrón (ibidem)

230 Isla Plana, Mazarrón (Map in Mus.Arq.,Murcia)

231 Las Cañuelas, Mazarrón (Siret & Siret, 1887)

232 Cerro de la Cueva de la Palica, Mazarrón (Map in Mus. Arq., Murcia)

233 Cerro del Moro and Cabezo de las Piedras, Águila (Siret & Siret, 1887)

Addendum

234a Villerda, Puerto Lumbreras (Mus.Arq., Murcia)

234b Arsenal de las Piedras de Rayo, Puerto Lumbreras (ibid, Mus.Prov., Almería)

234c Cañadas del Alba, Puerto Lumbreras (de la Vega del Sella, 1929)

234d Loma del Tío Ginés, Puerto Lumbreras (Mus.Arq., Murcia)

234e Barranco del Asno, Puerto Lumbreras (Mus.Arq., Murcia) fig. 72.

239 Cerro de la Virgen de los Cipreses, Galera (Cabré, 1922)

240 Cerro de la Virgen, Orce (Schüle & Pellicer, 1966) (is this same as 239 ?)

241 Cerro del Cementerio, Orce (Cabré, 1922)

242 Cerro del Saladar, Orce (Cabre, 1922)

243 Castril (Blance, 1959)

244 Benamaurel (García Sánchez, 1963)

245 Baza (García Sánchez, 1963)

246 Caniles (Góngora, 1868; Cabré, 1922)

247 Freila (Góngora, 1868)

248 Cerro del Culantrillo, Gorafe (García Sánchez, 1963)

249 Hoyas del Conquil, Gorafe) García Sánchez, 1963)

250 " " " " " " "

251 material from Gor and Gorafe in Museo Arqueológico Nacional (García Sánchez, 1963)

252 Montejícar (García Sánchez, 1963)

253 Cájar (Pellicer, 1958; García Sánchez, 1963)

254 Monachil (Cabre 1922)

255 Dúdar (Pellicer & García Sánchez, 1957)

256 Atarfe (Carriazo, 1925)

257 Deifontes (García Sánchez, 1963)

258 Pinos, Genil (García Sánchez, 1963)

259 Laborcillas (García Sánchez, 1963)

260 Loma de las Sepulturas, Becerra (García Sánchez 1963)

261 Huéneja (Cabré, 1922)

262 Aldeire (García Sánchez, 1963)

263 Alquife (Gómez-Moreno, 1949)

264 Jeres del Marquesado (Casas Morales, 1953)

265 Alcudia (Góngora, 1868)

266 Guadix (Pericot, 1958)

267 Beas de Guadix, Cerro de las Grajas (García Sánchez, 1963)

234 Cocedores, Águilas (Siret & Siret,1887)

Granada

235 Puebla de D. Fadrique (Cabré,1922;Pericot,1958)

236 Cerro del Villar, Galera (Cabré& de Motos,1920; Cabré,1922)

237 Cerro del Real, Galera (Pellicer & Schüle,1964)

238 Cerro de Tur, Galera (Cabré, 1922)

239 Cerro de la Virgen de los Cipreses,Galera (Cabré, 1922)

240 Cerro de la Virgen, Orce (Schüle & Pellicer, 1966) (is this same as 239 ?)

241 Cerro del Cementerio, Orce (Cabré,1922)

242 Cerro del Saladar, Orce (Cabre, 1922)

243 Castril (Blance, 1959)

244 Benamaurel (García Sánchez, 1963)

245 Baza (García Sánchez, 1963)

246 Caniles (Góngora, 1868; Cabré,1922)

247 Freila (Góngora, 1868)

248 Cerro del Culantrillo, Gorafe (García Sánchez, 1963)

249 Hoyas del Conquil, Gorafe) García Sánchez,1963)

250 " " " " " " "

251 material from Gor and Gorafe in Museo Arqueológico Nacional (García Sánchez, 1963)

252 Montejícar (García Sánchez, 1963)

253 Cájar (Pellicer, 1958; García Sánchez, 1963)

254 Monachil (Cabre 1922)

255 Dúdar (Pellicer & García Sánchez, 1957)

256 Atarfe (Carriazo,1925)

257 Deifontes (García Sánchez, 1963)

258 Pinos, Genil (García Sánchez, 1963)

259 Laborcillas (García Sánchez, 1963)

260 Loma de las Sepulturas, Becerra (García Sánchez 1963)

261 Huéneja (Cabré,1922)

262 Aldeire (García Sánchez, 1963)

263 Alquife (Gómez-Moreno, 1949)

264 Jeres del Marquesado (Casas Morales, 1953)

265 Alcudia (Góngora, 1868)

266 Guadix (Pericot, 1958)

267 Beas de Guadix, Cerro de las Grajas (García Sánchez, 1963)

Almería

268 Calar de Leira, Vélez Blanco (personal visit)

269 Cerro de las Ánimas, Vélez Rubio (Colominas & Esbona, 1925)

270 Loma de la Fuente de los Molinos, Vélez Blanco (Breuil, 1935 and personal visit)

271 Loma de la Cueva de los Letreros, Vélez Blanco (Breuil, 1935 and personal visit)

272 Vélez Rubio - 0.5 km to SW of petrol station (personal visit)

273 Cerro de los Judíos, Vélez Blanco (personal visit

274 Cerros de las Canteras, Vélez Blanco (Gil Farrés, 1950)

275 Cabezo de El Oficio, Huércal-Overa (Siret & Siret, 1887)

276 Fuente Álamo, Cuevas (Siret & Siret, 1887)

277 Cabezo de San Miguel, Cuevas de Almanzora (Siret & Siret, 1887)

278 Tres Cabezos, Cuevas de Almanzora (Siret & Siret, 1887)

279 Campos, Cuevas de Almanzora (Siret & Siret, 1887

280 Barranco Hondo, Cuevas de Almanzora (Siret & Siret, 1887)

281 Almizaraque, Herrerías (Cuadrado Ruiz, 1947)

282 Puerto Blanco, Herrerías (Siret & Siret, 1887)

283 Lugarico Viejo, Antas (Siret & Siret, 1887)

284 Fuente Vermeja, Antas (Siret & Siret, 1887)

285 El Argar, Antas (Siret & Siret, 1887; Siret, 1893; Cuadrado Díaz, 1950)

286 El Gárcel, Antas (Siret & Siret, 1887; Siret, 1893; Gossé, 1941)

287 La Gerundia, Antas (Siret & Siret, 1887)

288 Cabezo Largo, Antas (Siret & Siret, 1887)

289 Cabezo del Moro, Antas (Siret & Siret, 1887)

290 Las Perneras, Antas (Siret & Siret, 1887)

291 Qurenima, Cabezo María (Siret & Siret, 1887)

292 Cuartillas, Mojácar (Siret & Siret, 1887; Arribas, 1953)

293 Atalaya de Garrucha (Siret & Siret, 1887)

294 Cabezo de la Raja Ortega, Garrucha (ibidem)

295 Gatas, Turre (Siret & Siret, 1887)

296 Cerro de la Hoya, La Huelga, Sorbas (Museo L. Siret, Almería)

297 Cerro de la Piedra, La Huelga, Sorbas (Museo L. Siret, Almería)

298 La Molata, Sorbas (Mus. L. Siret, Almería)

299 La Risca, La Huelga, Sorbas (Mus. L. Siret)

300 Cerro Castellón, La Huelga, Sorbas (ibidem)

301 La Majá, La Huelga, Sorbas (Mus. L. Siret, Almería)

302 La Recha, Sorbas (Mus. L. Siret, Almería)

303 Terra Venturas, Tabernas (fig. 60) (Arribas & Topp, 1959)

304 Tajo de la Alberca, Canjayar (Mus. L. Siret, Almería)

305 Cerro de la Fuente Rioja (Mus. L. Siret, Almería)

307 El Cerrón, Dalias (Mus. L. Siret, Almería)

308 El Ejido, Dalias (" " " ")

309 Cerronall, Dalias (" " " ")

310 Los Millares complex, Gador (Siret 1893; Almagro & Arribas, 1963)

Plates i - xxii Physical Geography

Plate i — Post-glacial lacustrine sediments in the Barranco de Murta, Agost, Alicante. The figure is sr. Artemio Cuenca Payá, geologist. Angular river gravels can just be seen at base of stratigraphical section exposed by erosion. Above are horizontally bedded sands and clays.

Plate ii — General view of the Barranco de Murta. The present stream is in the reeds. The sediments of plate i show up as light in colour, overlain by darker fluvial gravels. The down-cutting represents rejuvenation of past two or three millennia only. The whole sequence represents the lower terrace deposits. Traces of middle terrace aggradation can be seen in middle distance, and right foreground as an exposed section of massive gravels (early-middle Würm ?).

Plate iii — General view over valley of Río de Mula, Murcia showing recent down-cutting of many tributary streams in foreground and middle distance. Showing as dark in middle distance are middle and upper terraces.

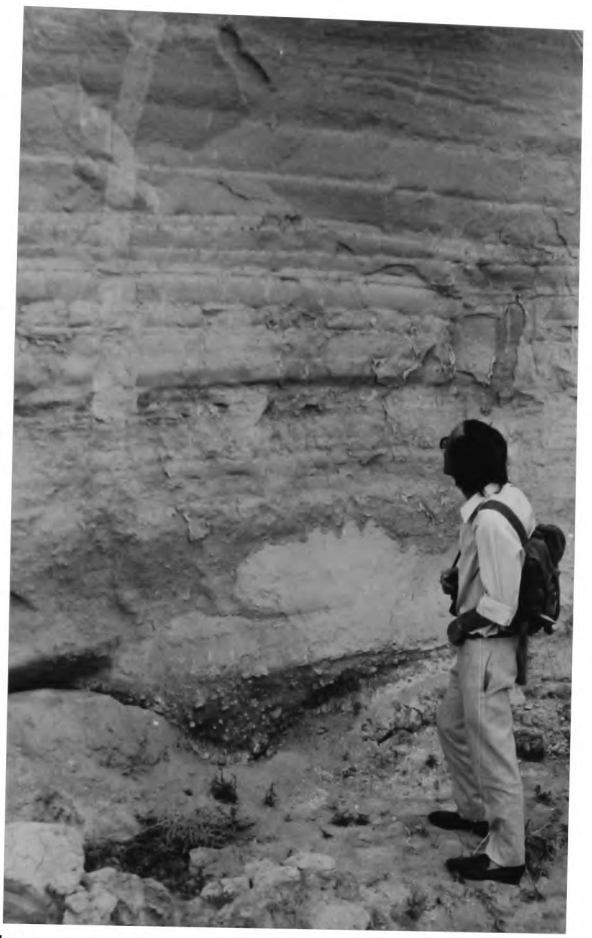
Plate iv — General view over valley of Río Chicano, Abanilla Murcia, with river in palm trees and lower terrace alongside. Middle terrace is horizontal band above tall palm tree in middle distance. Upper terrace is horizontal band of gravels extending from foot of mountain to right-hand side of photograph.

Plate v — Lower terrace of Río de Antas, Almería. Settlement of El Argar is on edge of this terrace. Sands, probably aeolian, lie above horizontally bedded sands and clays.

Plate vi — Lower terrace of Río de Mula, at Albudeite, Murcia, similar sequence to that of plate v.

Plate vii — Lower and middle terrace of Río de Mula, Albudeite Murcia. Here a darker band of fluvial gravels is seen in the uppermost part of the lower terrace.

Plate/



Pl i



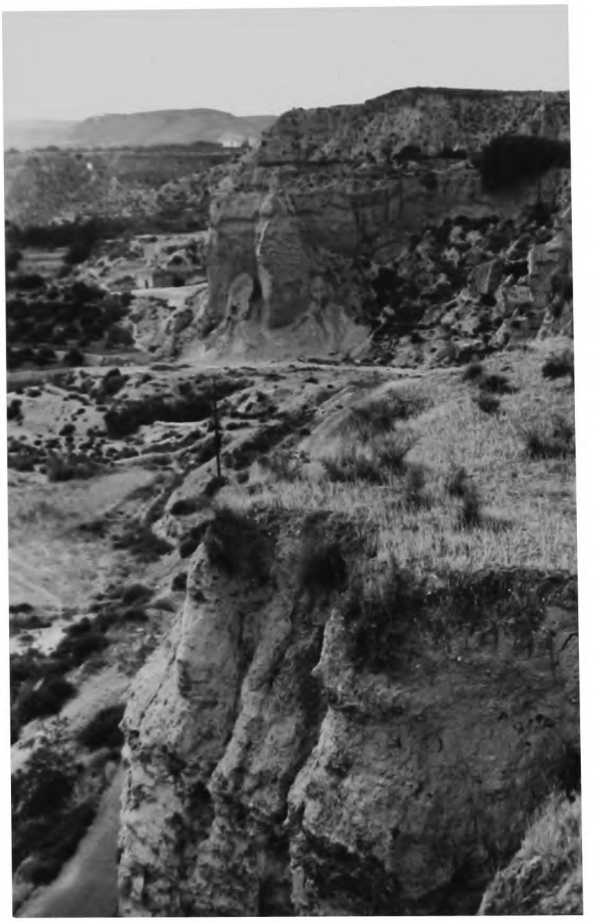
Pl ii



Pl iii



Pl iv



Pl v.



Pl. vi



Pl. vii

Plate	viii	General view over tributary of Vinalopó valley from settlement site of Tabayá, Elche, Alicante. Lower terrace is clearly visible.
Plate	ix	Lower terrace, foreground, and middle terrace, background, of Río de Mula, between Albudeit and Alguazas, Murcia.
Plate	x	Settlement site of Tres Cabezos on edge of low terrace of Río Almanzora, Cuevas de Almanzora, Almería.
Plate	xi	'Tell' of Almizaraque, middle distance, on flood-plain of Río Almanzora, Herrerías, Almería.
Plate	xii	As Plate xi
Plate	xiii	Exposed post-glacial sediments in Rambla de Bateig, Vinalopó valley, Elda, Alicante. Palaeosol at base followed by bedded gravel clays and sands, and finally at top, aeolian sands and, dark, more massive fluvial gravel
Plate	xiv	As Plate xiii.
Plate	xv & xvi	Settlement of Acequión, Albacete, Albacete.
Plate	xvi	Lower and middle terrace of Río de Antas, Antas, Almería at site of El Argar.
Plate	xvii	House walls at settlement of La Bastida. View looks down into Rambla de Lébor, Totana, Murcia. Fierce erosion by recent down-cutt can be seen in cliffs which undercut the prehistoric settlement.
Plate	xviii	Detail of house at La Bastida.
Plate	xix	Gully on hill near La Bastida called Cabezo de Juan Climaco showing thick layer of aeolia sand.
Plate	xx	Settlement defensive wall at Cerro de los Mor Monte Arabí, Yecla, Murcia.
Plate	xxi	2-metre tape and exposed section of solifluct angular gravels and finer gravels and san in upland 'rambla' between Mula-Bullas,Mu
Plate	xxii	2-metre tape and exposed river gravels above aeolian sands, Estación de Baños de Mula, Mula, Murcia - an upland station. Section exposed in side of road to disused statio

Pl. viii



Pl. ix



Pl. x



Pl. xi





Pl xii



Pl xiii



Pl xiv

Pl xv



Pl xvi



Pl. xvii



Pl. xviii





Pl. xix

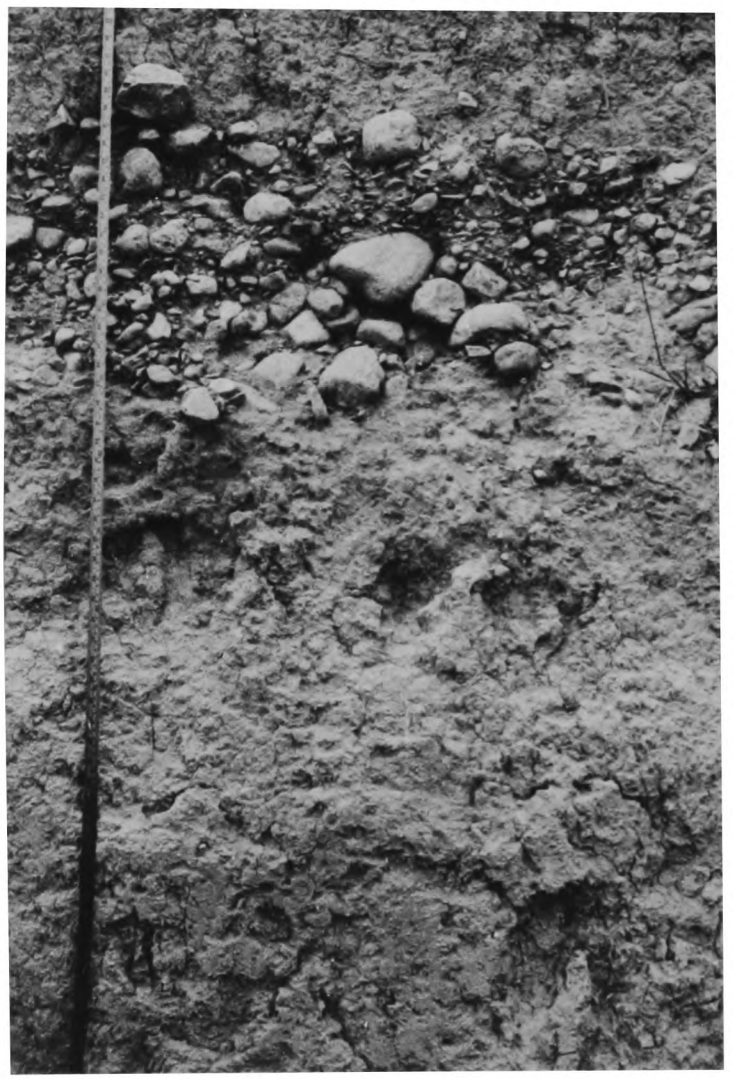


Pl. xx



Pl. xva





Levantine Art and Neothermal Period Sites

Plates I - LXX Figures 1 - 54

Plates

Plate I Fuente del Sabuco, El Sabinar, Moratalla,Murcia (scale in inches)

Plate II ditto

Plate III Cañaica del Calar, El Sabinar, Moratalla,Murcia Site 1 (scale in inches)

Plate IV Cañaica del Calar Site 2. (Scale in inches)

Plate V Solana de las Covachas, Pedro Andrés, Nerpio, Albacete. Detail: two skirted anthropomorphs with deer.

Plate VI Abrigo del Prado del Tornero, Nerpio,Albacete. Detail: chamois.

Plate VII Solana de las Covachas. Deer paintings.

Plate VIII Solana de las Covachas. Ibex paintings.

Plate IX Solana de las Covachas. Deer, archer, giant cervine (?) and skirted anthropomorphs.

Plate X Solana de las Covachas. Cervines and archer.

Plate XI Solana de las Covachas. Ibex.

Plate XII Solana de las Covachas. Deer.

Plate XIII Solana de las Covachas. Skirted anthropomorph.

Plate XIV Solana de las Covachas. Anthropomorph with implement (?) .

Plate XV Solana de las Covachas. Ibexes.

Plate XVI Collado del Guijarral (Jaén), near Parolís, Yeste, Albacete.(Scale in inches.)

Plate XVII ditto

Plate XVIIa Abrigo del Ídolo, Nerpio, Albacete.

Plate XVIII Cantos de la Visera, Monte Arabí, Yecla,Murcia, Site 1. Equine. (Scale in inches.)

Plate XIX Cantos de la Visera, Site 2. Cervine, bird.)
(Scale in inches.)

Plate XX Hindquarters of a mammal painted on roof of rock shelter near Cueva del Mediodía, Monte Arabí, Yecla, Murcia.

Plate XXI Cantos de la Visera, Site 2. Bovines.(Scale ins

Plate XXII ditto

Plate XXIII Cueva de la Vieja, Alpera, Albacete. Archer.
(Scale in inches.)

Plate XXIV Cueva de la Vieja. Cervines. (Scale in inches.)

Plate XXV Cueva de la Vieja. Cervines,archer.(Scale in ins.

Plate XXVI Cueva de la Vieja. Cervines, bovine or pseudo-cervine, and anthropomorph with headgear.
(Scale in inches.)

Plate XXVII Cueva de la Vieja. Skirted anthropomorphs.
(Scale in inches.)

Plate XXVIII Cueva de la Vieja. Small anthropomorphs. (Scale in inches.)

Plate XXIX Barranco de los Grajos, Cieza, Murcia. Principal Painted Rock Shelter (Site 1). Main panel.
(Scale in inches.)

Plate XXX Ditto. Small panel on opposite wall showing two skirted anthropomorphs and a caprine. (Scale in inches.)

Plate XXXI Barranco de los Grajos, Abrigo Grande (Site 2).
(Scale in inches.)

Plate XXXII Ditto.

Plate XXXIII General view of the Barranco de los Grajos.

Plate XXXIV General view of the painted rock shelters of the Barranco de los Grajos. On left is Abrigo Grande and on far right is Principal Painted Rock Shelter.

Plate XXXV Abrigo Grande.

Plate XXXVI Excavation of squares I and II. (Scales in feet and inches.)

Plate XXXVII Abrigo Grande.

Plate XXXIX Excavation showing rock floor of shelter and stratigraphical layers. (Scales in feet and inches.)

Plate	XL	ditto
Plate	XLI	Excavation after removal of balks and exposure of rock floor. (Scales in feet and inches.)
Plate	XLII	Plain sherds from layers 1 and 2. (Scale in cms.
Plate	XLIII	Cardial impressed ware sherd from surface.(" " "
Plate	XLIV	Nineteenth century metal cuff-link from pit. (Scale in cms.)
Plate	XLV	Perforated shell of Donacilla cornea.(Scale cms.
Plate	XLVI	Perforated,decorated bone tube. (Scale in cms.)
Plate	XLVII	Impressed ware sherd. (Scale in cms.)
Plate	XLVIII	Crescentic flint implement, layer 1. (Scale cms.)
Plate	XLIX	Retouched flint blade,layer 1. (Scale in cms.)
Plate	L	Flint awl and end-scraper, layer 1.(" " ")
Plate	LI	Serrated blade,layer 1. (Scale in cms.)
Plate	LII	Unretouched triangles and trapezes,layer 1. (Scale in cms.)
Plate	LIII	Flint implements,layer 1. (Scale in cms.)
Plate	LIV	ditto
Plate	LV	ditto
Plate	LVI	ditto (note microburin.)
Plate	LVII	Cores from various layers.(Scale in cms.)
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Plate	LIX	Backed bladelets,layer 3. (Scale in cms.)
Plate	LX	Flint implements from layer 3, (Scale in cms.)
Plate	LXI	ditto
Plate	LXII	Perforated shell of Donacilla cornea.(Scale cms
Plate	LXIII	Cores and pyramidal scrapers from layer 3.(" "
Plate	LXIV	Implements from layer 4. (Scale in cms.)
Plate	LXV	Scraper from layer 4. (Scale in cms.)
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Pl. I



Pl. II



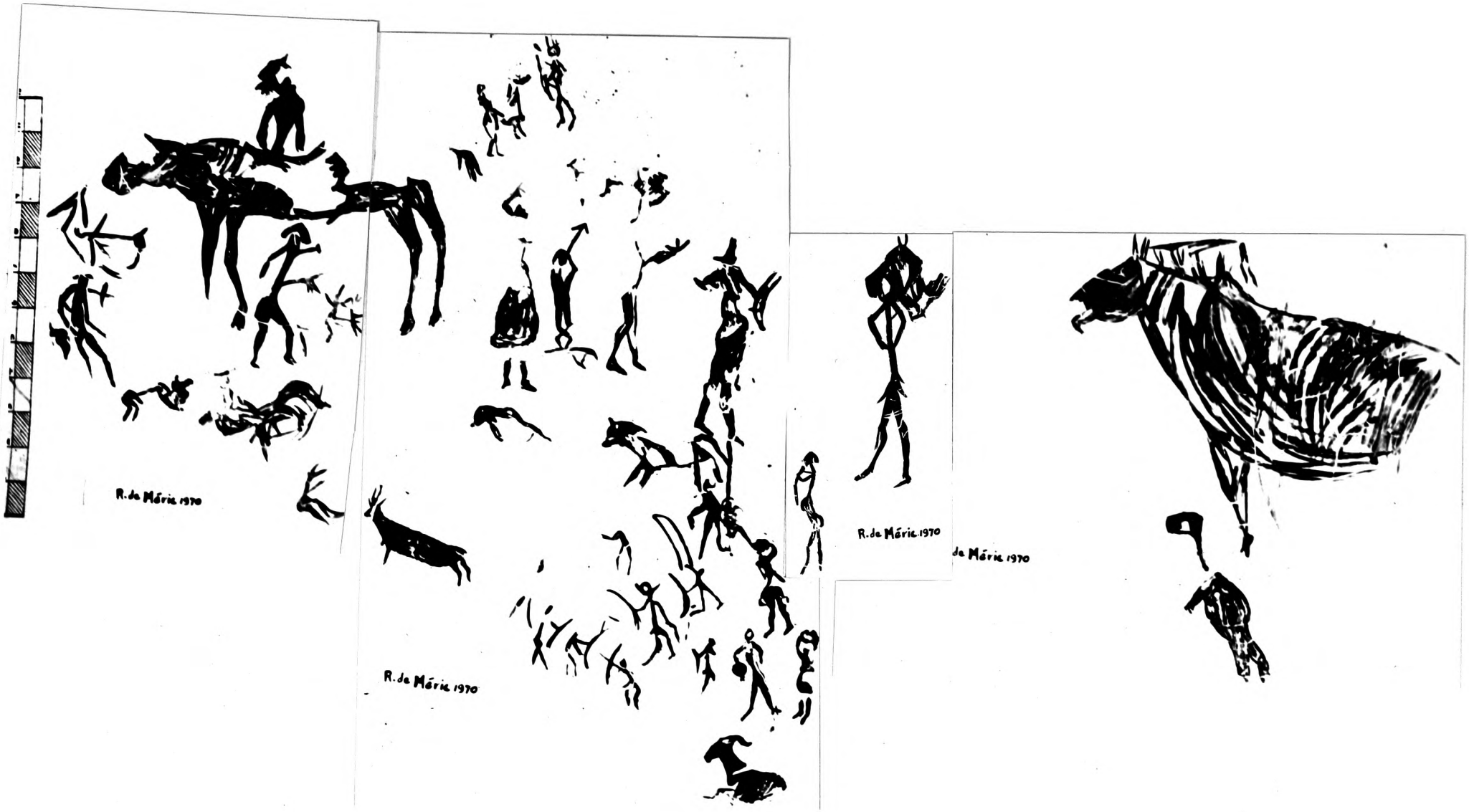


fig. 1

fig.2

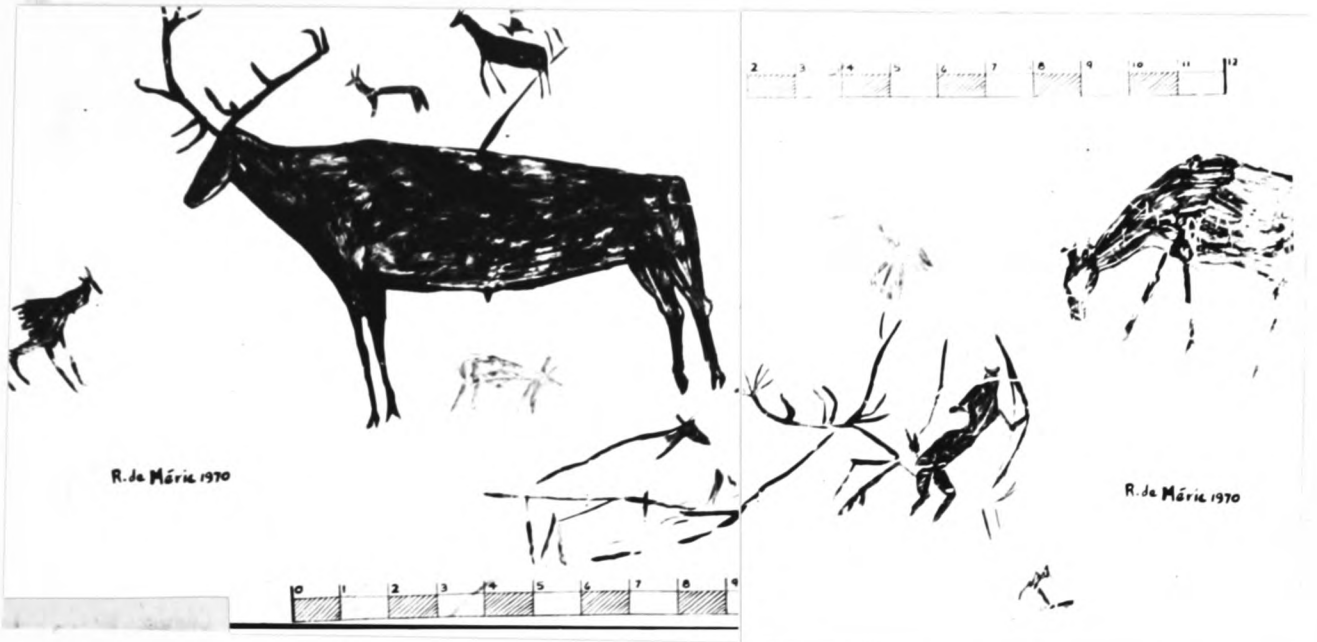


fig.3



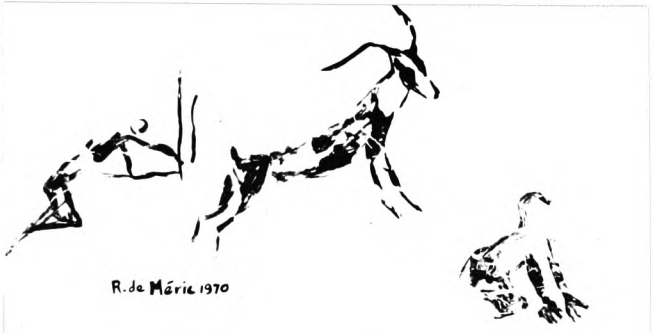
Pl. III



Pl. III

Pl. IV





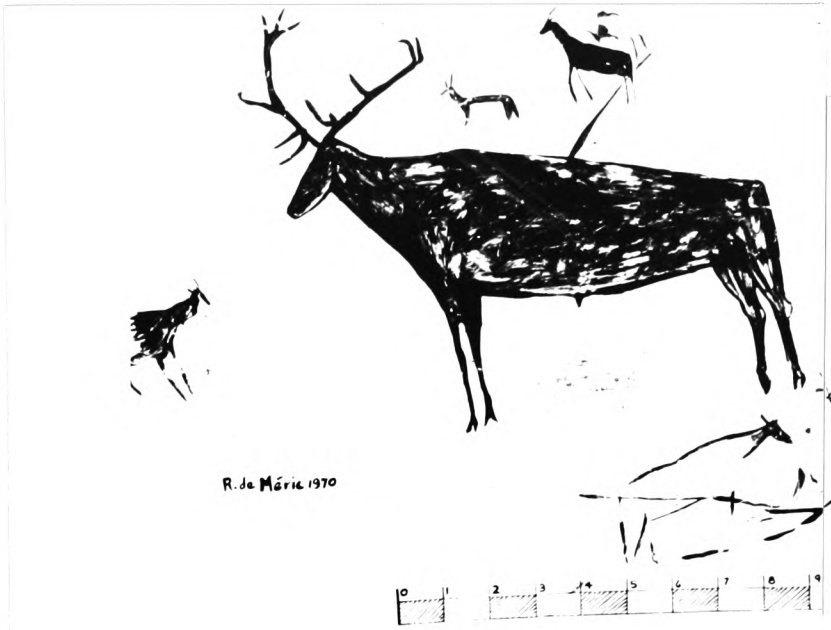




Fig. 4

Fig. 5 Fuente del Sabuco

ARROYO TEJERA
SABINAR — MURCIA
dec 1968

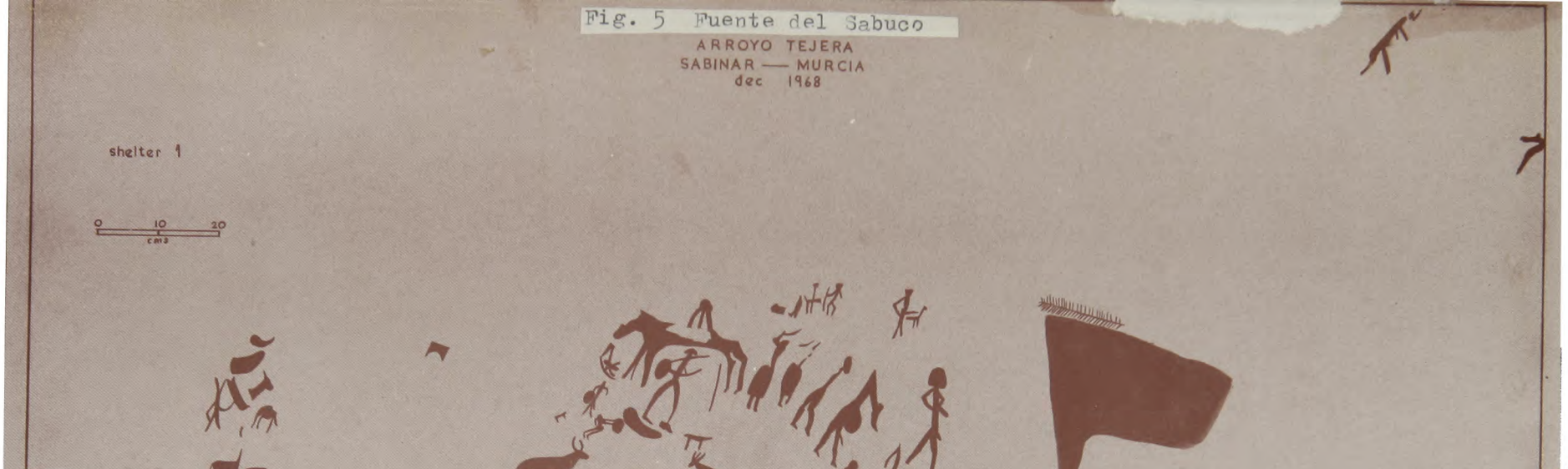


fig 5

Fig. 6 Cañaíca del Calar 1



fig. 6

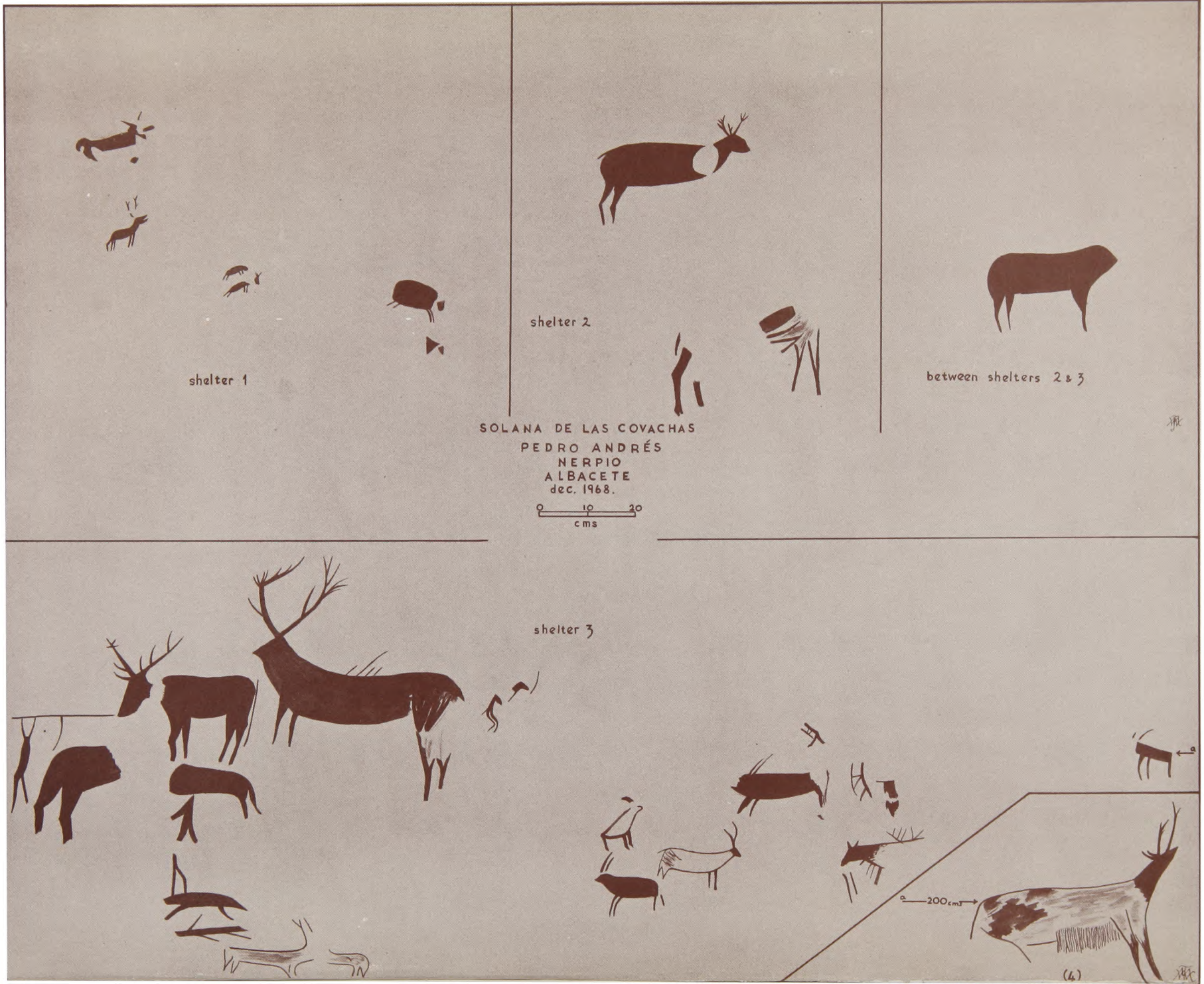

shelter 1
shelter 2
between shelters 2 & 3
SOLANA DE LAS COVACHAS
PEDRO ANDRÉS
NERPIO
ALBACETE
dec. 1968.
0 10 20
cms
shelter 3
0 200 cms
(4)

fig. 7

ESCALAR DE TAPIA

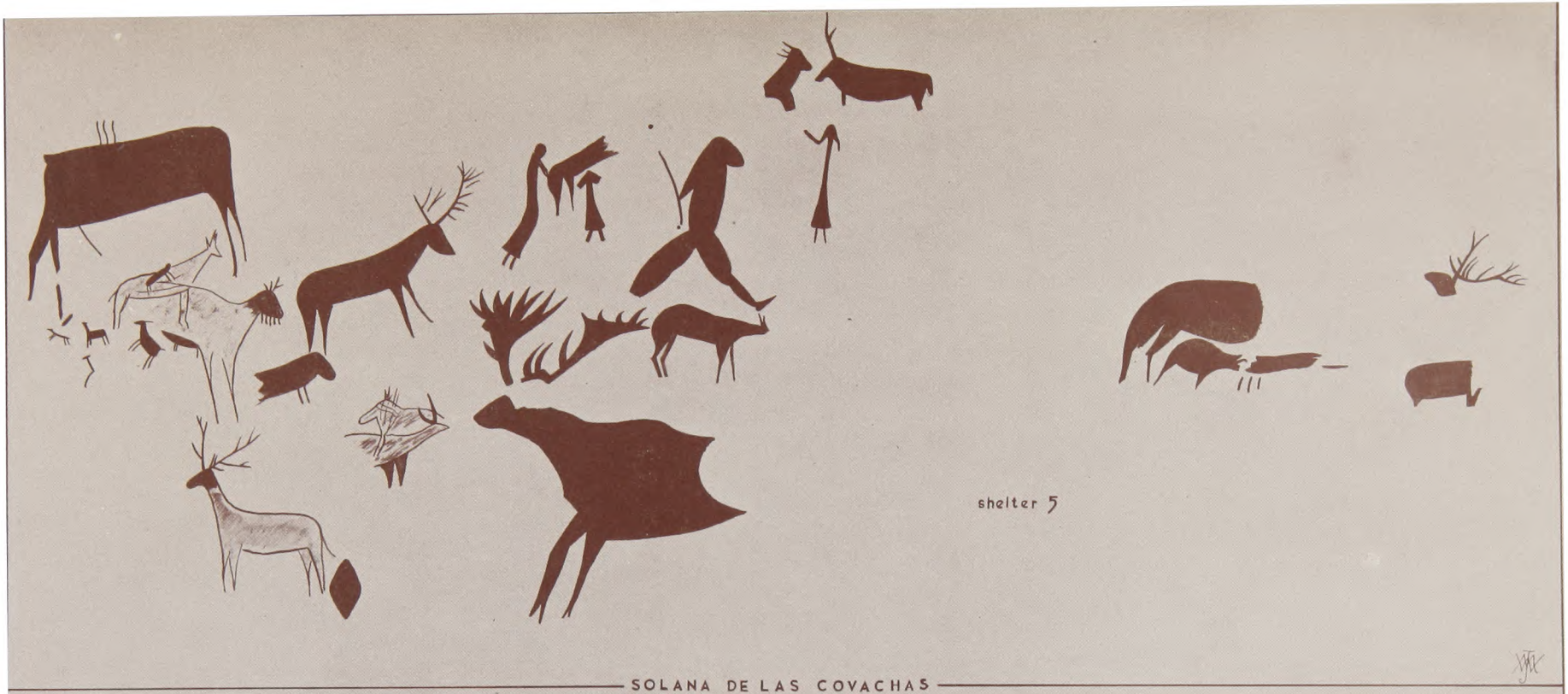
0 10 20

cms



shelter 3

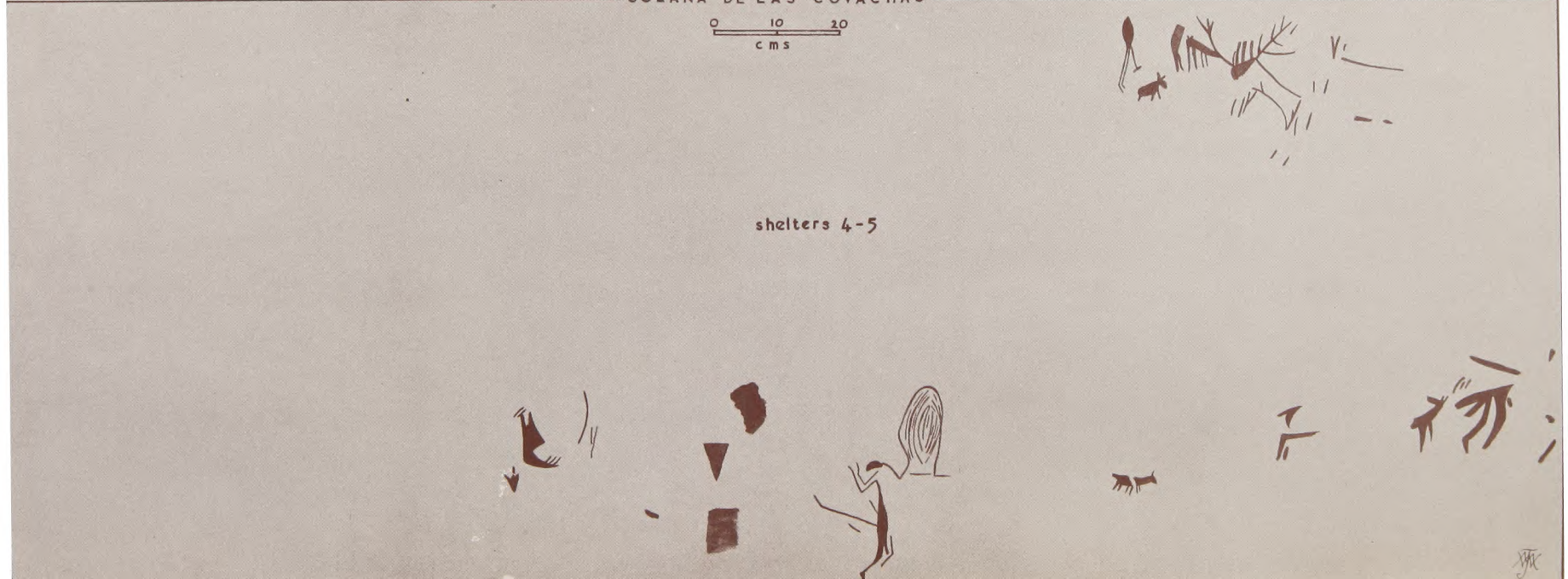
Fig. 8



shelter 5

SOLANA DE LAS COVACHAS

0 10 20
cms

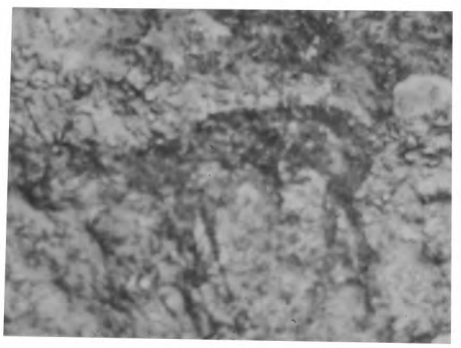


shelters 4-5

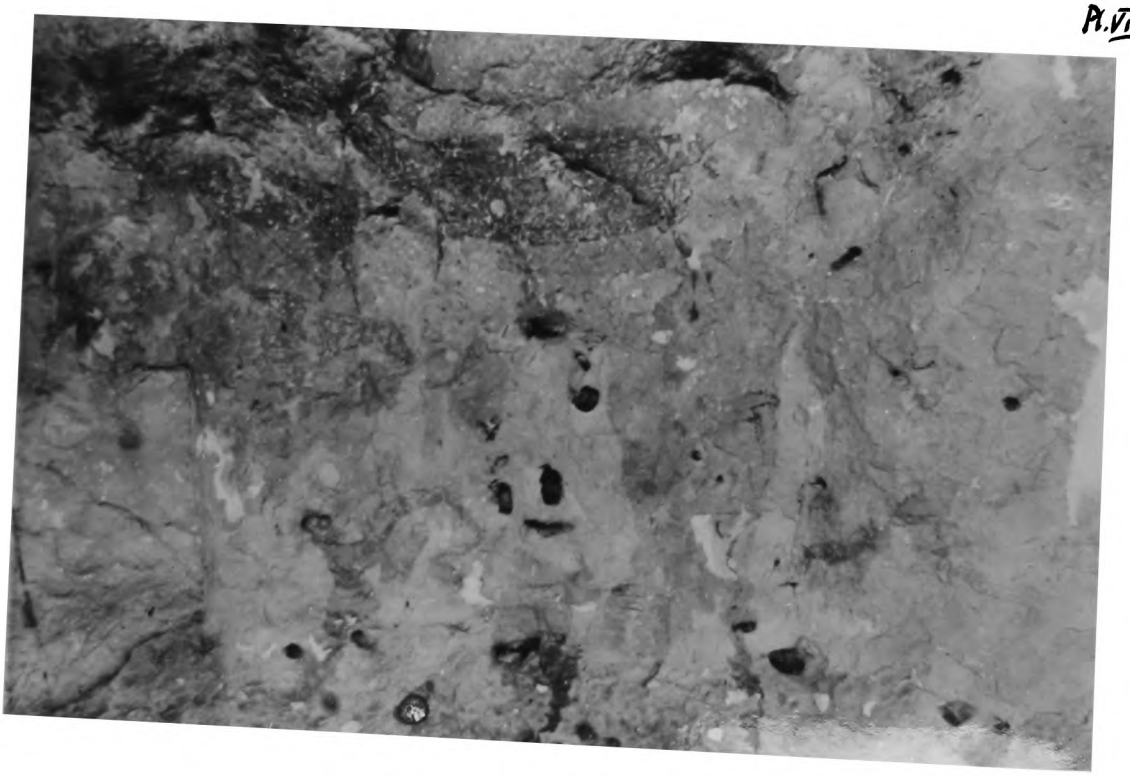
Pl. V



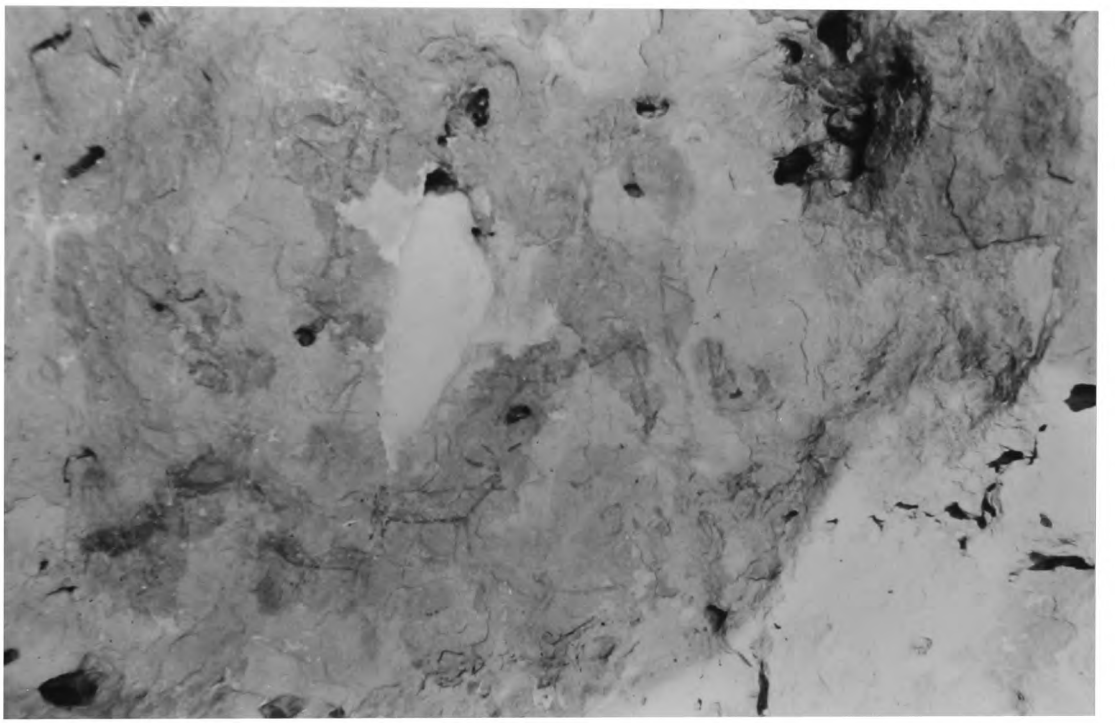
Pl. VI



Pl. VII



Pl. VIII



Pl. IX

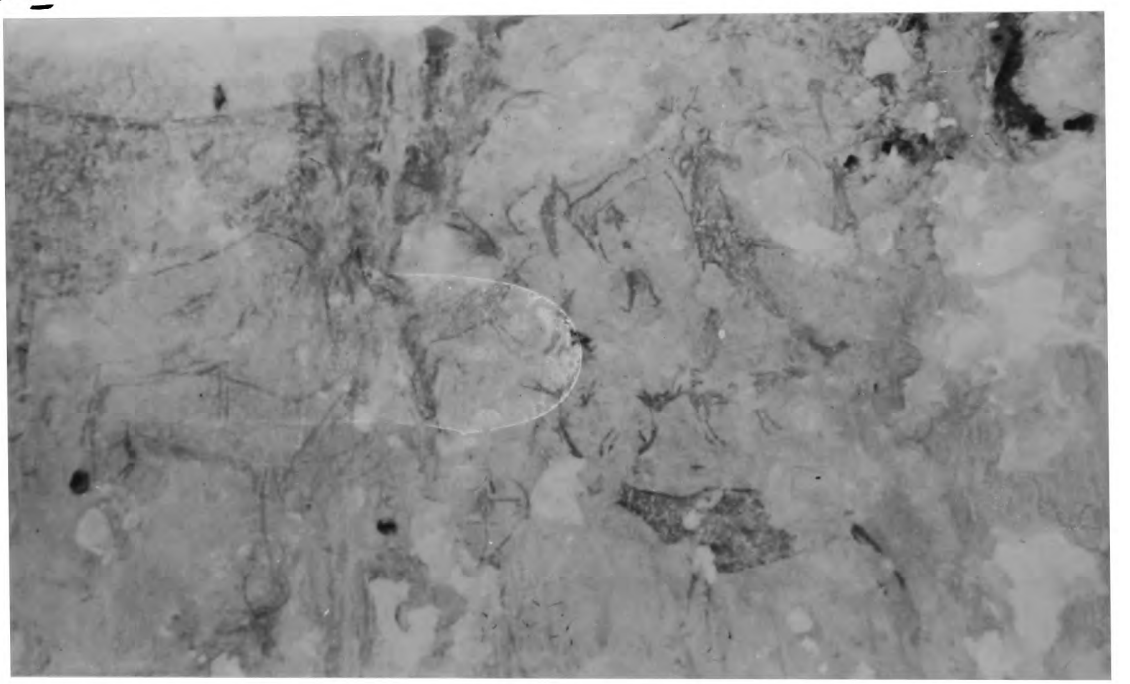


fig. 10



fig. 11

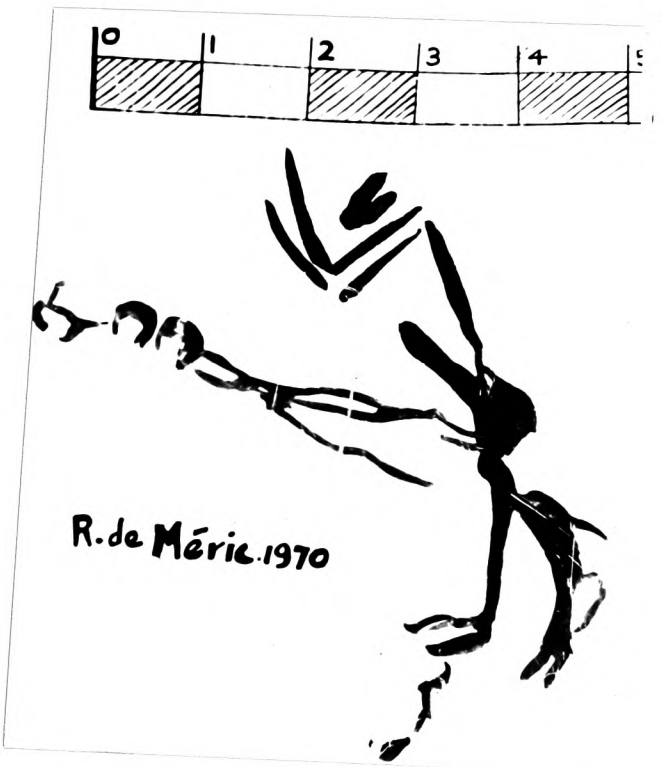
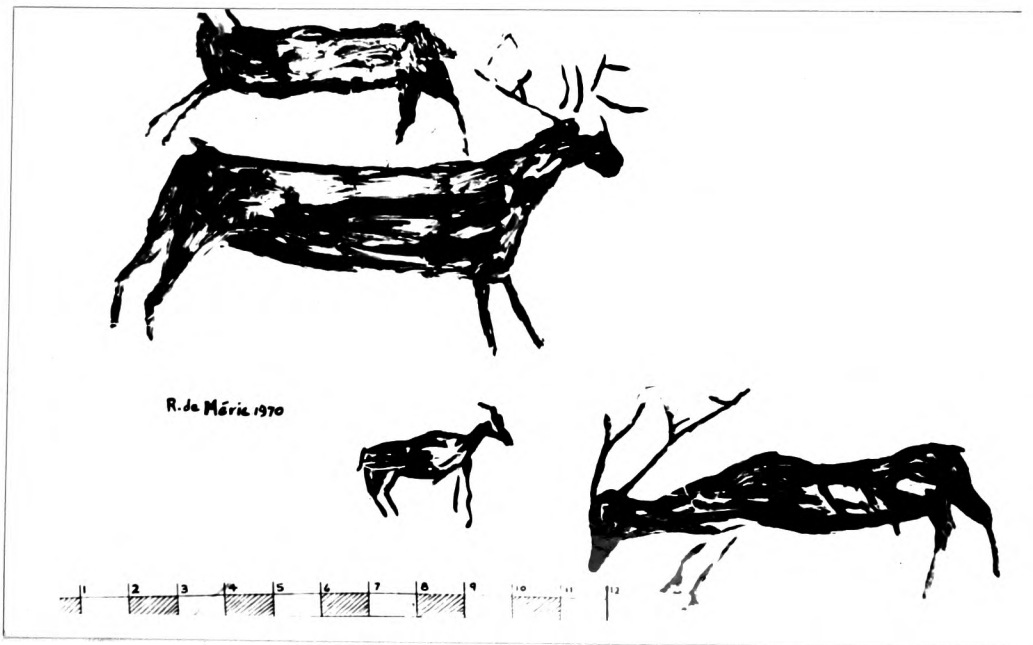


fig. 12

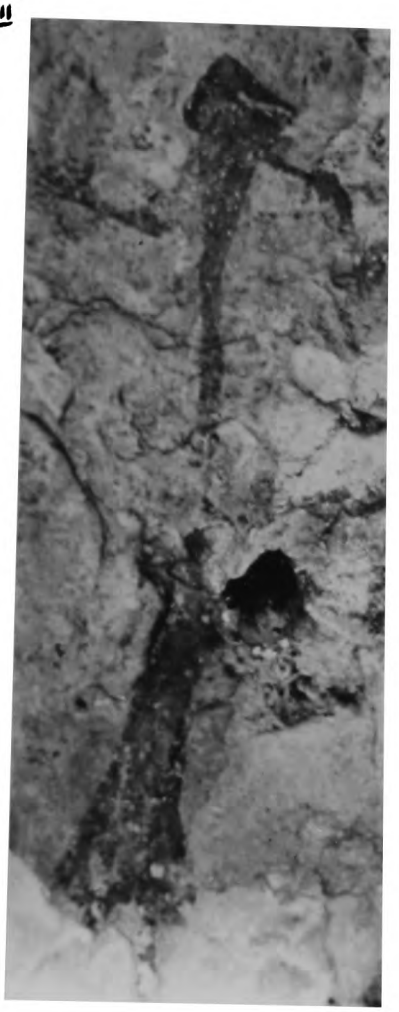


Pl. X

Pl. IX

Pl. VIII

Pl. XIII



Pl. XIV



Pl. XV



fig. 13, 13a



fig 14



fig 15, 15a

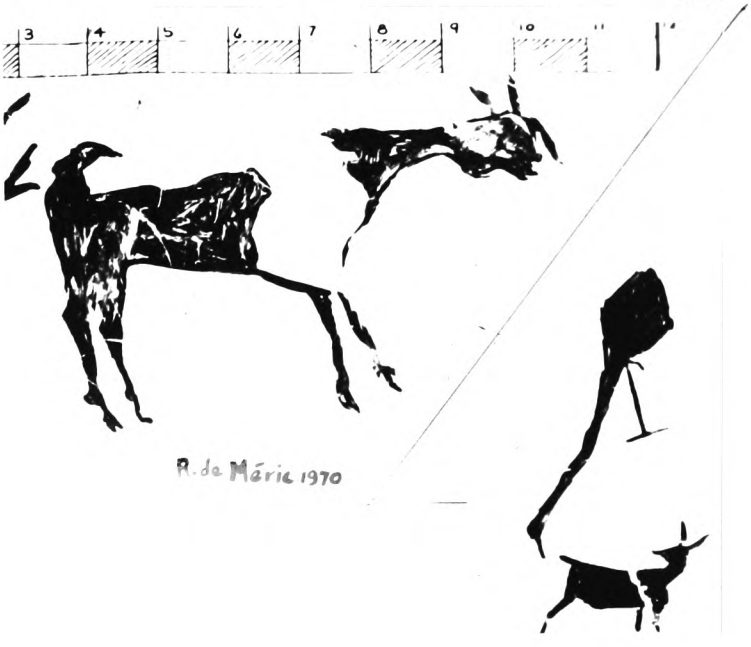


fig. 16

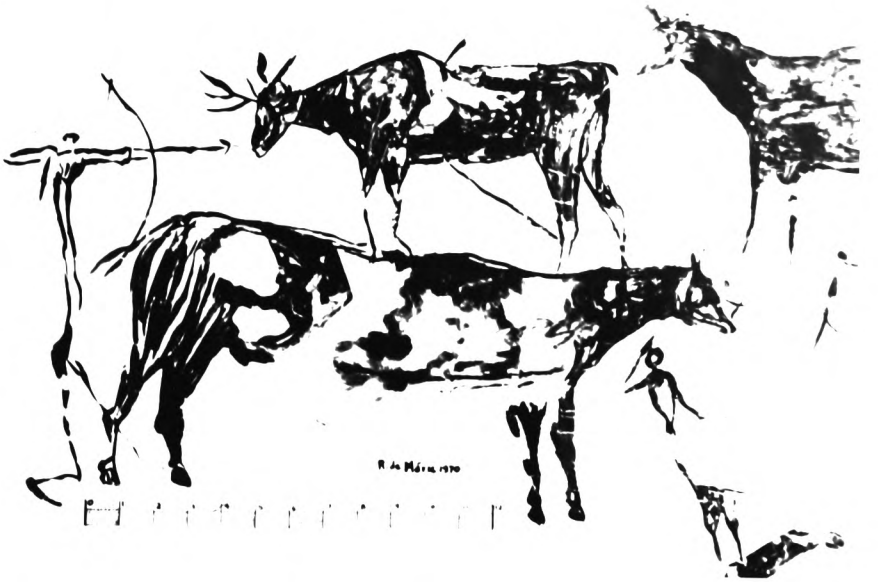


fig. 17

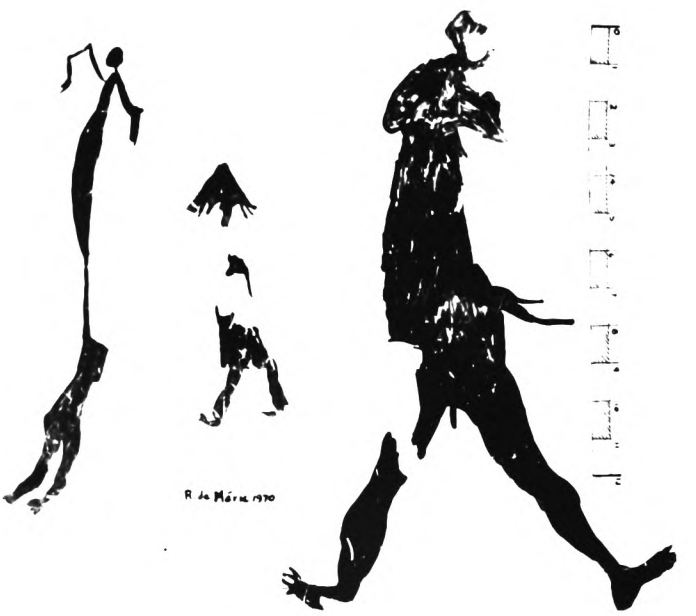
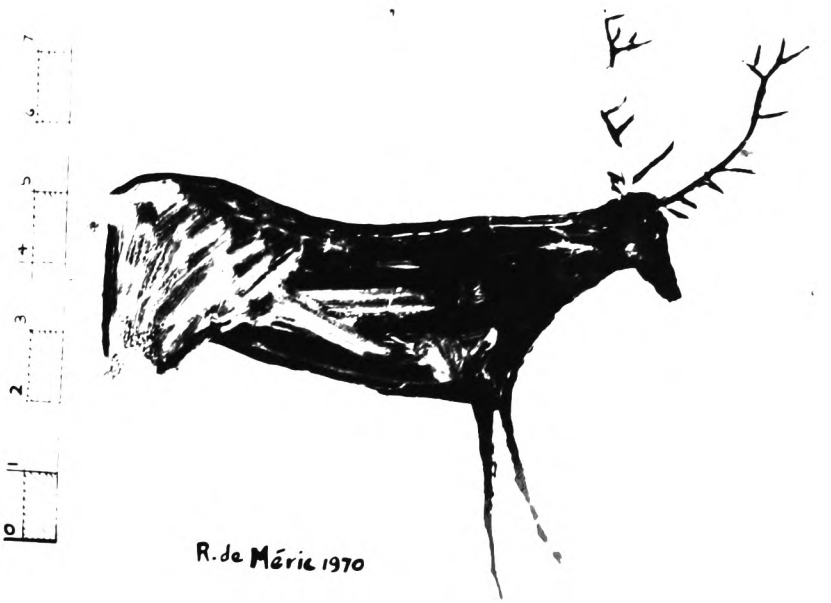
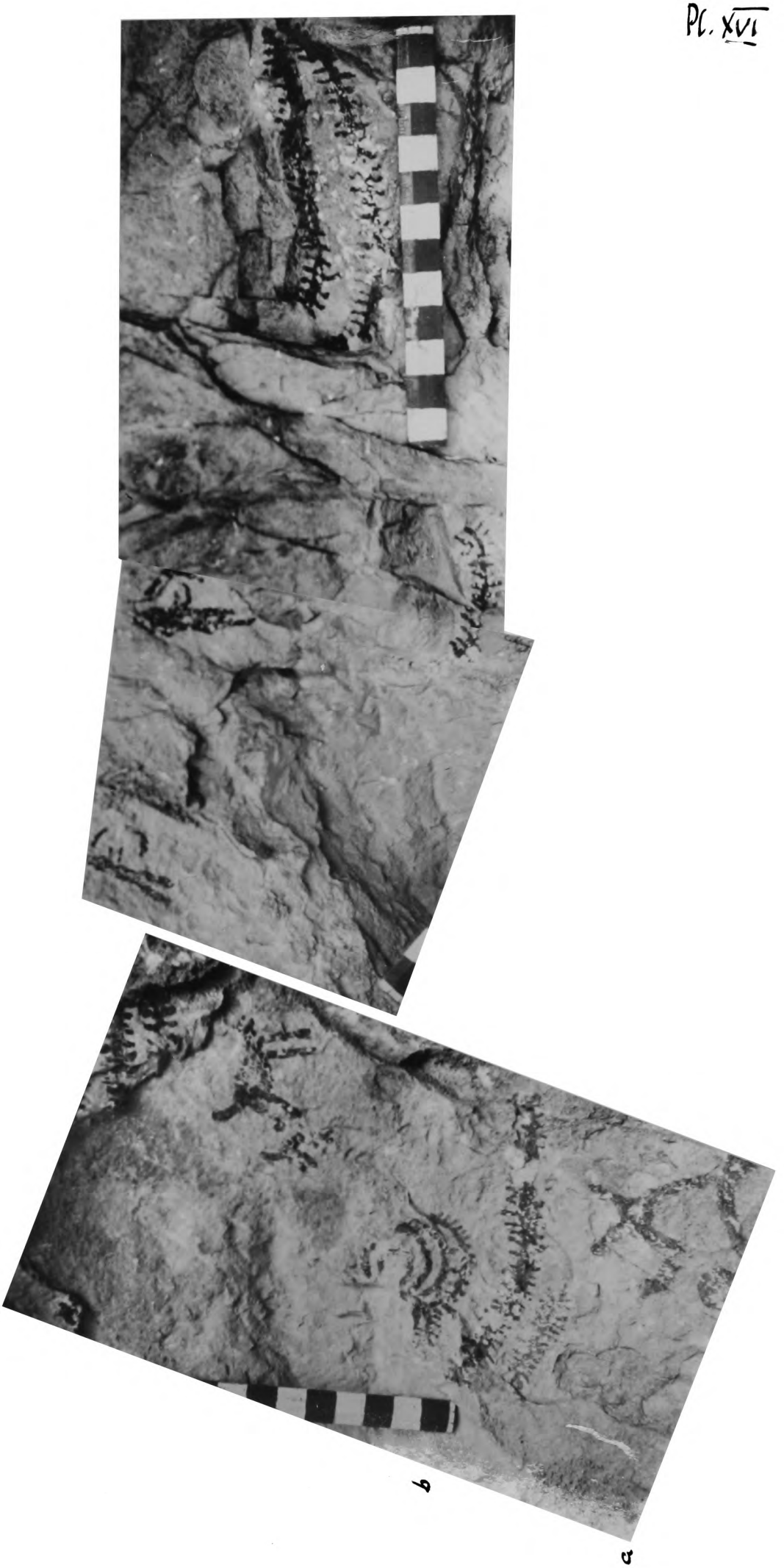


fig. 18

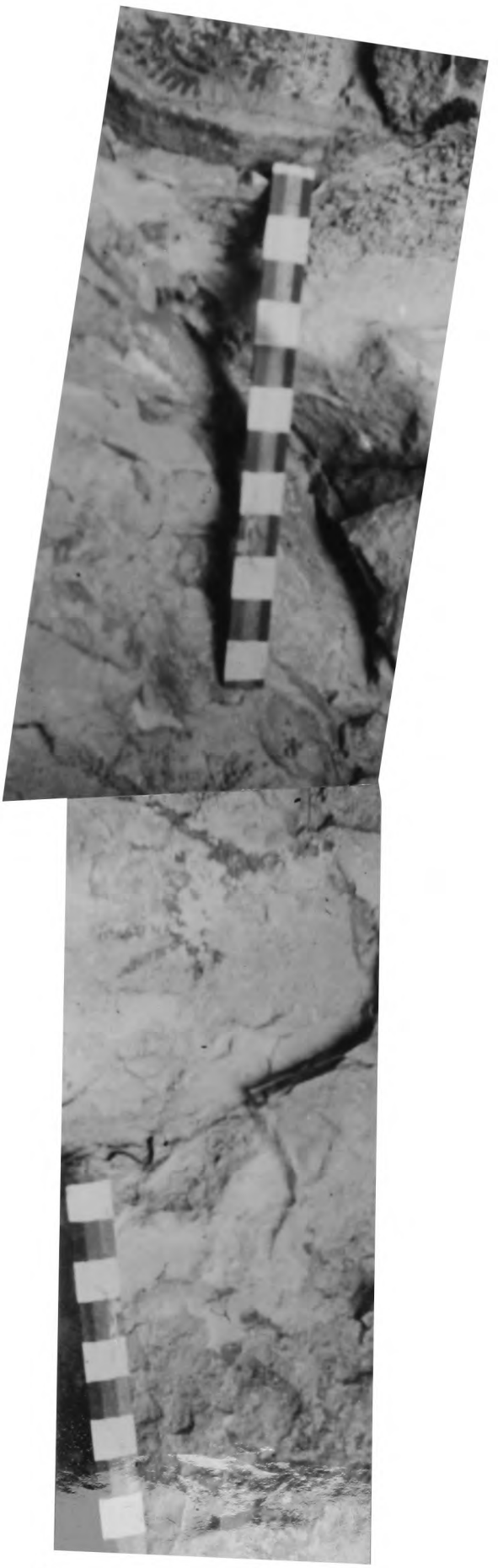




a

b

Pl. XVII



a b

Pl. XVIIa

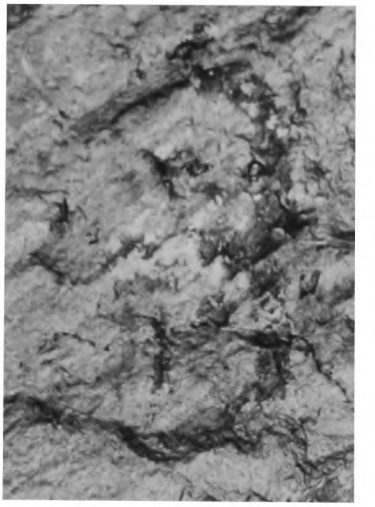


fig. 19

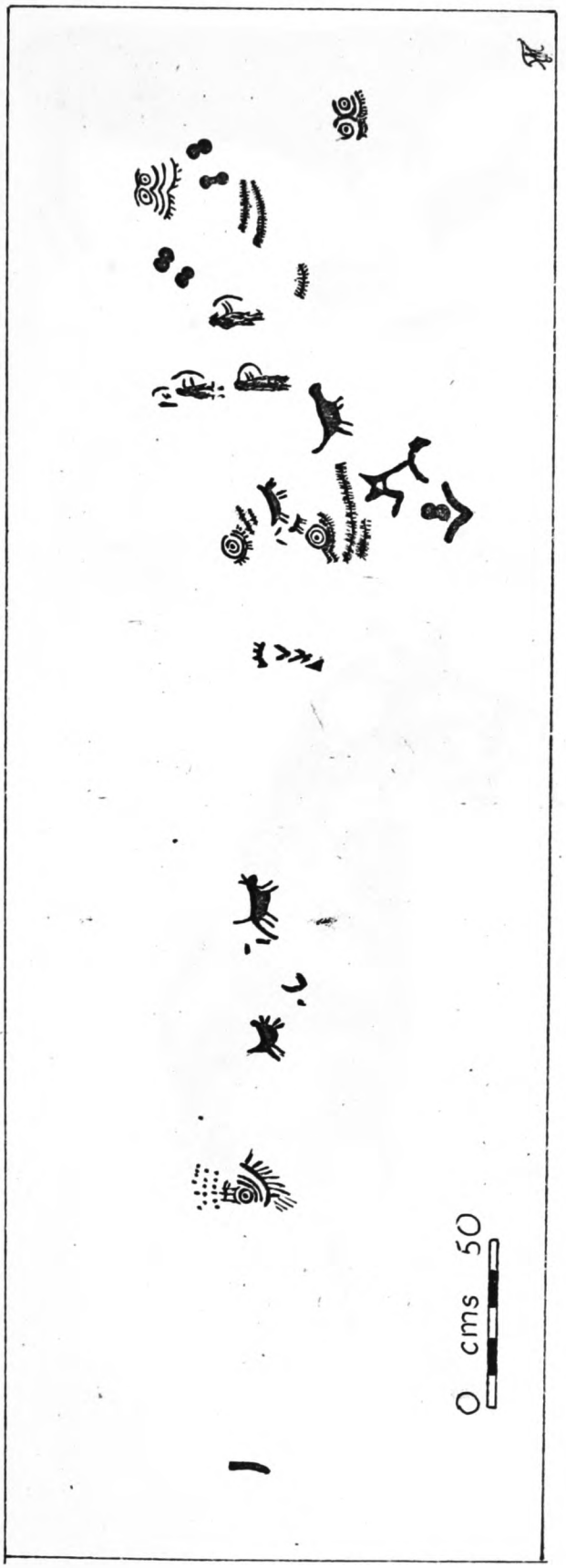


fig.20

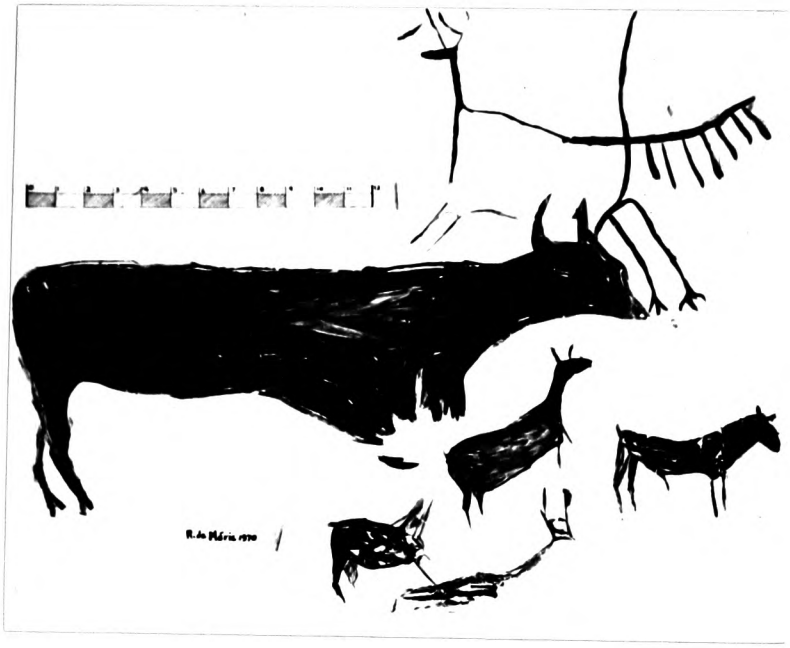
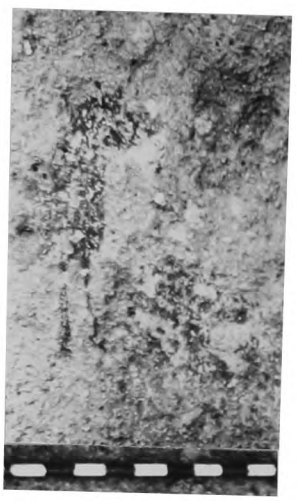


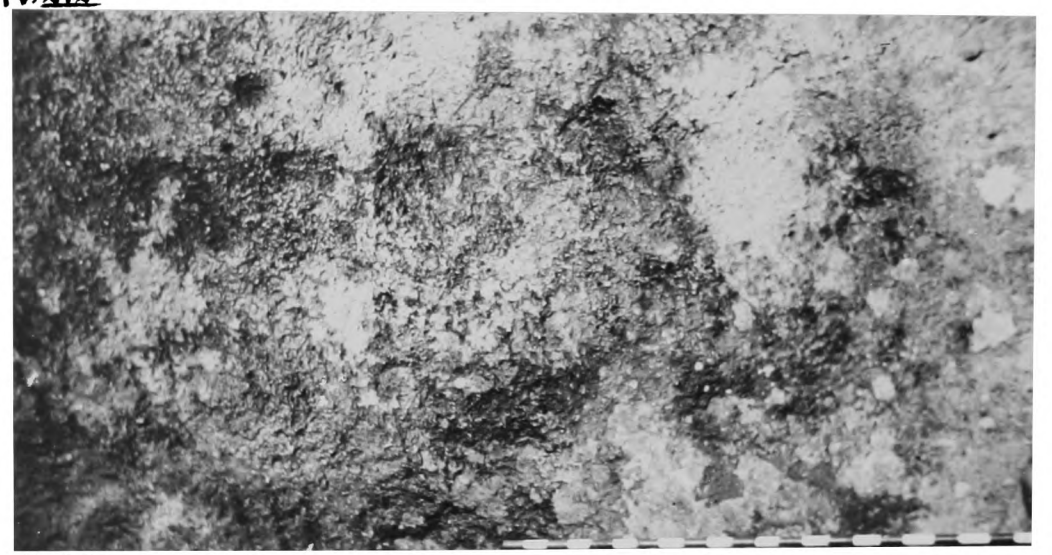
fig.21



Pl. XVIII



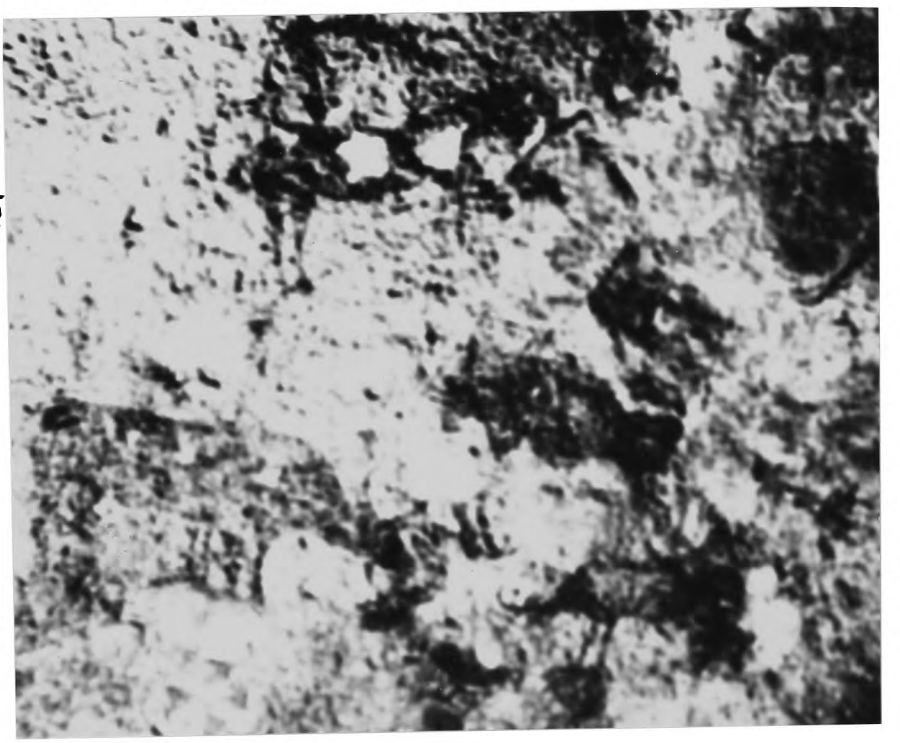
Pl. XIX



Pl. XX

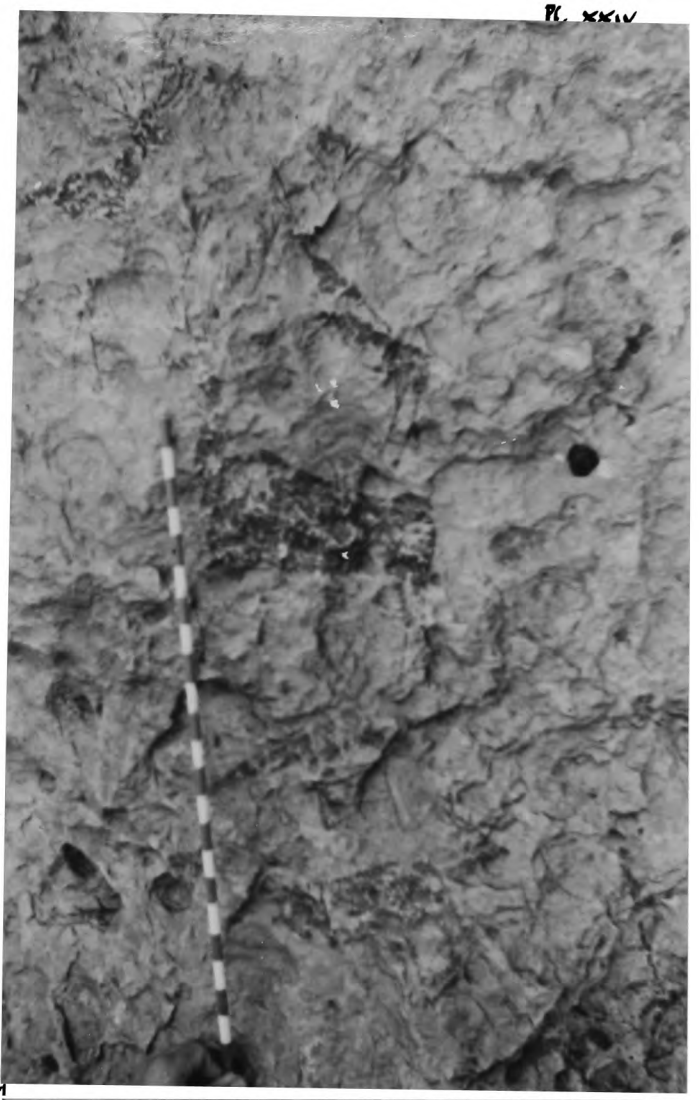


Pl. XXI

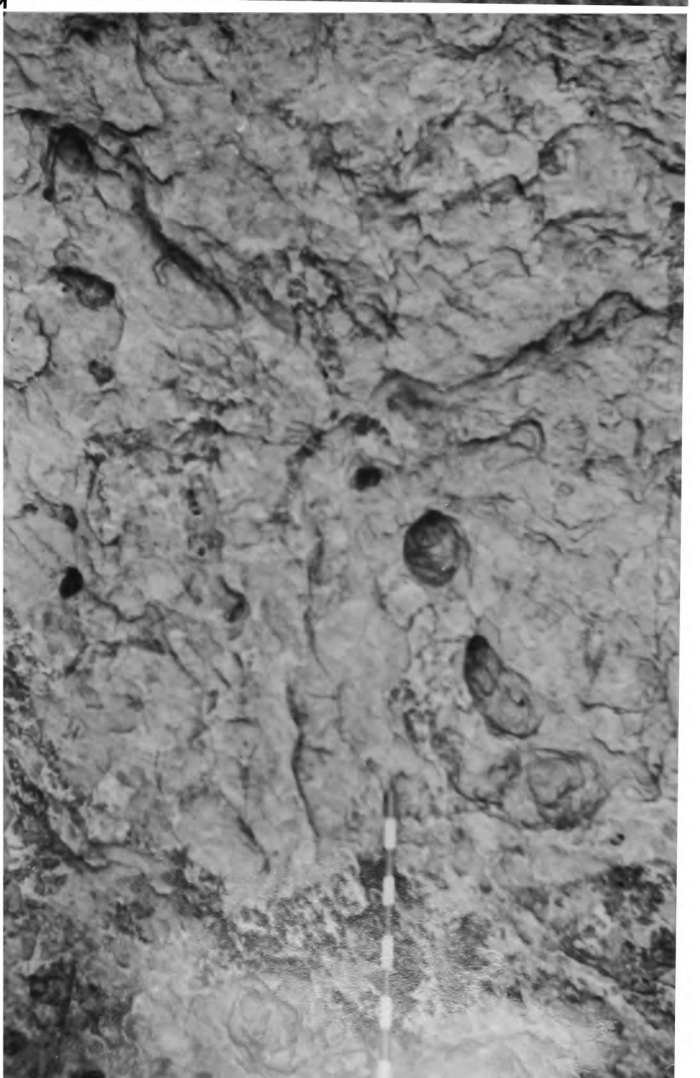


Pl. XXII











Pl. XXVII

Pl. XXVIII



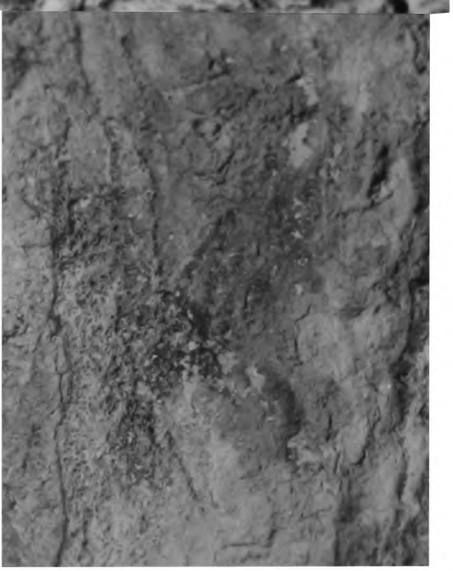


Pl. LXVI



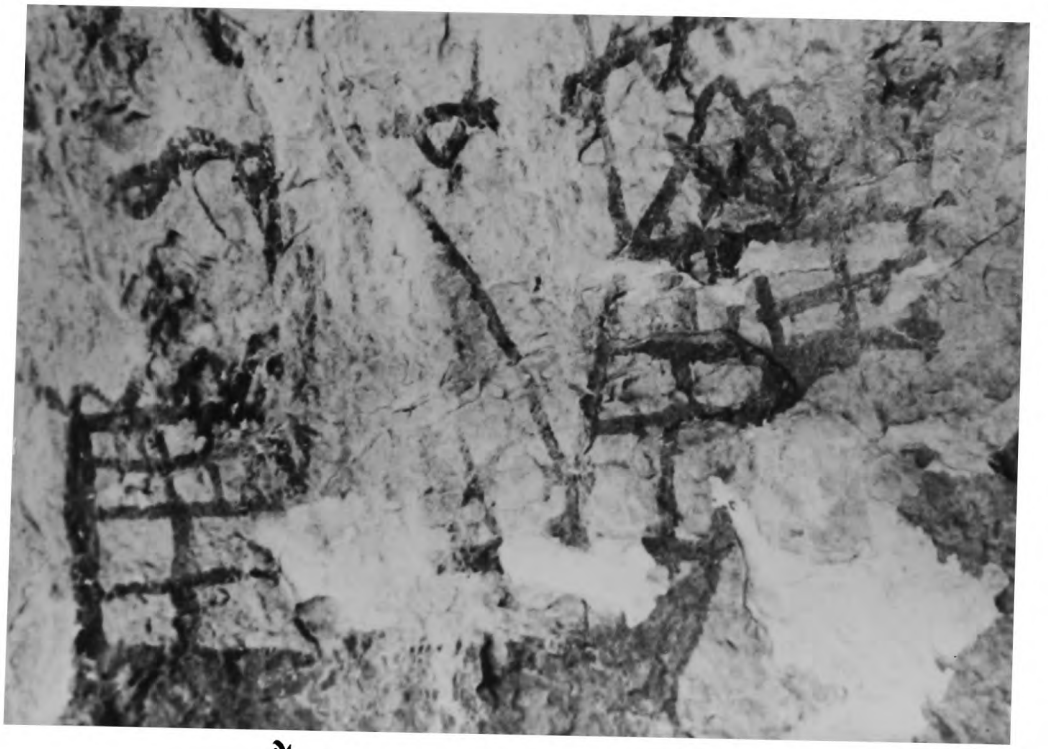
Pl. LXVII

Pl. LXVIII



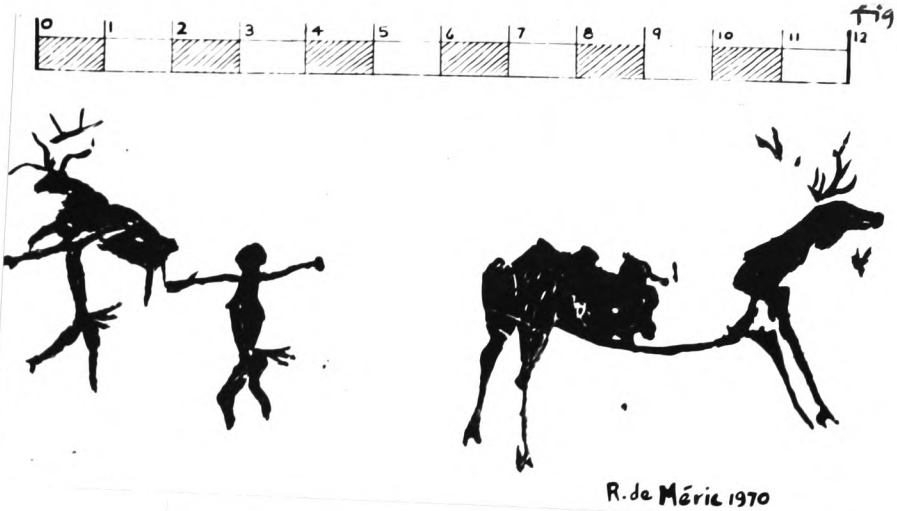
Pl. LXIX





Pl. LXXX

fig. 22



R. de Mérie 1970

fig. 23



R. de Mérie 1970

fig. 24



R. de Mérie 1970

fig. 25



fig. 26

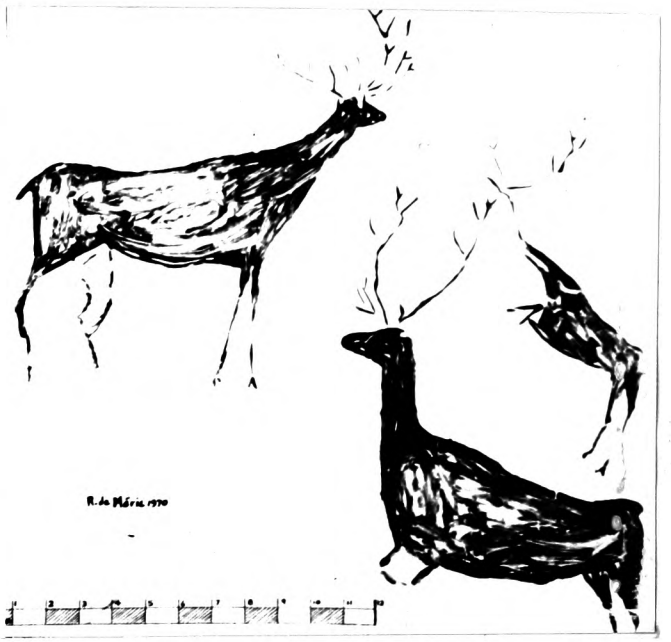
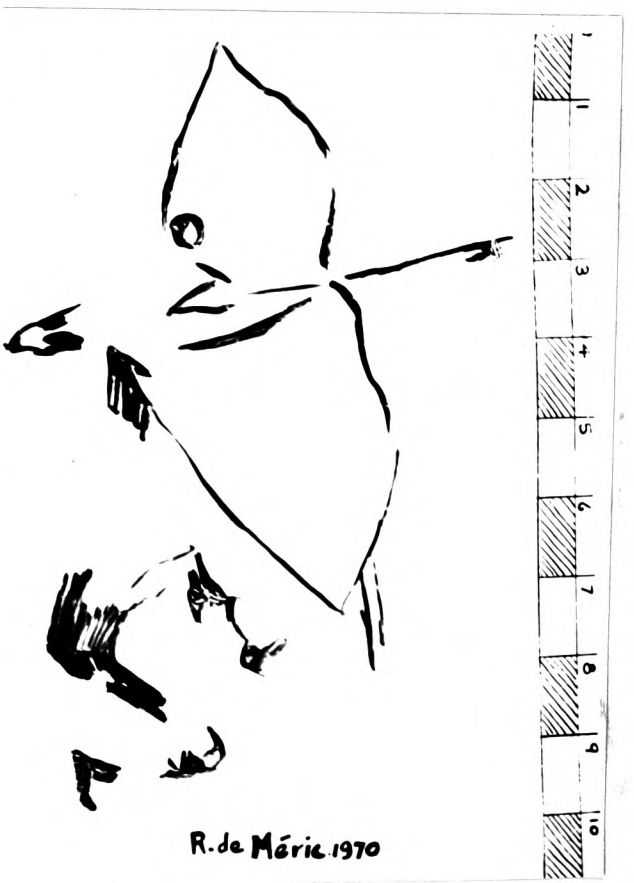


fig. 27



fig. 28



Pl. XXIX

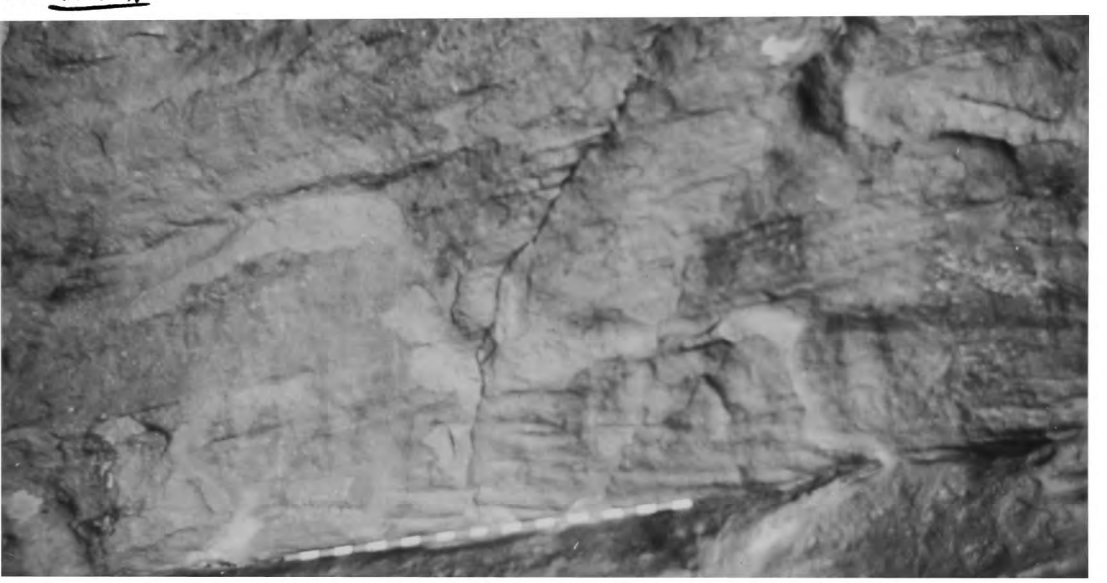










Fig. 29

Fig. 31, 31a

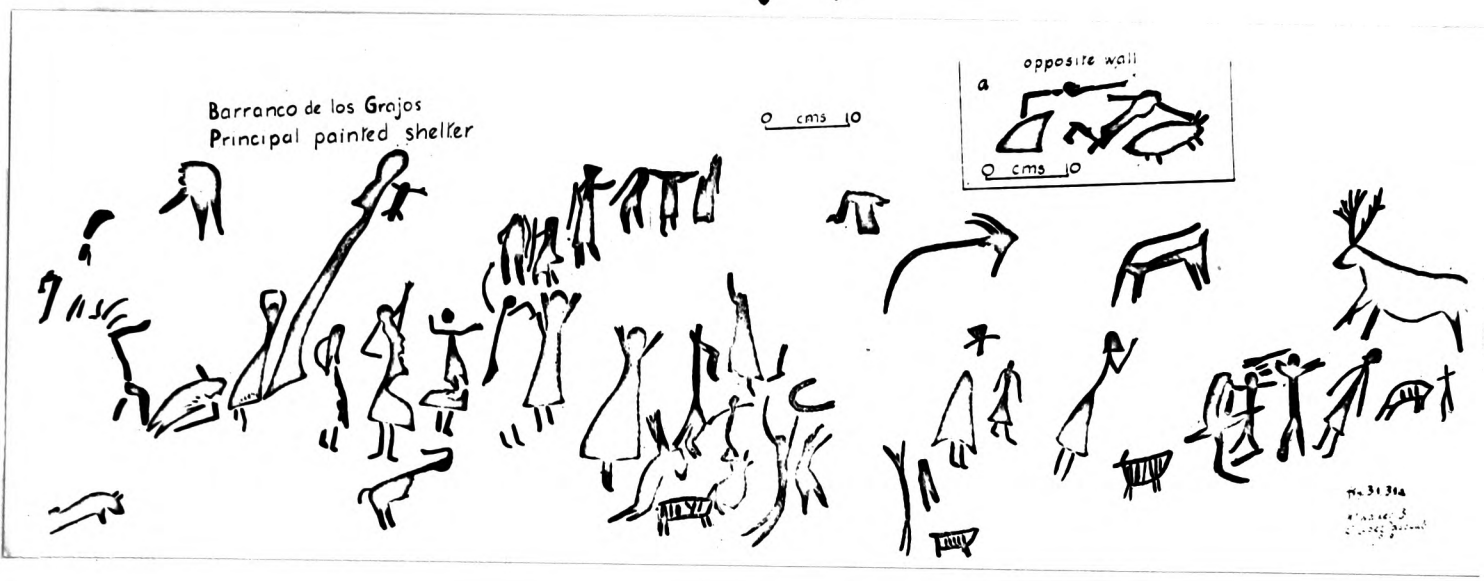


Fig 32 A, B, C

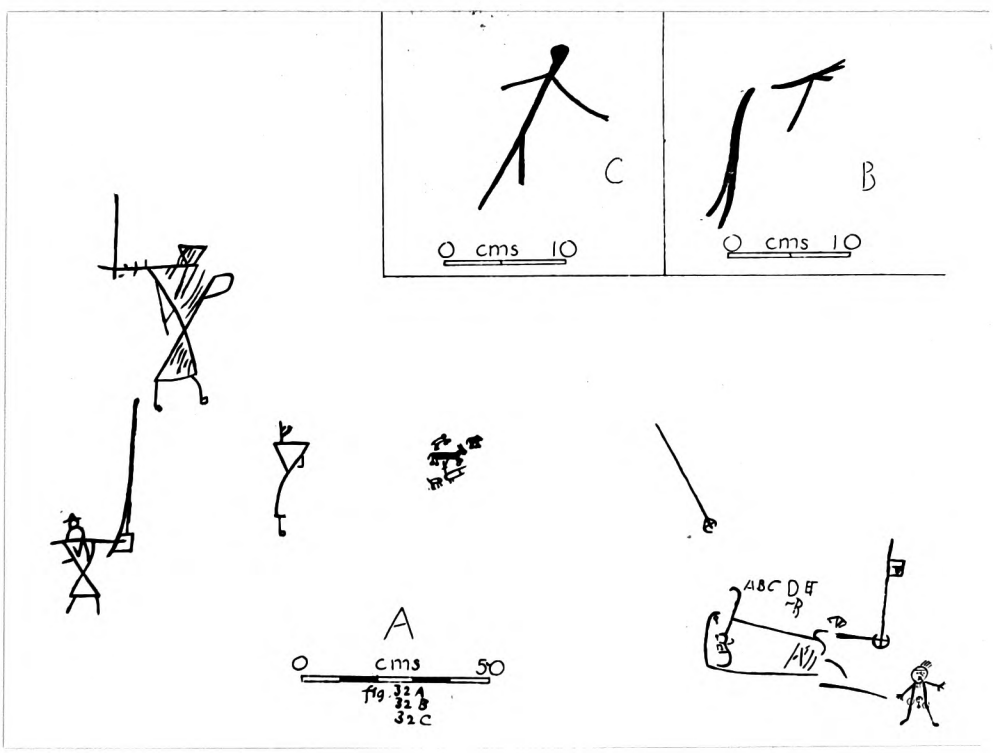
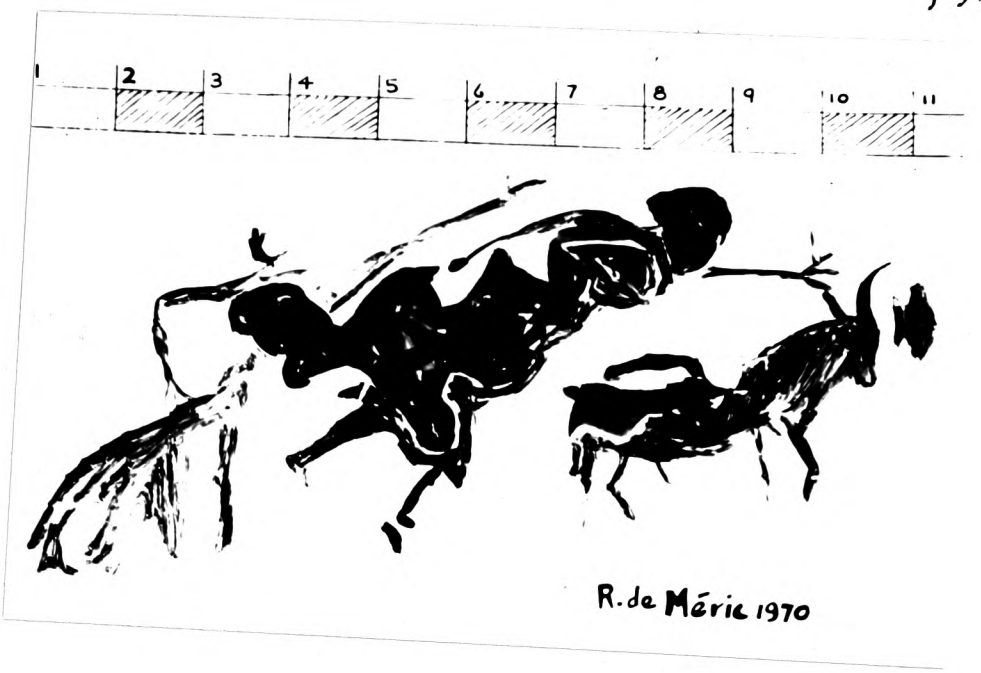
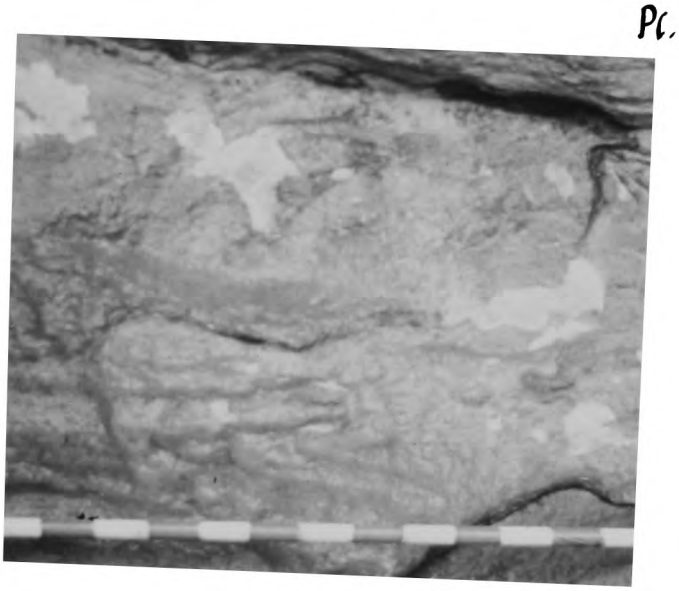


fig. 30



Pl. XXX



Pl. XXXI



Pl. XXXII



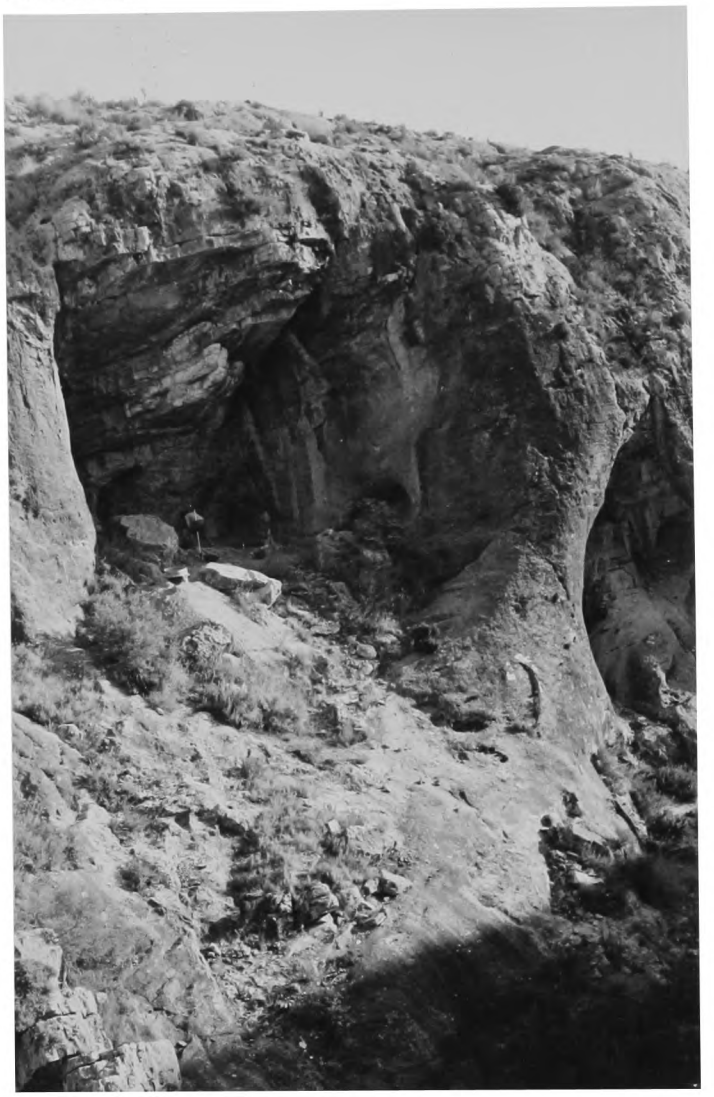
Pl. XXXIII



Pl. XXXIV



Pl. XXXV



Pl. XXXVI



Pl. XXXVII



Pl. XXXVIII









fig.33

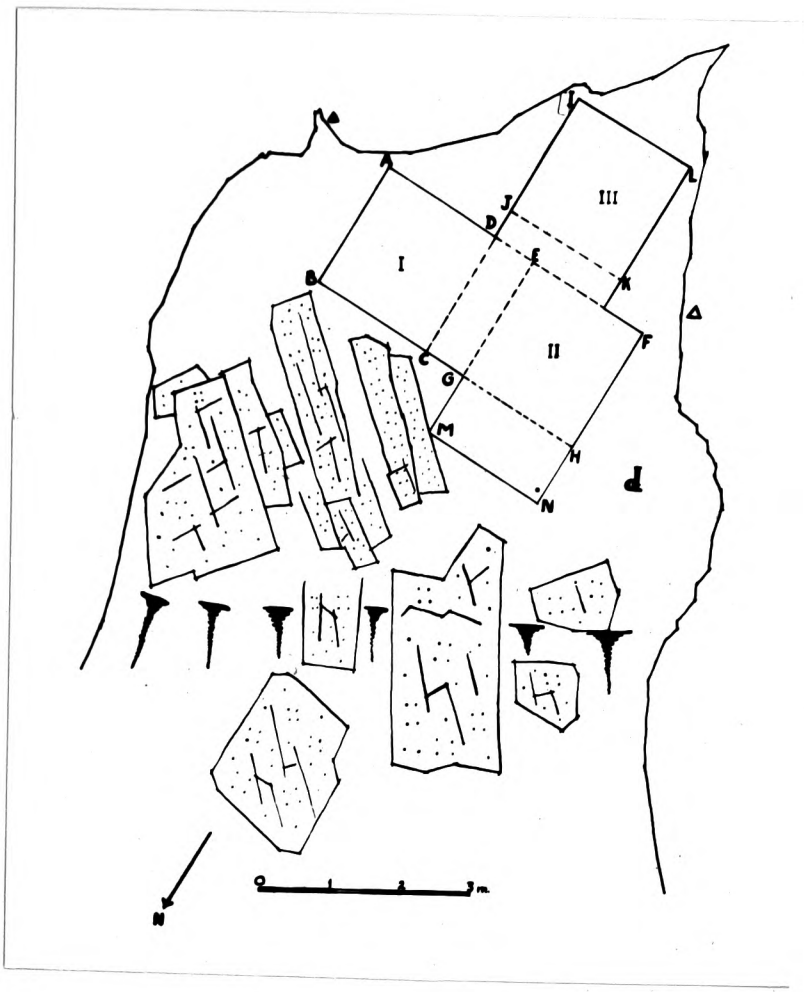


fig. 34

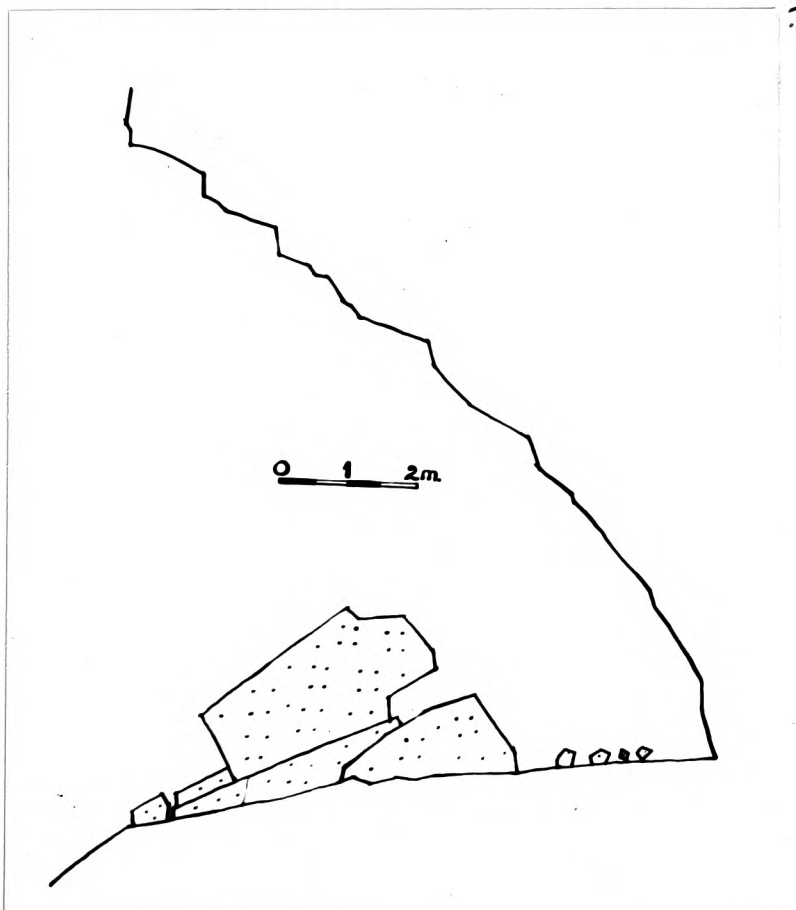
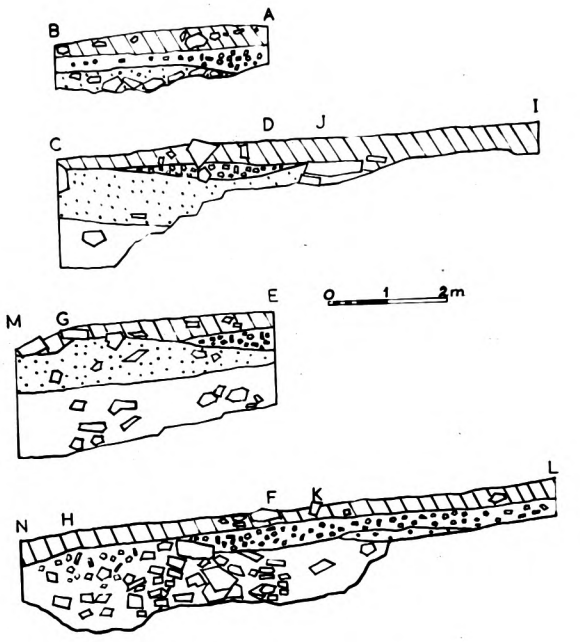


fig.35



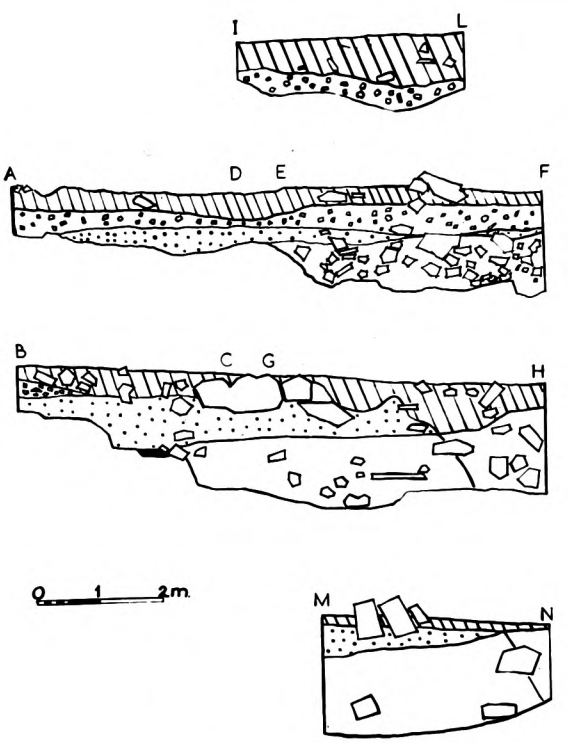
1 black powdery soil

2 trampled grey soil with small stones

3 yellow sand

4 grey soil and large stones

fig.36



1 black powdery soil

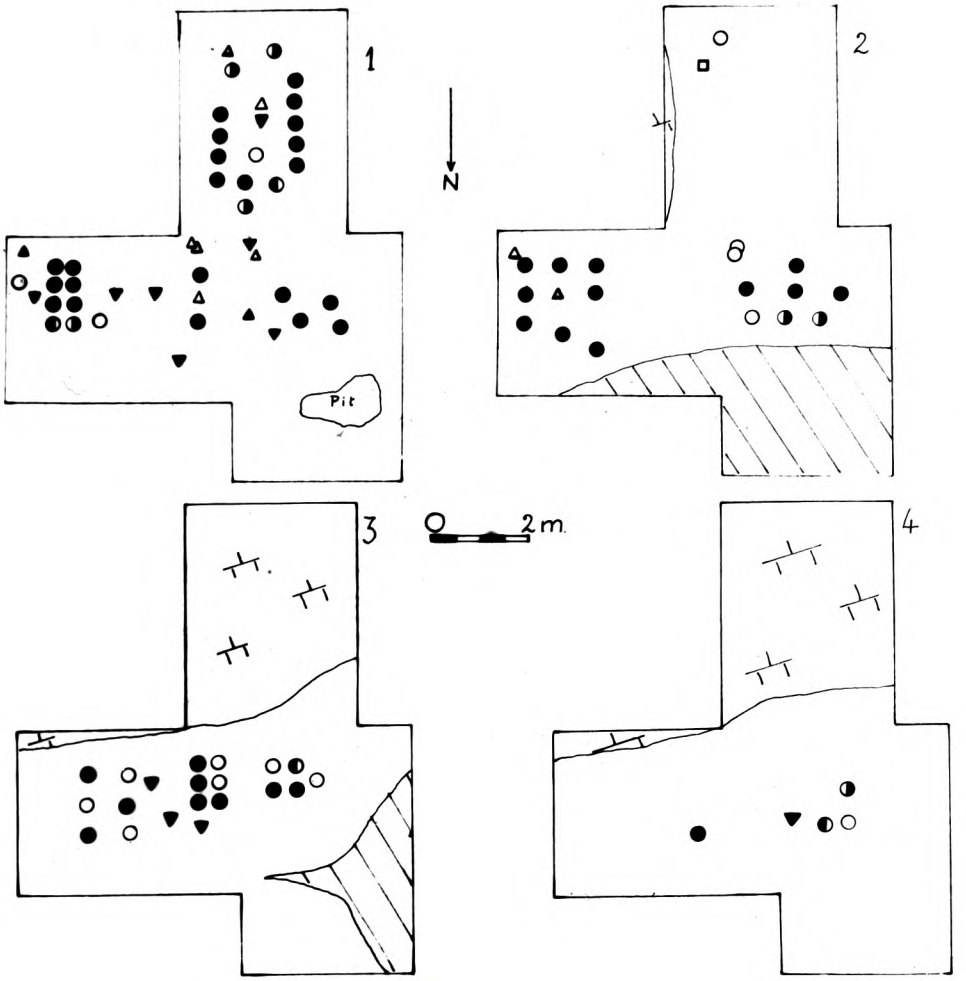
2 trampled grey soil with small stones

3 yellow sand

4 grey soil and large stones

5 red decomposed limestone soil

fig 3.7



pyramidal artefacts (flint)
backed bladelets (flint)
end-scrapers (flint)
other flint
worked bone
pottery
pierced shell
ochre
rock crystal

Assortment of assemblage by layer and situation.

(Unfortunately, some of the smaller items, especially the backed bladelets and small ochre fragments, were only found during sieving and could only be given approximate locations. Accurate measurements were made of those objects given a catalogue number in a triangle according to the standard convention. The hatched areas of each plan refer to deeper levels exposed at the edges of the soil platforms made by layers (2) and (3) respectively. The natural rock of the floor of the site is indicated by the conventional limestone symbol.)

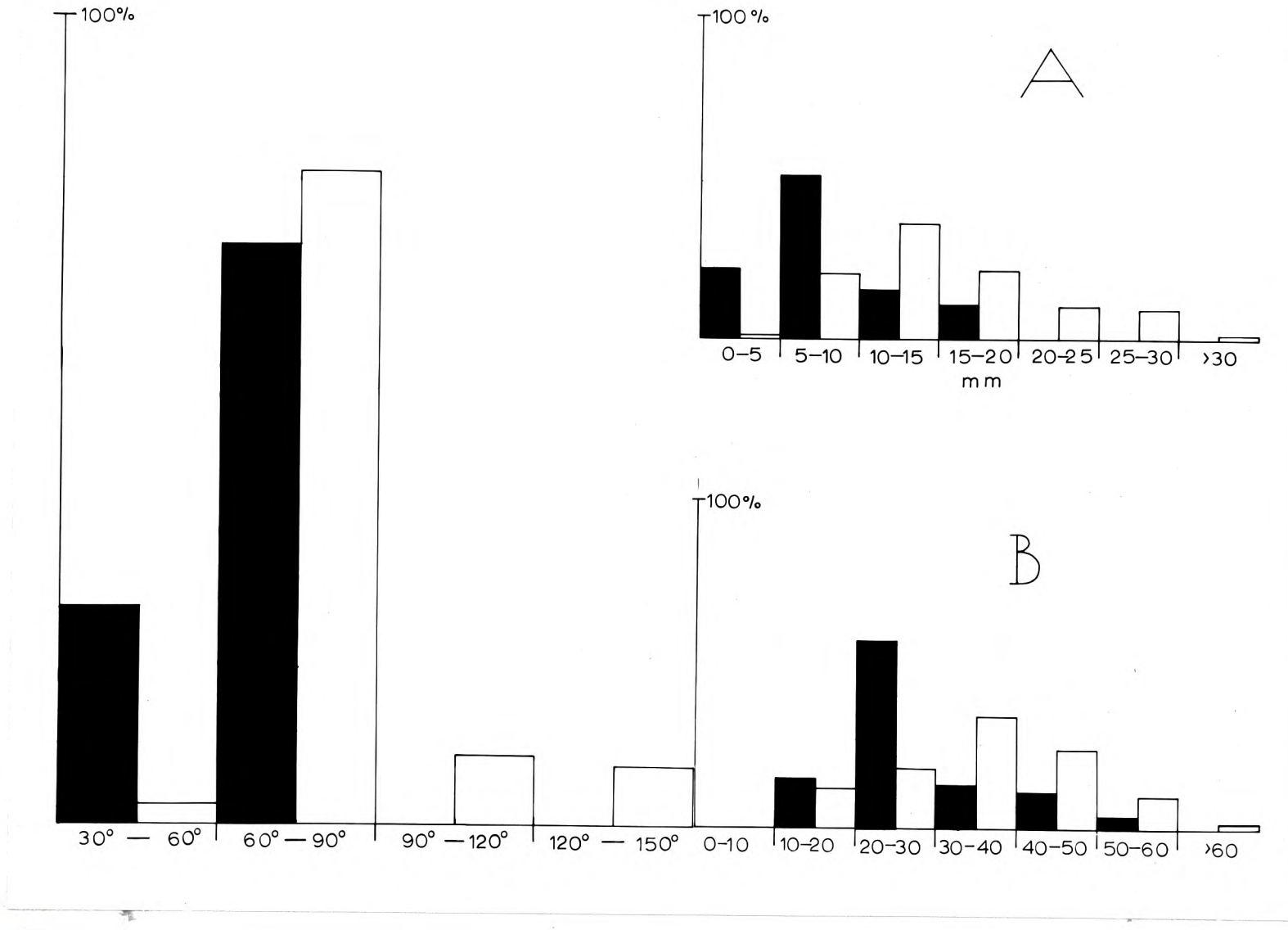
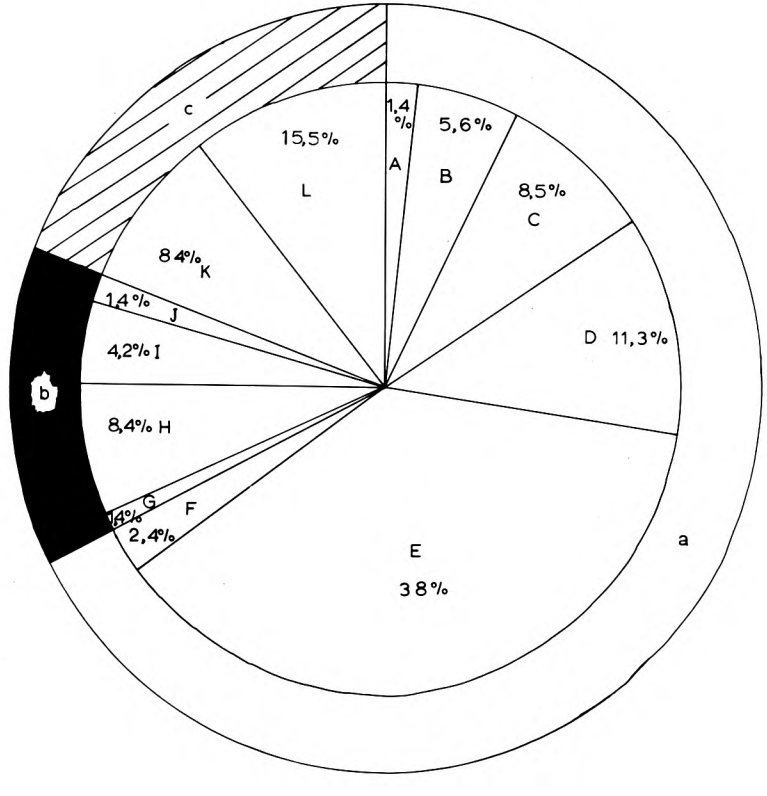


fig 4

fig 4 1

fig 4 2

fig ~~5~~ 39a



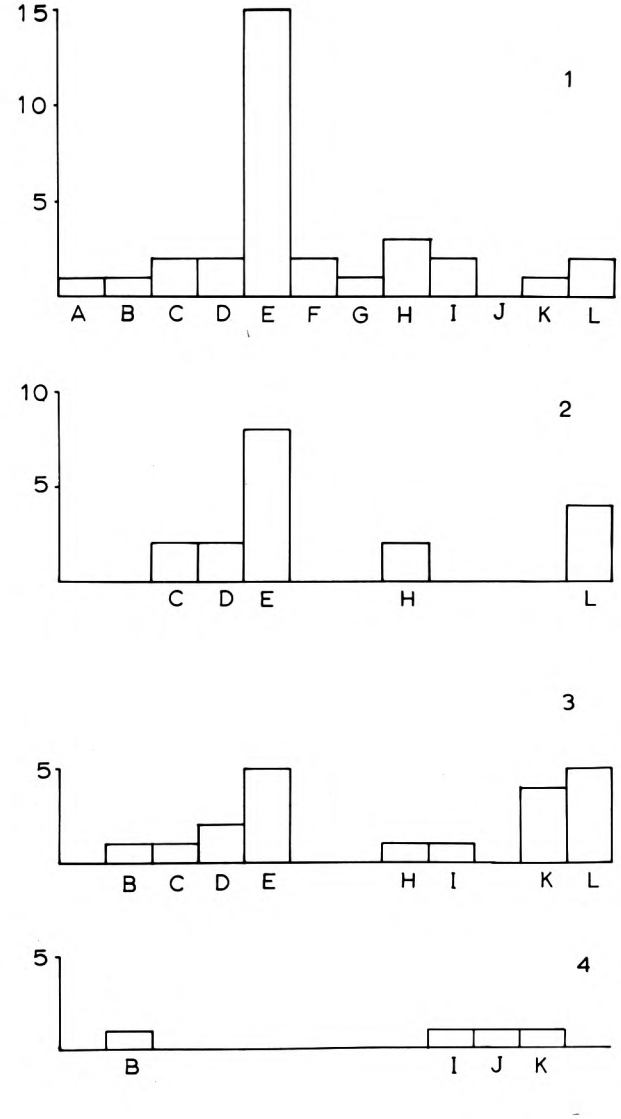


fig ~~6~~ 39b

fig 38:1

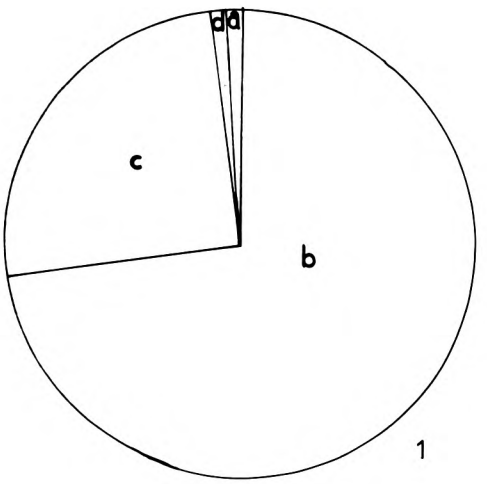
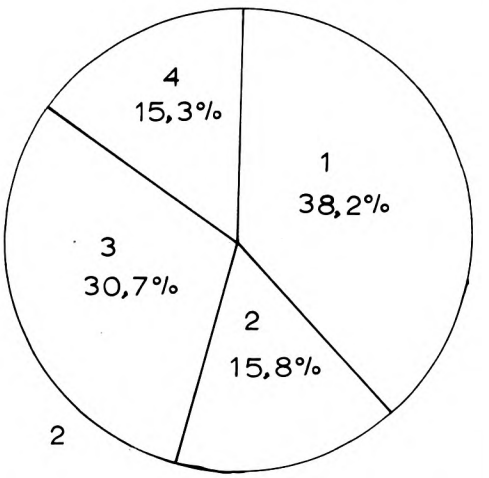


fig 38:2



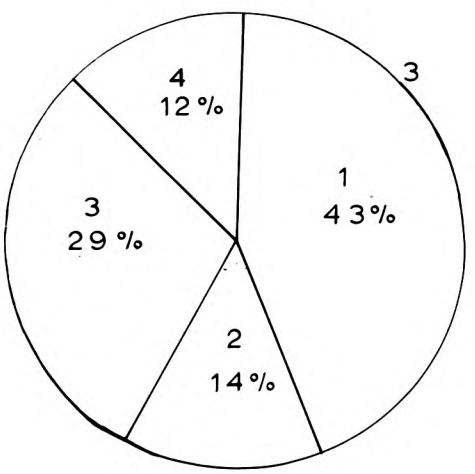


fig 38:3

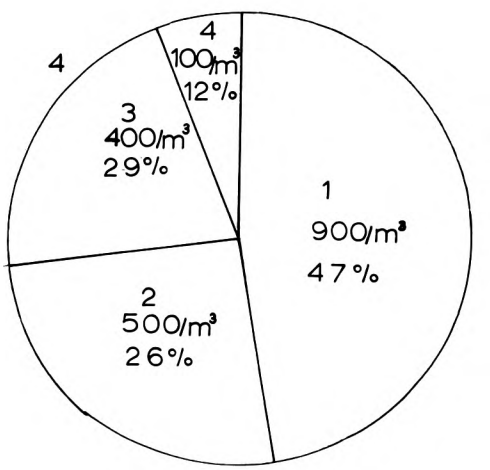
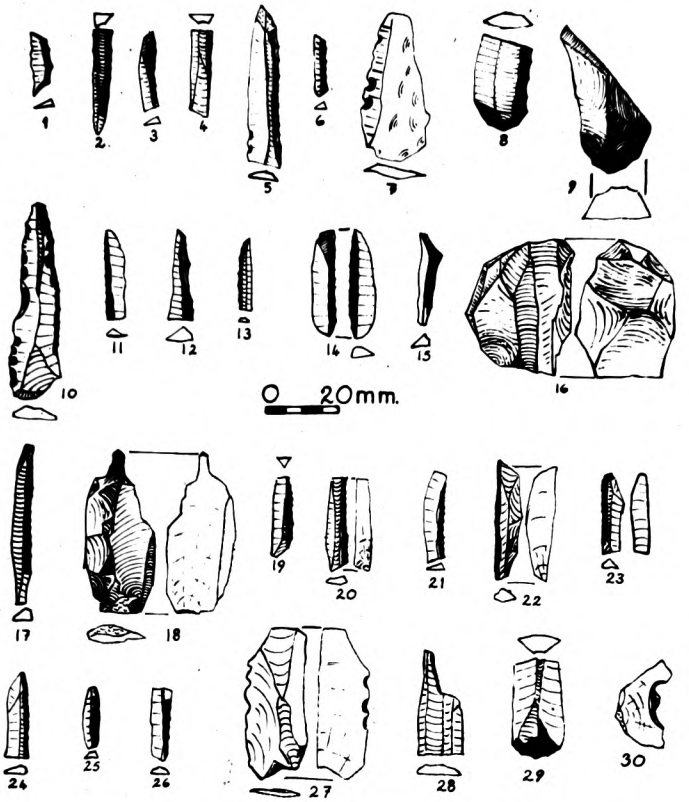


fig 38:4

fig. 44



1

fig. 45

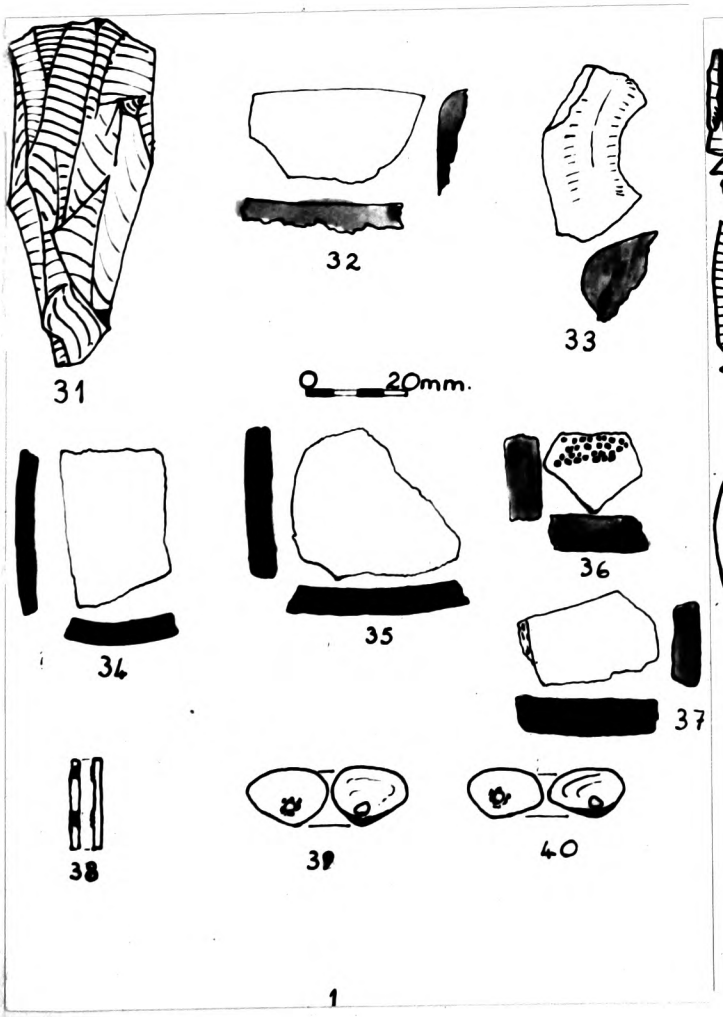


fig. 46

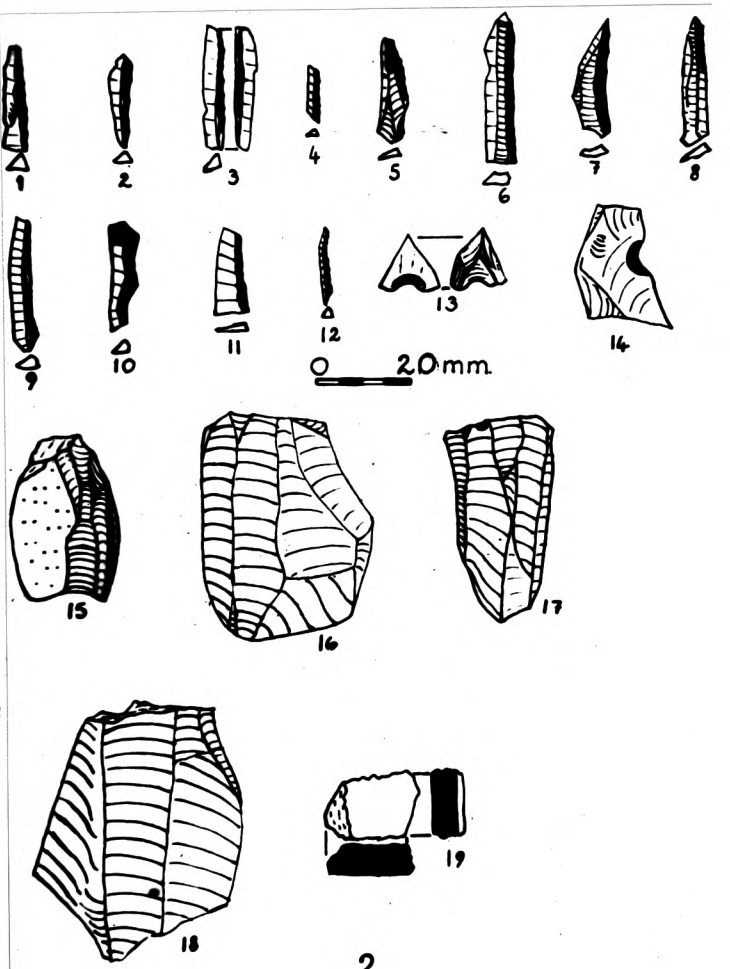
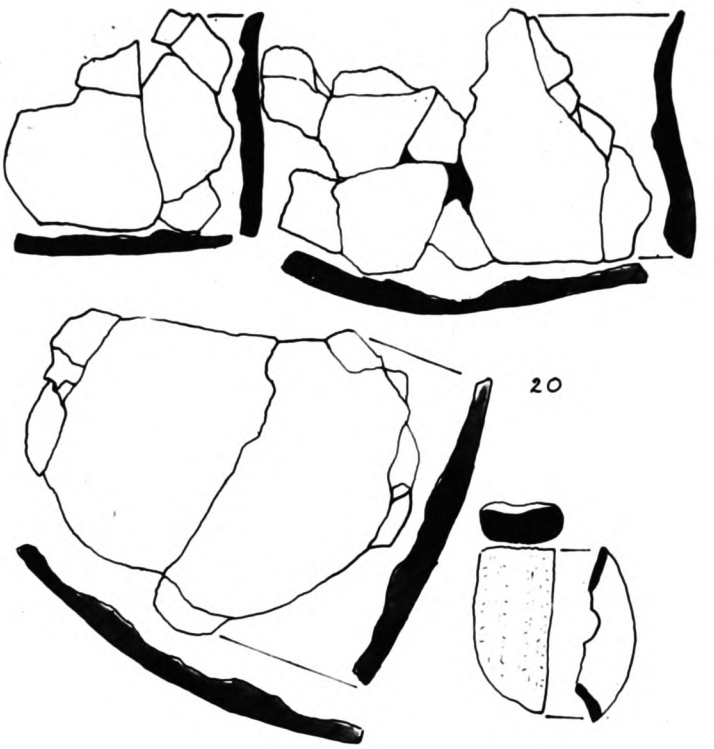
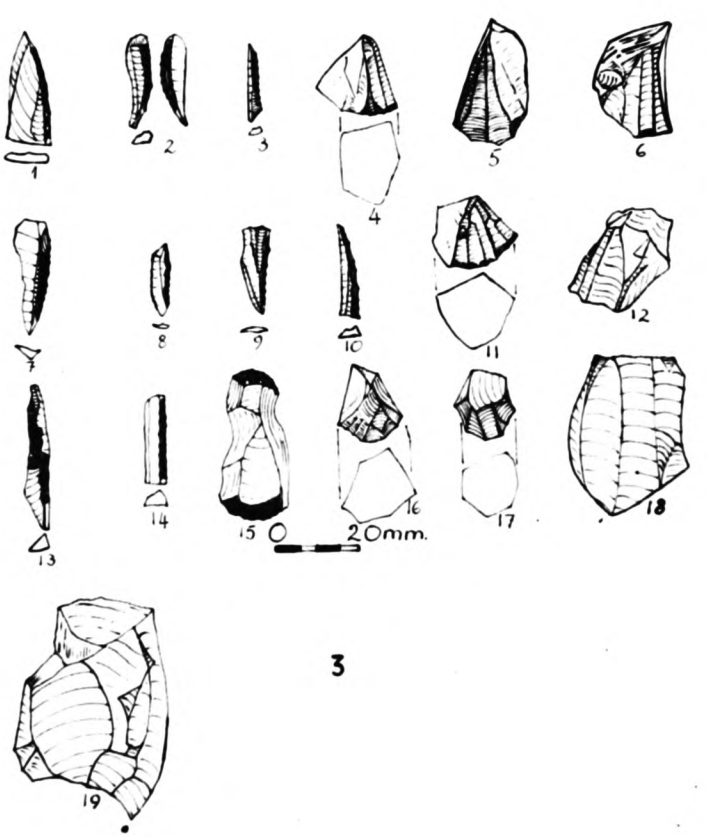


fig. ~~50~~ 47



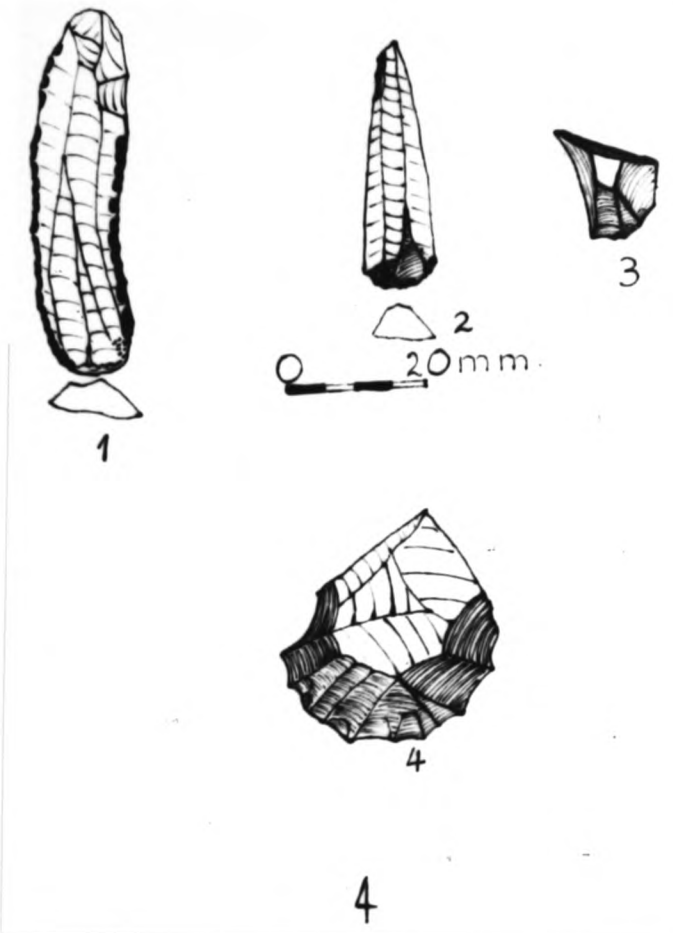
2

fig. ~~49~~ 48



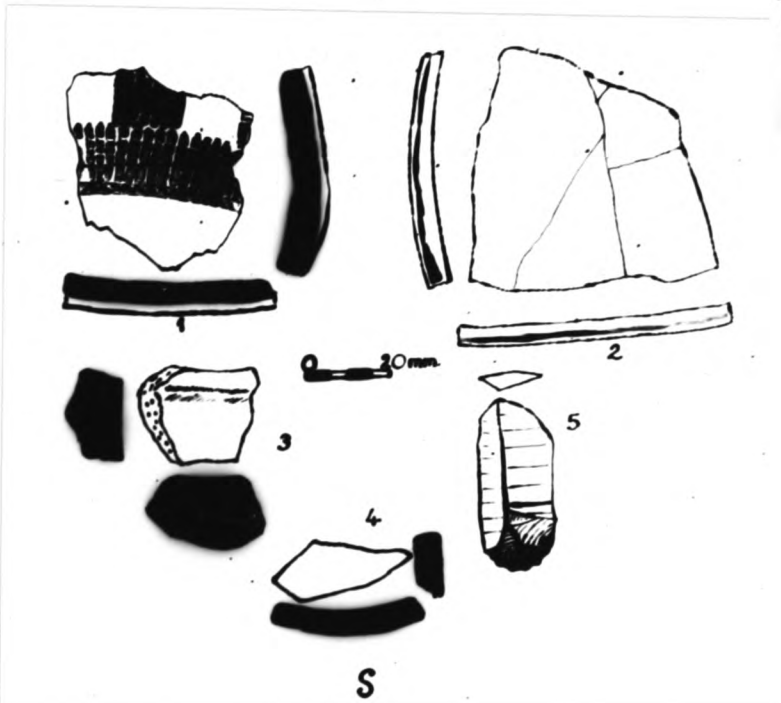
3

fig. 49



4

fig. 50



5

fig. 5 ₹ 1

Non-Human Mammalia

(Bracketed numbers give minimal numbers of individuals found.)

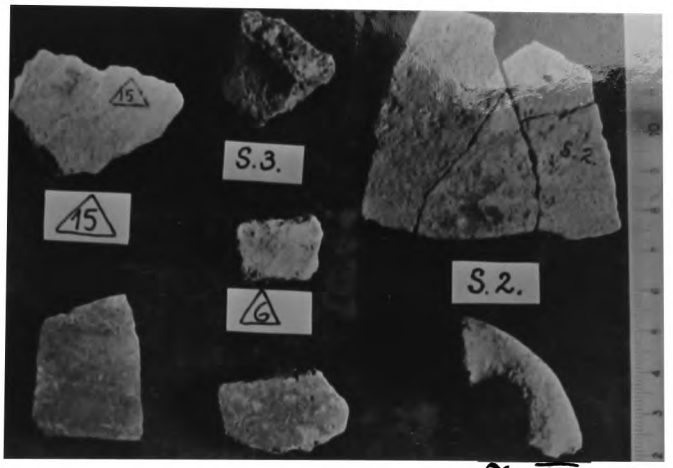
	LAYER 1	2	3	4
Oryctolagus cuniculus	+ (42)	+ (16)	+ (23)	+ (2)
Sus scrofa	+ (2)	+ (1)	+(1)	+ (1)
Cervus elaphus		+ (1)	+ (1)	+ (1)
Equus caballus		?+ (1 ?)	+ (1)	+ (1)
Caprinae	+ (1)	+ (1)		
Bos sp.	+ (1)	?+ (1 ?)		

Invertebrata (Shells)

	LAYER 1	2	3	4
Rumina decollata	+ (126)	+ (31)		
Otala lolanensis and Sphinoterochila candidissima*	+ (235)	+ (102)	+ (41)	+ (100)
Pecten jacobaeus		+ (1)	~~+ (1)~~	+ (1)
Littorina littoralis			+ (8)	+ (7)
Donacilla cornea	+ (1)		+ (1)	

* These species were not separated from most of the sectors, but a sample area 66 cms. square suggested that Otala lolanensis was commoner in layer 1 (80% : 20%) but that in lower layers Otala:Sphinoterochila were present in roughly equal numbers (55% : 45%), however the sample may not have been adequate.

Comments: Note the absence of deer and horse from the uppermost layer, and the absence of caprines and bovines from the lower layers. The numbers of individuals are very small, however. Although rabbit is indigenous to Spain, it is possible that most of the rabbit remains were intrusive and later. The same is probably true of Rumina decollata since many fresh shells of that species were collected from the ground. It is also possible that the other land snails might have burrowed into the deposits. The Pecten, Littorina littoralis, and Donacilla shells indicate contact with the coast some 60 - 70 kilometres away from the start to the end of occupation at the site. (It was not possible on so small a sample of fragmentary bones to distinguish wild from domestic mammals. All the animals represented were found wild in Spain in late Palaeolithic times and shown in rock art. However, the partition by layers as between cervids and equids, on the one hand, and caprines and bovids on the other, is suggestive of incipient domestication.)



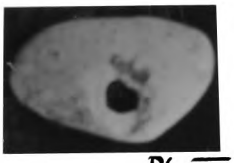
Pl. XLII



Pl. XLIII



Pl. XLIV



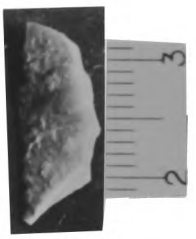
Pl. XLV



Pl. XLVII



Pl. XLVI

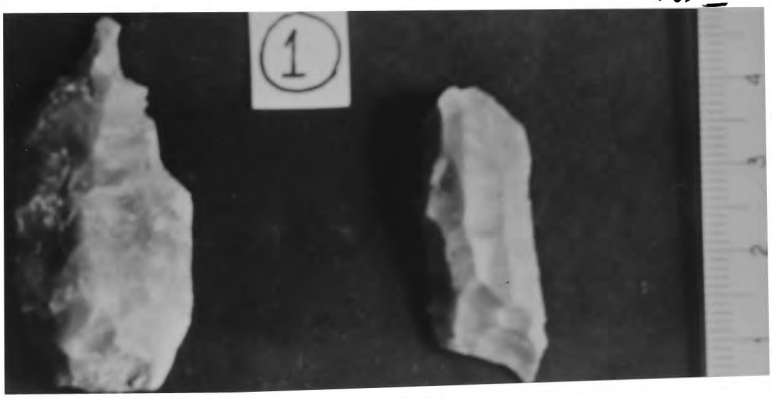


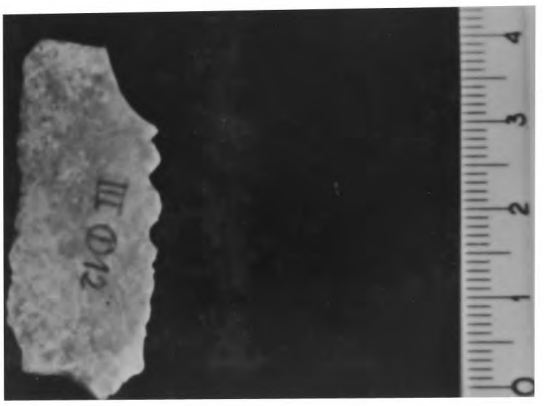
Pl. XLVIII

Pl. L



Pl. XLIX





Pl. LI

Pl. LII



Pl. LIII



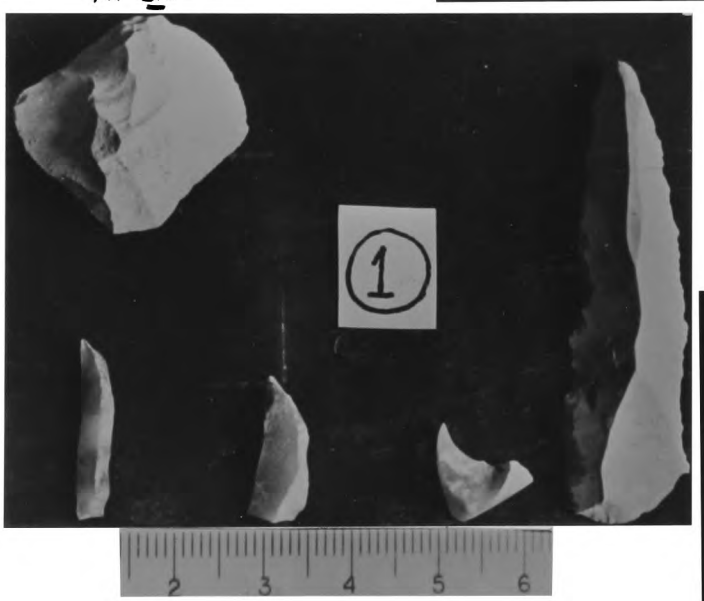
Pl. LIV



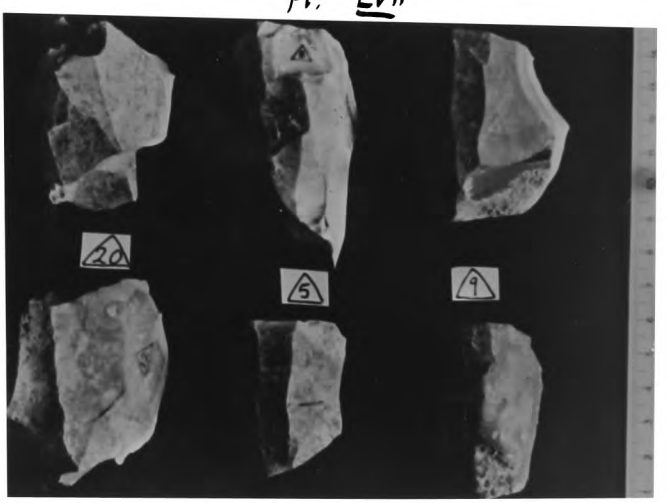
Pl. LV

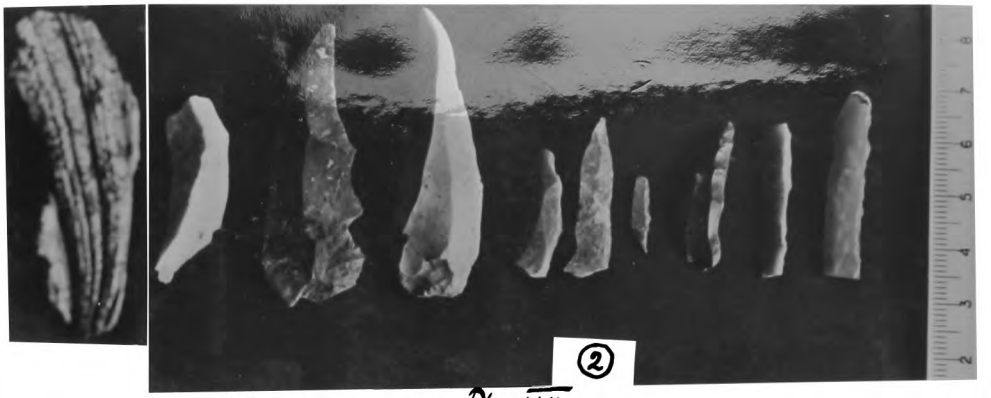


Pl. LVI



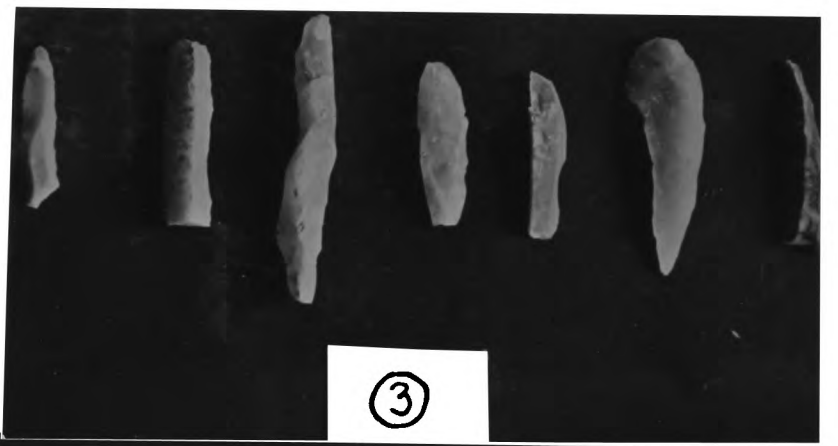
Pl. LVII



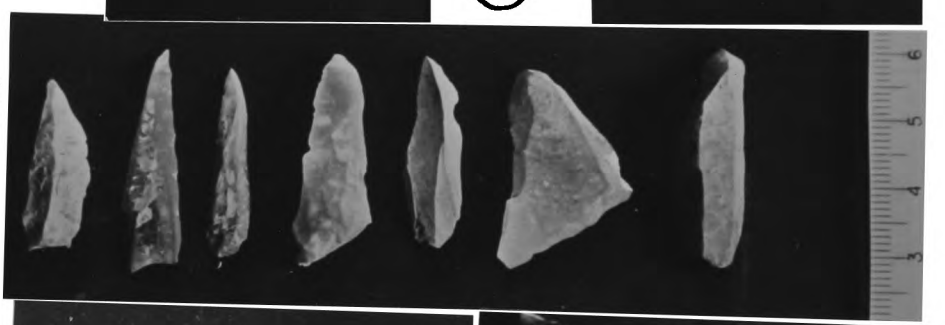


Pl. LVIII

Pl. LIX



Pl. LX



Pl. LXI



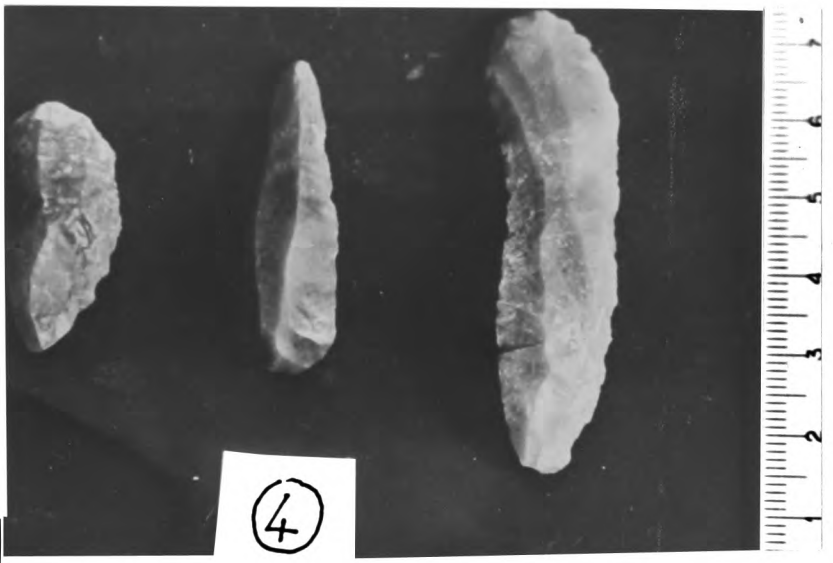




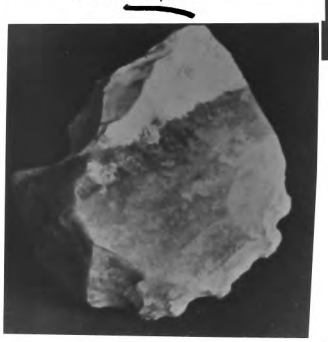
Pl. LXII

Pl. LXIII

Pl. LXIV



Pl. LXV



Map 10 — Abrigo Grande Site Exploitation Territory.

Fig. 52 — Nos. 1 - 17 Mousterian and other stone implements owned by the Grupo Espeleológico de Cieza, donated by Dr. Gregorio Parra of Cieza. Reputedly from river gravels near Barranco de la Serrana, though possibly from Minateda (?)

Fig. 53 — Nos. 1 - 8 Polished stone tools, pottery, stone beads, bifacial flint arrow-point and bone awl from Cueva de los Siete Pisos, Peña Rubia, Cehegín, Murcia. (Mus. Arq.,Murcia).

Fig. 54 — Nos. 1 - 71 Material from Cantera de Murviedro, Lorca, Murcia (Mus. Arq., Murcia). Polished stone tools, copper and bronze artefacts, bifacial flint arrow-points, backed bladelets Argaric vessels, decorated sherds, 'gipsekeramik', stone beads, Pectunculus bangle.

Fig. 55 — Material in Mus. Arq., Murcia from Peña Rubia, Cehegín, Murcia; Cueva del Calor, Peña Rubia, Cehegín; Cueva del Camino, Peña Rubia, Cehegín; Cueva del Reptil, Peña Rubia, Cehegín; La Marrada, Cehegín; Cabezo de Lubina, Alguazas, Murcia, La Presa, Alguazas, Murcia; Morrón de Bolbax, Cieza, Murcia.

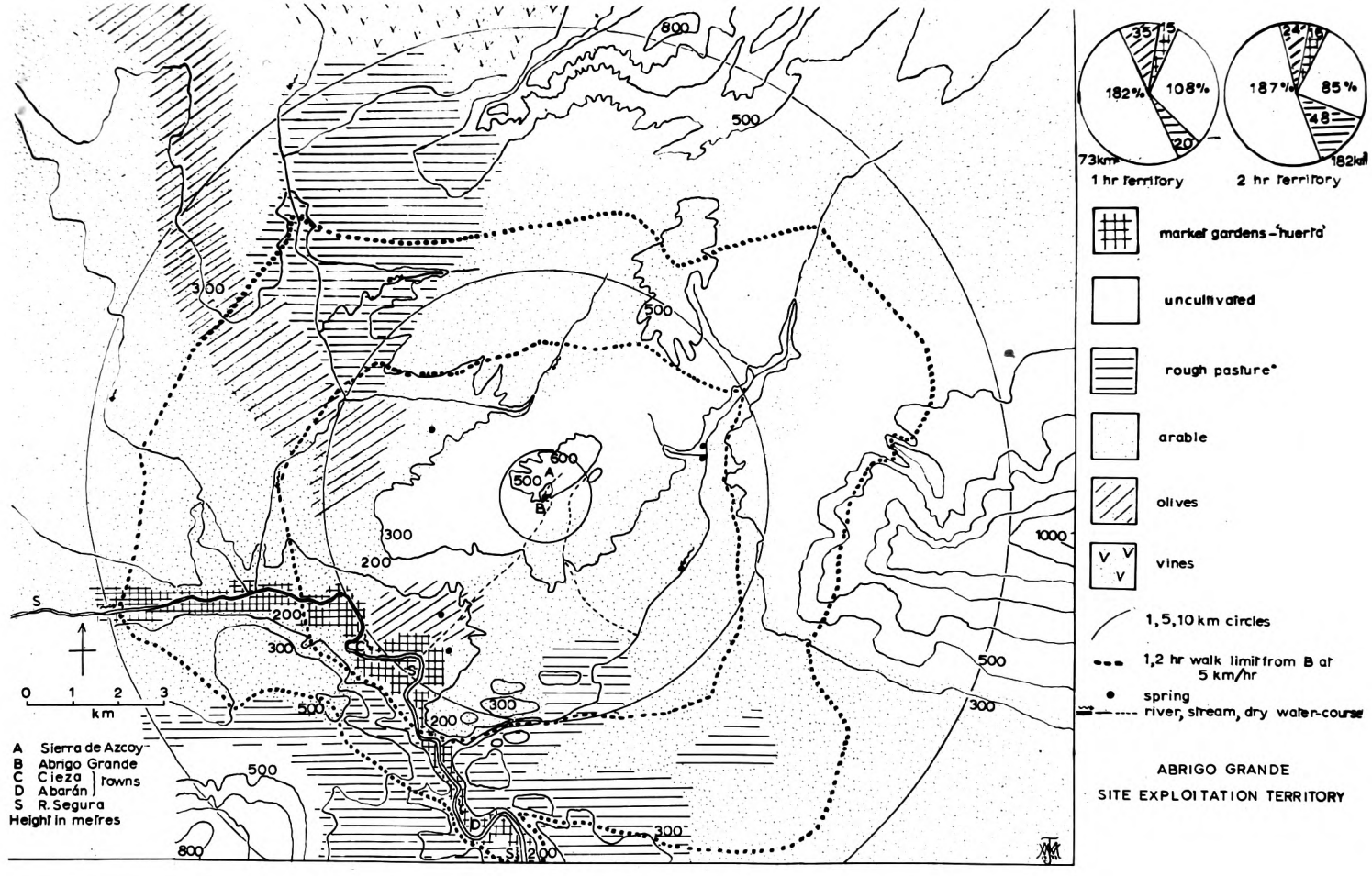
Fig. 56 — Nos. 1 - 66. Material from Cueva Amador (burial cave with skull), Peña Rubia, Cehegín, Murcia (material in Mus. Arq., Murcia). Note 'gipsekeramik', segmented pendants, bifacial flint arrow-points, stone beads.

Fig. 57 — Survey of burial cave: Cueva de los Tiestos, Jumilla, Murcia. Chamber A - A' contained burial (q.v.).

Fig. 58 — Survey of Cueva del Agua, Ramonete, Lorca, Murcia, a cave from which Argaric material including a copper axe was reported.

Fig. 59 — Nos. 1 - 59 Impressed, incised and painted red-on-buff pottery from the Còva de Mongó, Denia, Alicante, (Museo Provincial,Alicante)

Fig. 60 — Nos. 1 - 52 Material from Terra Venturas, Tabernas, Almería (in Museo L. Siret,Almería Painted pottery, incised clay object, beaker sherd, 'gipsekeramik', figurine with arm stumps, copper points and axe, round figurine perforated and winged lugged sherds, pottery spoon and 'horn', polished stone adze, bifacial flint points, flint awl, vessel with internal compartment, double vessel, bone pendants, channelled sherd, strainer sherd,etc..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300
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600
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B
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200
1000
S
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300
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km
500
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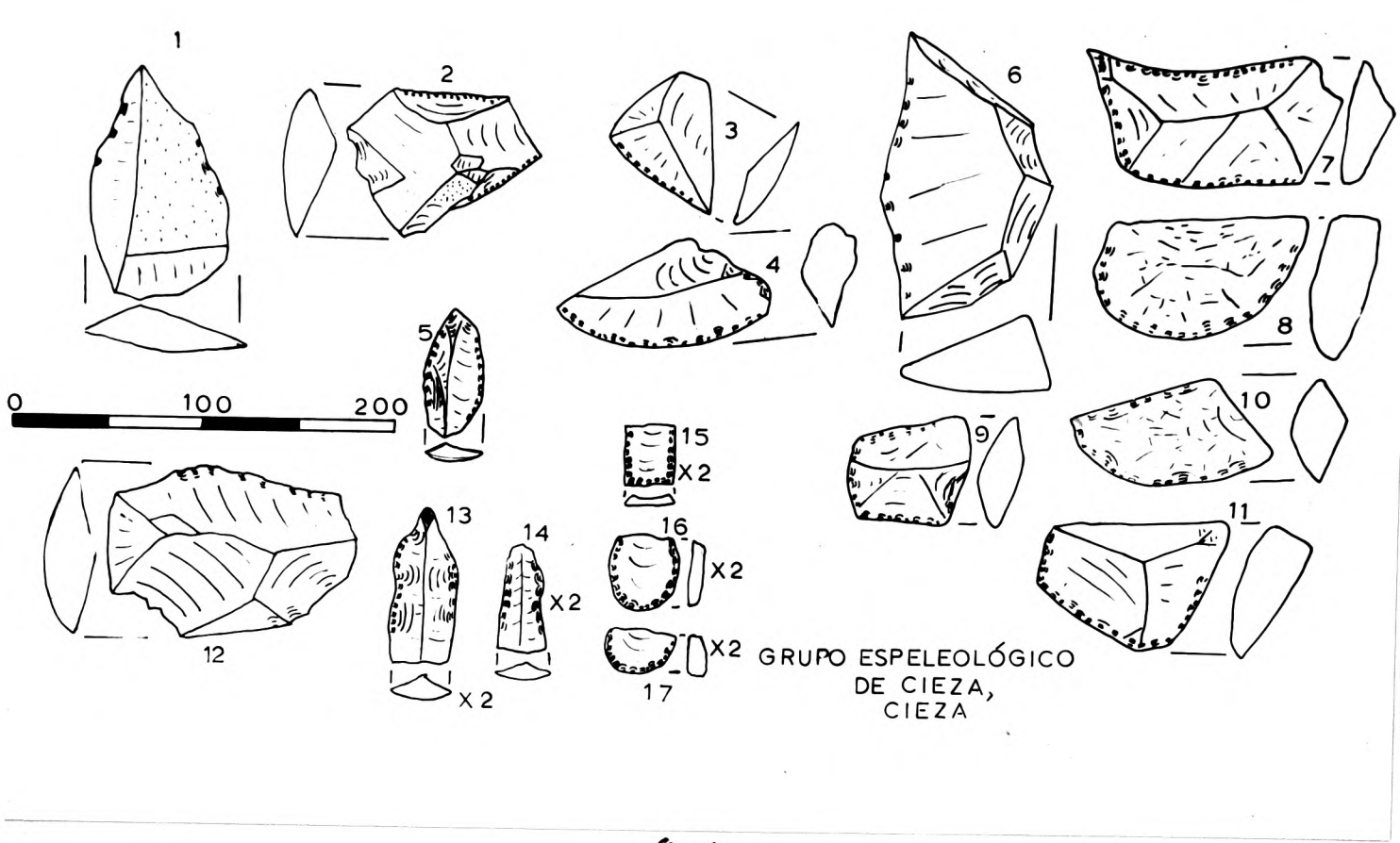
300
500
300
500
800
300
200
A Sierra de Azcoy
B Abrigo Grande
C Cieza
D Abarán
towns
S R. Segura
Height in metres
35
15
182%
108%
20
73km²
1 hr territory
24
16
187%
85%
48
182km²
2 hr territory
market gardens - 'huerta'
uncultivated
rough pasture
arable
olives
vines
1,5,10 km circles
1,2 hr walk limit from B at 5 km/hr
spring
river, stream, dry water-course
ABRIGO GRANDE
SITE EXPLOITATION TERRITORY

Map 10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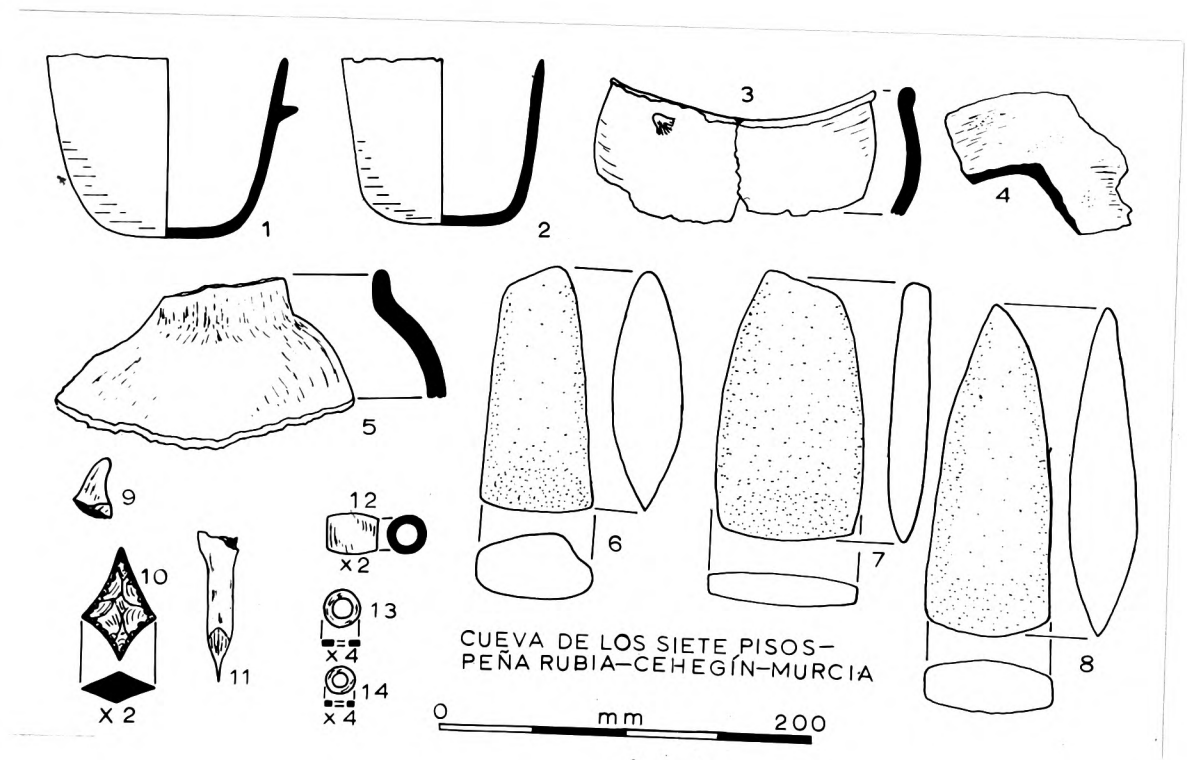
200
GRUPO ESPELEOLÓGICO
DE CIEZA,
CIEZA

fig 52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9
10
11
12
13
14
X2
X2
X4
X4
CUEVA DE LOS SIETE PISOS–
PEÑA RUBIA–CEHEGÍN–MURCIA
0
mm
200

fig 53

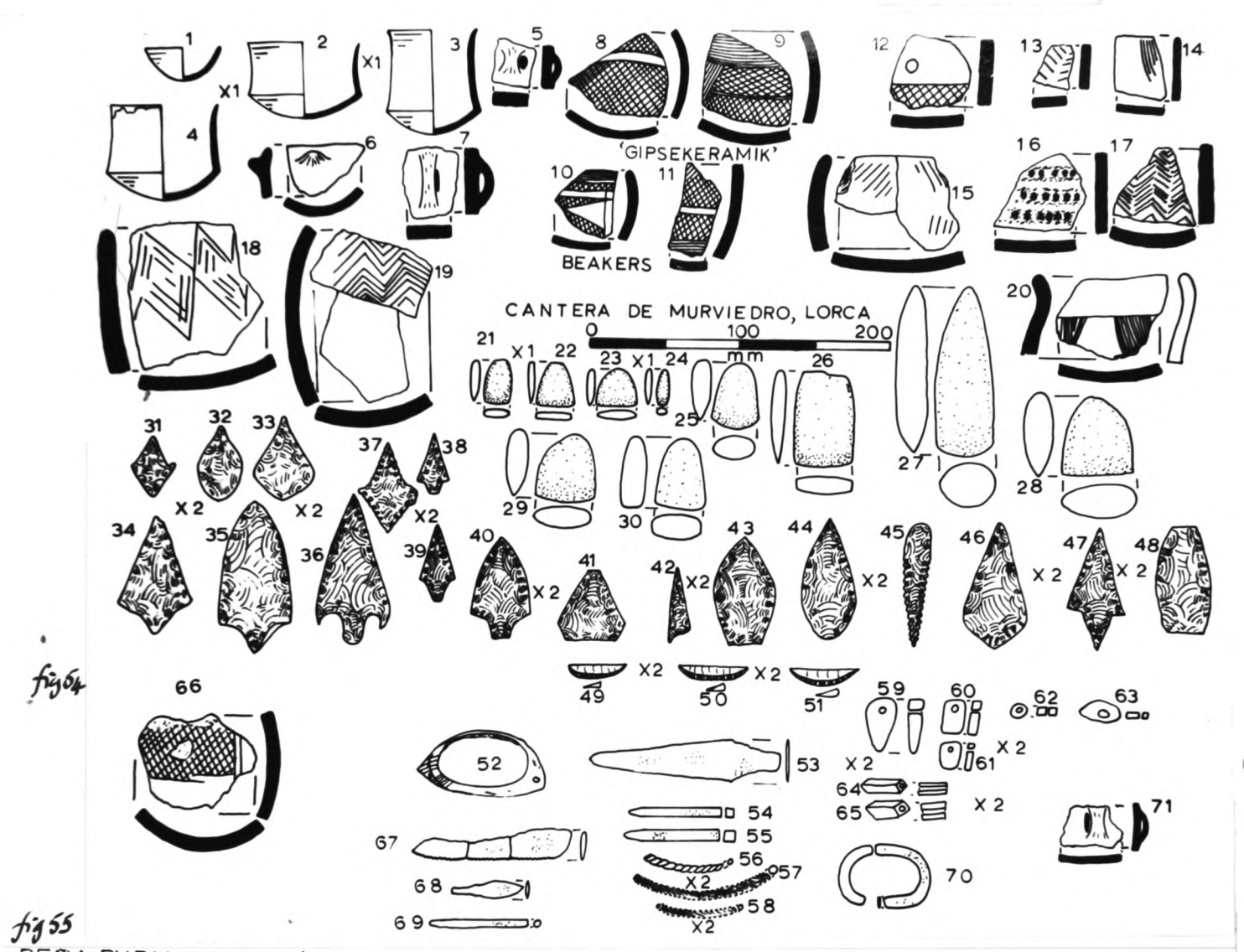
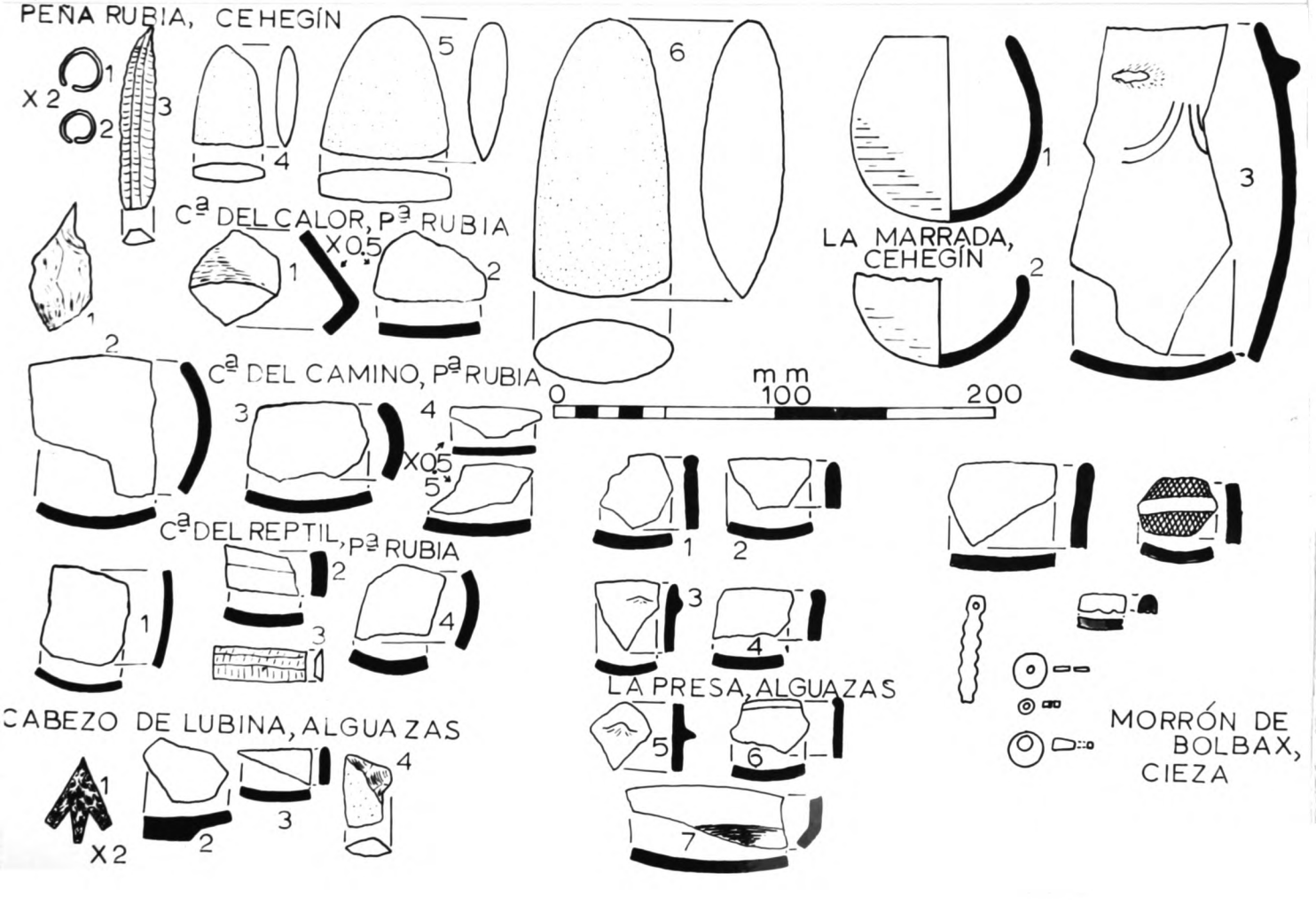
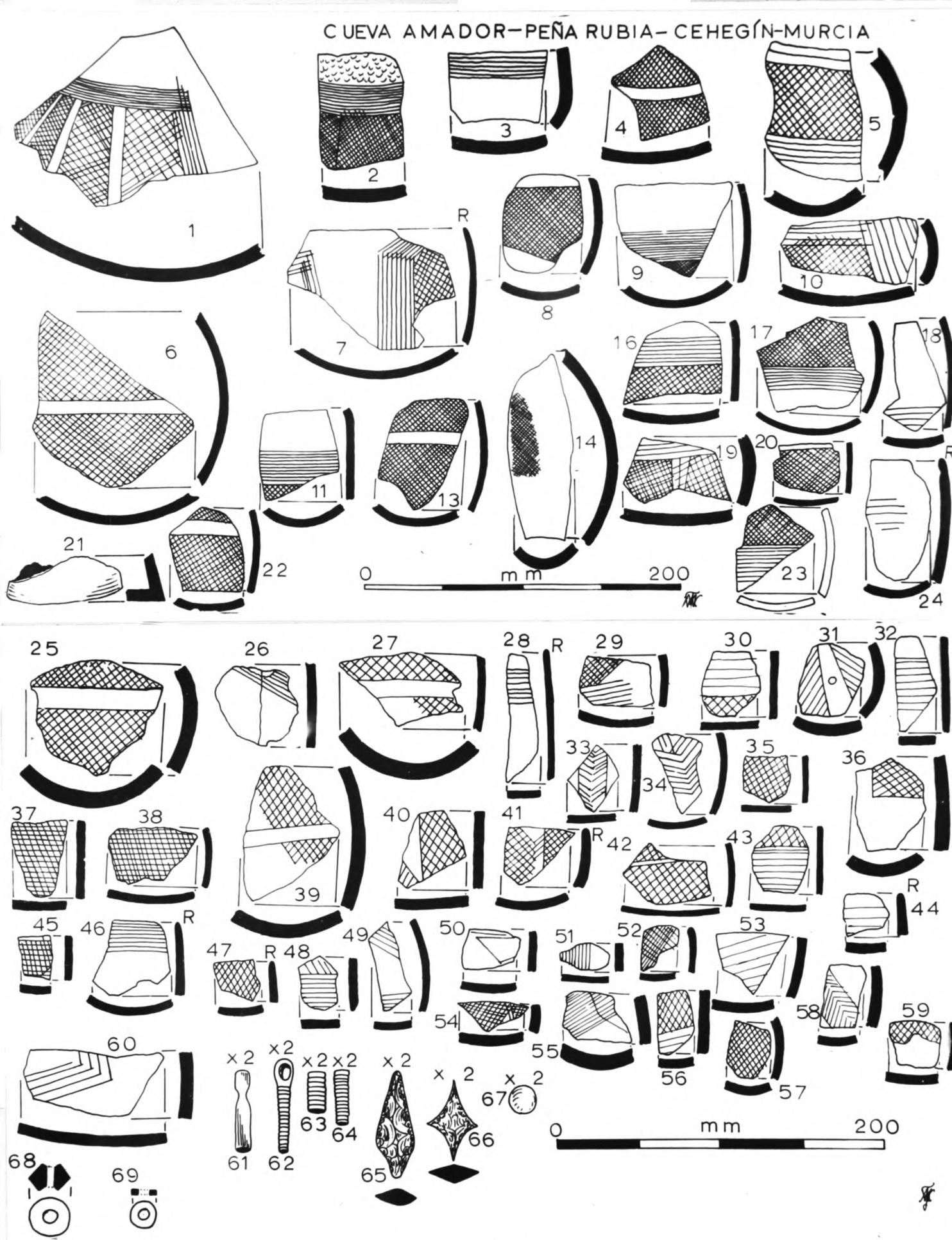

'GIPSEKERAMIK'
BEAKERS
CANTERA DE MURVIEDRO, LORCA
0 100 200
mm

fig 54

fig 55


PEÑA RUBIA, CEHEGÍN
Cª DEL CALOR, Pª RUBIA
Cª DEL CAMINO, Pª RUBIA
Cª DEL REPTIL, Pª RUBIA
CABEZO DE LUBINA, ALGUAZAS
LA MARRADA, CEHEGÍN
LA PRESA, ALGUAZAS
MORRÓN DE BOLBAX, CIEZA
0 100 200
mm


CUEVA AMADOR–PEÑA RUBIA– CEHEGÍN-MURCIA
1
2
3
4
5
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9
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6
16
17
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14
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21
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0 mm 200
23
24
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R
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41
R
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R
44
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46
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47
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48
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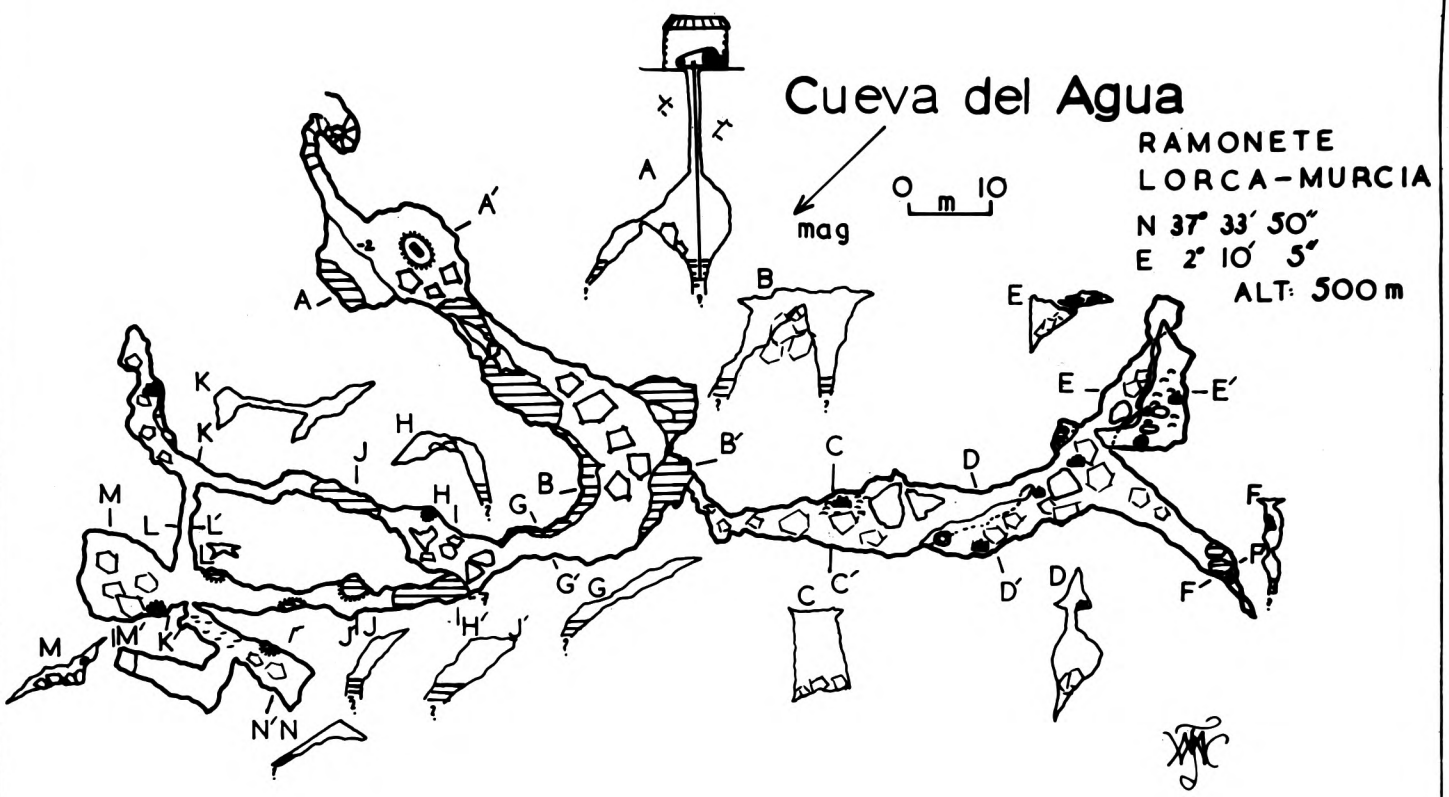
50
51
52
53
54
55
56
57
58
59
60
x 2
61
62
63
64
65
66
67
68
69
0 mm 200

fig 56


A
A'
B
B'
C
D
E
F
C'
D'
E'
F'
Cueva de los Tiestos
o Murciélagos
JUMILLA - MURCIA
0 m 10
INSTRUMENTS: PRISMATIC COMPASS, TAPE

fig 5-7



LENGTH 430 m INSTRUMENTS: PRISMATIC COMPASS, TAPE

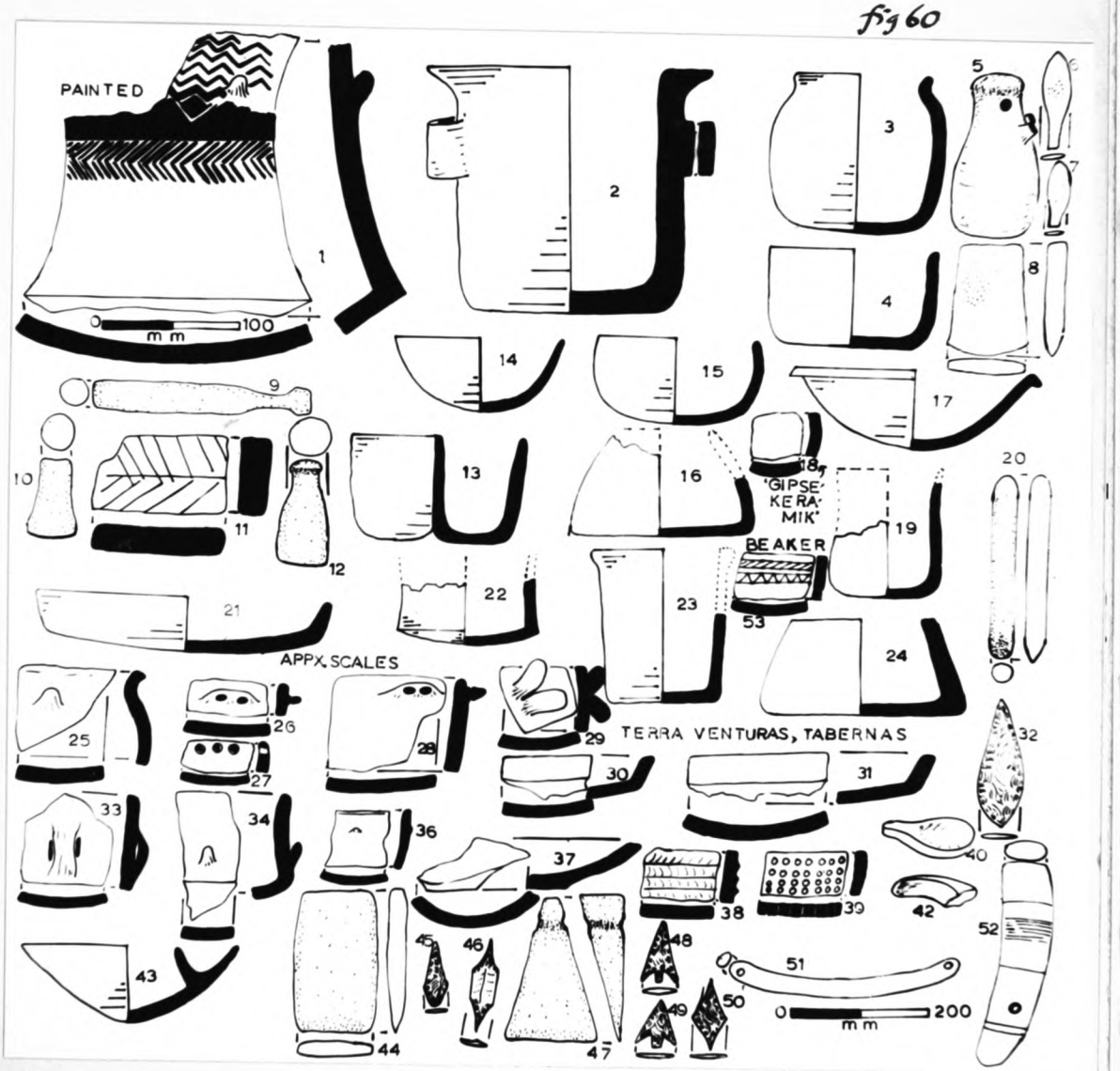
P. CARRASCOSA, A. NIETO, M. RODRIGUEZ, M.J WALKER
GRUPO ESPELEOLÓGICO CARTAGENA

fig 58


CUEVA DE MONTGÓ
JAVEA-DENIA
0 100 200
m m

fig 59

fig 60


PAINTED
0 100
m m
'GIPSE-KERA-MIK'
BEAKER
APPX. SCALES
TERRA VENTURAS, TABERNAS
0 200
m m


CUEVA DEL PELICIEGO
JUMILLA
CUEVA DE LOS TIESTOS, JUMILLA
0
100
200
mm
x½
x1
ca. 21 stone beads
13 shells
'GIPSEKERAMIK'
~ca. 45 sherds
ca. 103 perf. lagomorph bones

fig 61

Fig. 61 — Material from burial cave of Cueva de los Tiestos, Jumilla, Murcia (in Mus.Municipal,Jumilla) Nos. 1 - 54. Painted, incised, impressed pottery 'gip-ekeramik', bone tanged arrow-point, stone pendant and beads, shell beads, bone pendants, bifacial flint arrowpoints, segmented bone plaque, bone 'spatulae', copper point, flints with backing retouch, serrated flint flake.

Also material from Cueva del Peliciego, Jumilla in Mus.Municipal, Jumilla and Mus. Arq.,Murcia; nos. 1 - 6. Note bifacial arrow-point and small small polished stone object.

Fig. 62,63 — Nos. 1 - 54, 1 - 92 Material from El Prado,Jumilla in Mus.Municipal, Jumilla. Note flint scrapers and flat flint plaques with patina, retouched large blades, serrated blades, crescents, bifacal arrow-points, pottery 'horns', incised and impressed pottery, polished stone figurines, segmented bead, vessels with long lugs, handles.

Fig. 64 — Nos. 1 - 15 El Prado, Jumilla : polished stone; bone awls.

Fig. 65 — Dunas de las Amoladeras, Cabo de Palos, Cartagena (Museo Arq., Murcia) Nos 1 - 13 - crude bifacial flint point, backed bladelet, coarse sherds.

Cabezo Agudo, La Unión, Murcia (collection: sr. E. Aguirre, La Unión) Nos. 1 - 4 polished stone tanged and barbed arrow-point, kidney-shaped polished stone axe, copper flat axe, sickle flint

Carmona, Sevilla : polished stone kidney-shaped axe in Mus. Arq., Sevilla.

Fig. 66 — Figuera Redonda, Elche (Mus.Municipal,Elche) Nos. 1-27 polished stone axes, retouched flint blades, bifacial flint arrow-points and incompletely retouched rhomboidal flint points, serrated flint flake, sherd, part of bronze fibula (?).

Castellar de Morera, Elche (Mus. Municipal, Elche) Polished stone axes, sickle flint, copper bangles and snake-headed pin, stone mould decorated pottery of various kinds, nos. 1 - 16.

Fig. 67 — La Grieta, Les Llometes, Alcoy (Mus. Visedo Molto, Alcoy) Nos. 1 - 17 - bifacial flint points, polished stone axes, segmented-head pin of bone.

La Cueva, Les Llometes, Alcoy, nos. 1 - 5 - copper blade and pin, bifacial point, callais (?) bead, fibrolite axe.

Vinalopó valley, Elche (Mus. Municipal,Elche) Nos. 1 - 14 - polished stone axes, flint.

La Alcudia, Elche Nos. 1 - 5 - polished stone axes, flint plaque with patina and retouch.

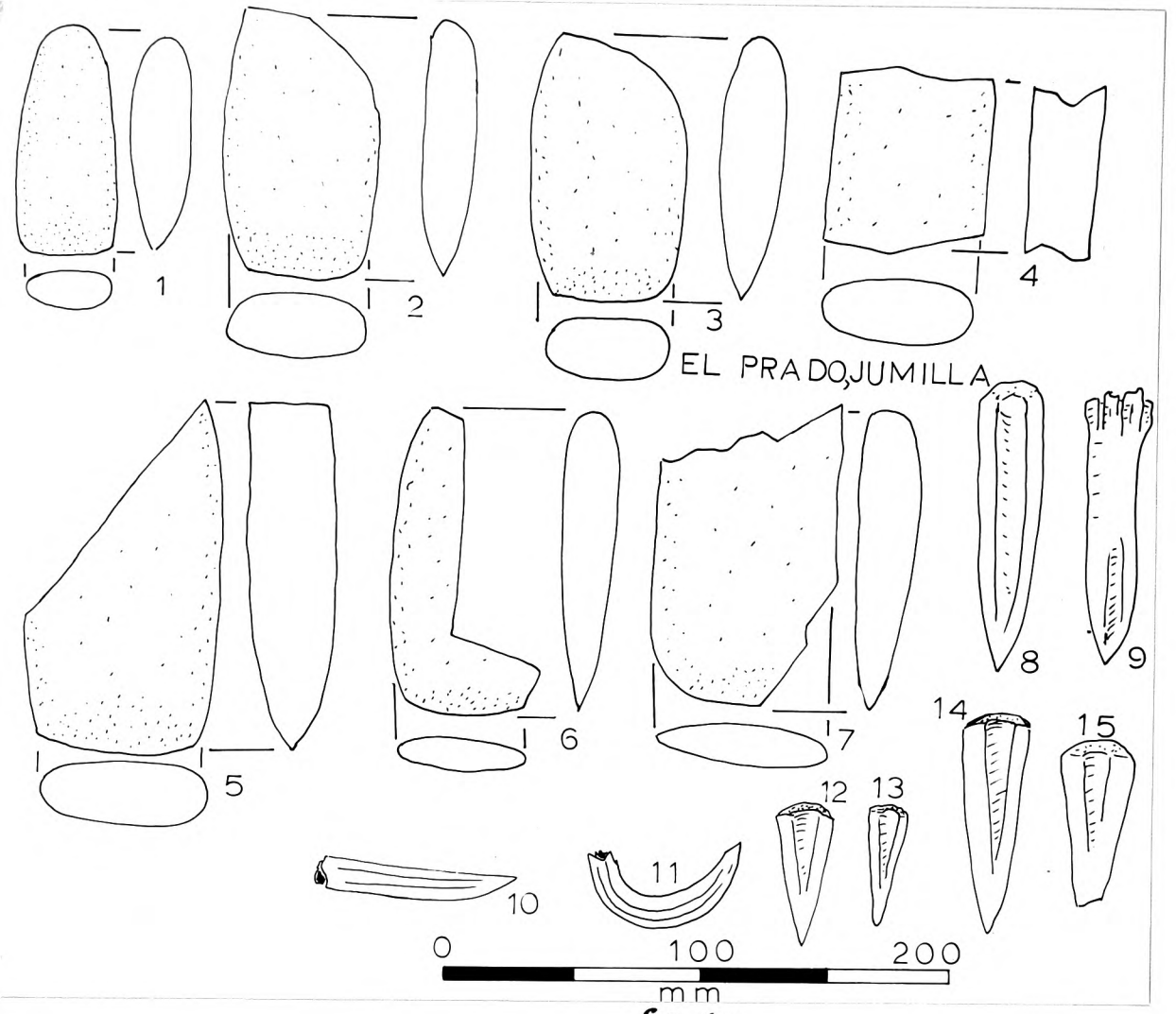

1
2
3
4
EL PRADO, JUMILLA
5
6
7
8
9
10
11
12
13
14
15
0
100
200
mm

fig 64

fig 65


1
X 2
X2
2
DUNAS DE LAS AMOLADERAS,
CABO DE PALOS,
CARTAGENA
3
4
5
6
7
8
9
10
11
12
13
0
100
200
mm
CARMONA, SEVILLA
1
X1
2
X4
3
4
CABEZO AGUDO,
LA UNIÓN

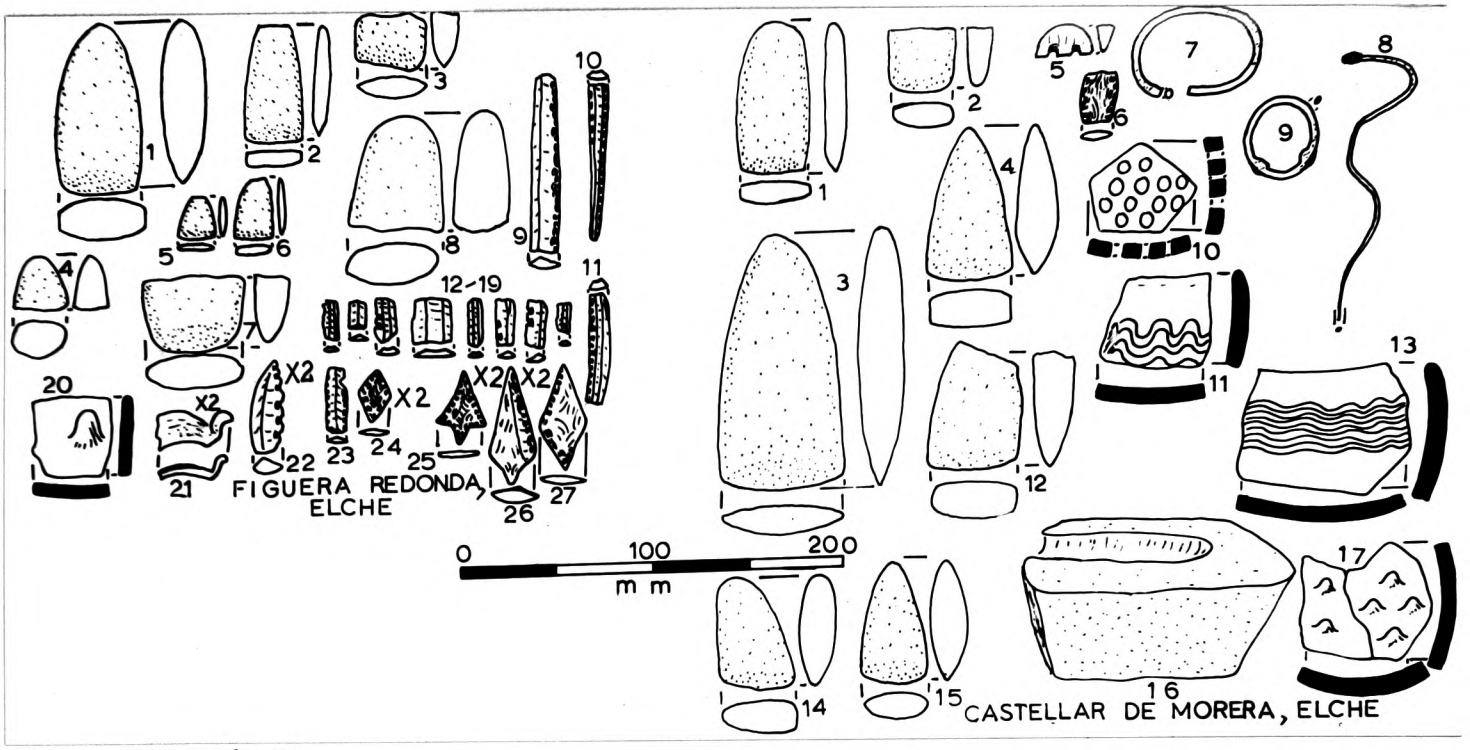
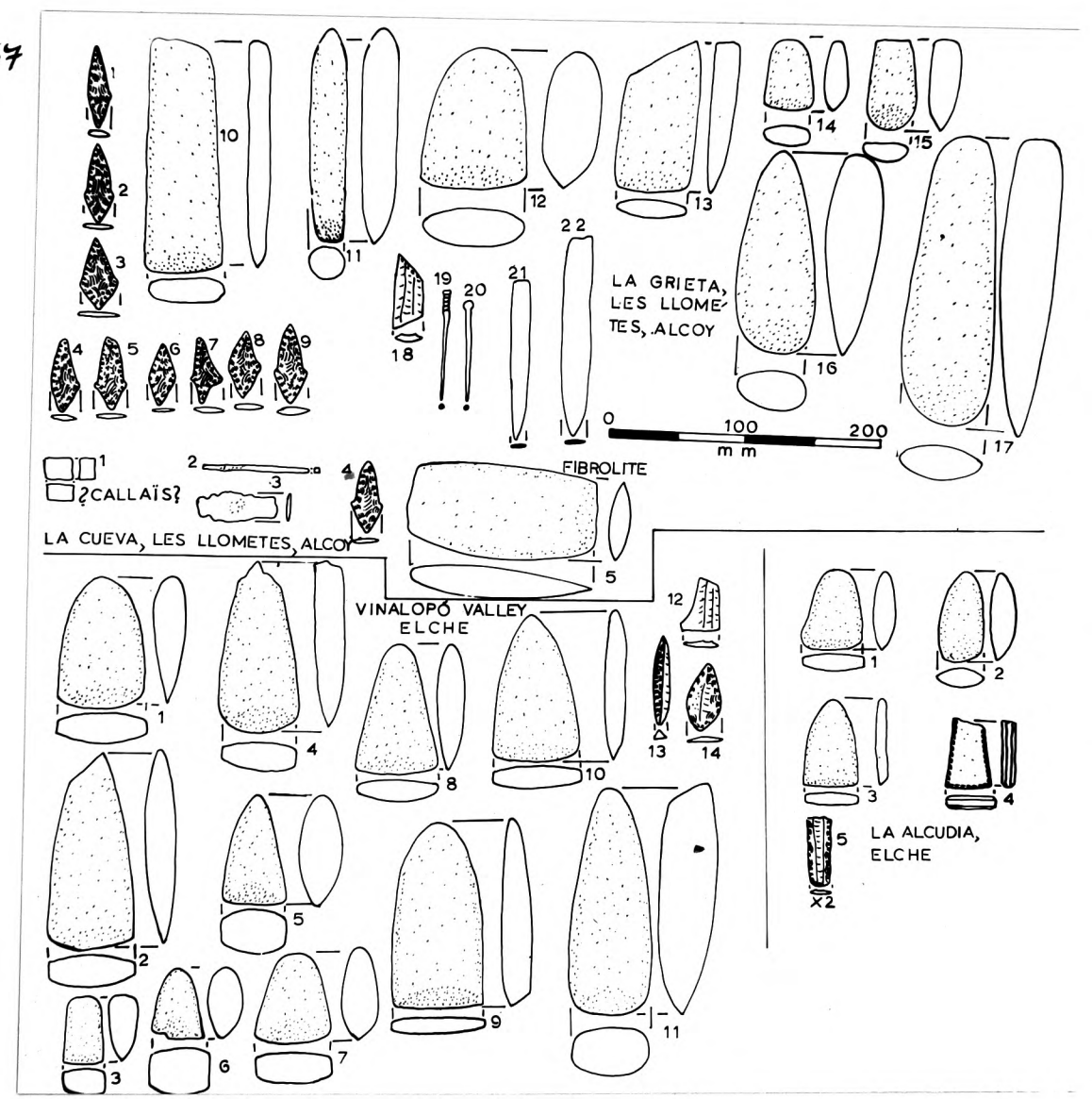
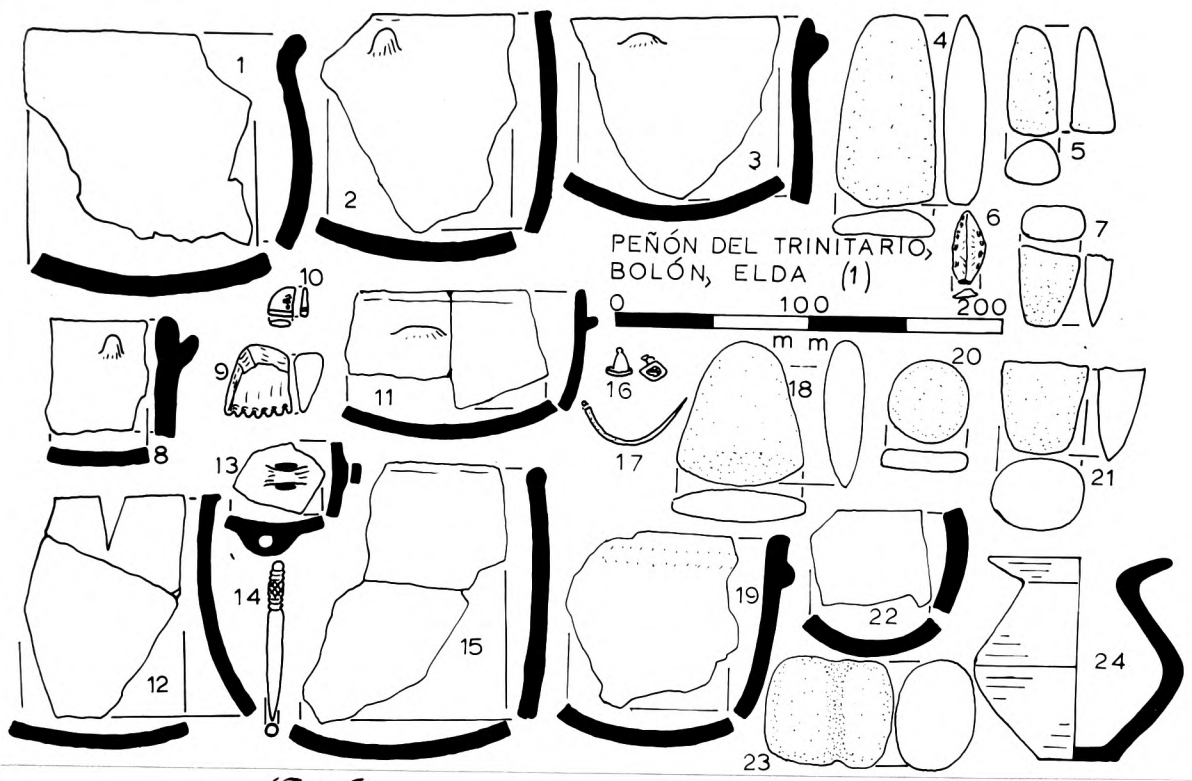

FIGUERA REDONDA, ELCHE
0 100 200
m m
CASTELLAR DE MORERA, ELCHE

fig 66

fig 67


LA GRIETA, LES LLOMETES, ALCOY
0 100 200
m m
?CALLAÏS?
FIBROLITE
LA CUEVA, LES LLOMETES, ALCOY
VINALOPÓ VALLEY ELCHE
LA ALCUDIA, ELCHE


PEÑÓN DEL TRINITARIO, BOLÓN, ELDA (1)
0 100 200
m m
(2)
1 X2 69 shell beads
2 X2
3
4
5
X4
GLASS

Pg 68

Pg 69

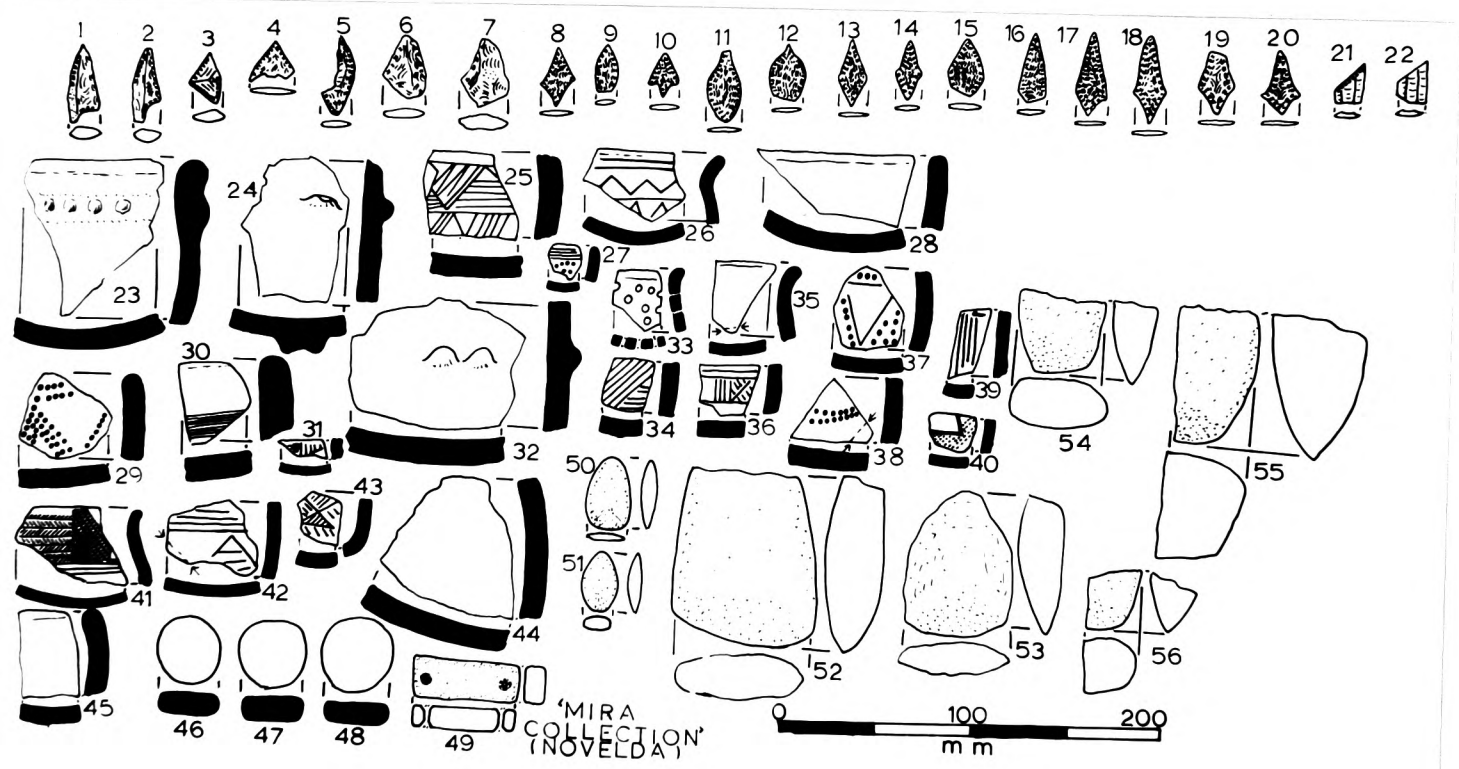

'MIRA COLLECTION' (NOVELDA)
0 100 200
m m

Fig. 68 — Peñón del Trinitario, Elda, Alicante (in collection of Centro Excursionista Eldense,Elda), Nos. 1 - 24: child burial in cave , pottery, polished stone axes, copper rings, shell beads, several hundred human teeth, ivory pin with relief ornament (Iberian?) sickle flint, glass beads

Fig. 69 — Collection of sr. A. Mirá, Novelda (private), material probably from Tabayá, Elda, Alicante. Nos. 1 - 56, bifacial flint arrow-points, incised sherds, polished stone axes, perforated polisher-wrist-bracer object.

Fig. 70 — Argaric pottery and metalwork, Nos. 1 - 36 from Campo de Futbol, Escuela, Casa del Niño, Monte del Castillo, Lorca, Murcia (Mus.Arq.,Murcia).

Fig. 71 — Puntarrón del Chico, Beniatján, Murcia, Murcia, Nos 1 - 31, Argaric, incised, lugged and excised pottery, foot-ring sherd, canister, Argaric metalwork, perforated polisher-wrist-bracer, sickle flints, polished stone tools. (Mus.Arq Murcia)

Fig. 72 — Various: from Mus. Arq. Murcia:
Loma del Tío Ginés, Cementerio Viejo, Puerto Lumbreras, Murcia. Argaric vessels,metal blade, Nos. 1 - 4.
Alcantarilla, lugged cup.
Los Almendros, Torre Pacheco: small vessel.
Solana de Peñarrubia, Béjar, Lorca: Bronze III
La Morra de Cano, P. de Valdeinfierno,Lorca: copper arrow-point
Sierra de Espuña, Alhama de Murcia: 2 copper point
Rambla de Béjar,Lorca: polished stone axe
Villerda,Lorca: baggy pot
Barranco del Asno, Puerto Lumbreras; Argaric pots.

Fig. 73 — Sima de los Tiestos, Riopar, Albacete (Albacete Mus.) Nos. 1 - 27 sherds. A polished axe also found not drawn.

Fig. 74 — Campico de Lébor, Totana, Murcia Nos. 1 - 19 (Mus. Arq., Murcia) polished stone tools, incised, perforated and lugged sherds, sickle flints.
Cueva del Campico de Centeno, Totana, Murcia (Mus. Arq., Murcia) Nos. 1 - 3: flints,polished sto
Los Blanquizares de Lébor, Totana, Murcia (Mus. Ar Murcia) Nos. 1 - 5: sherds.

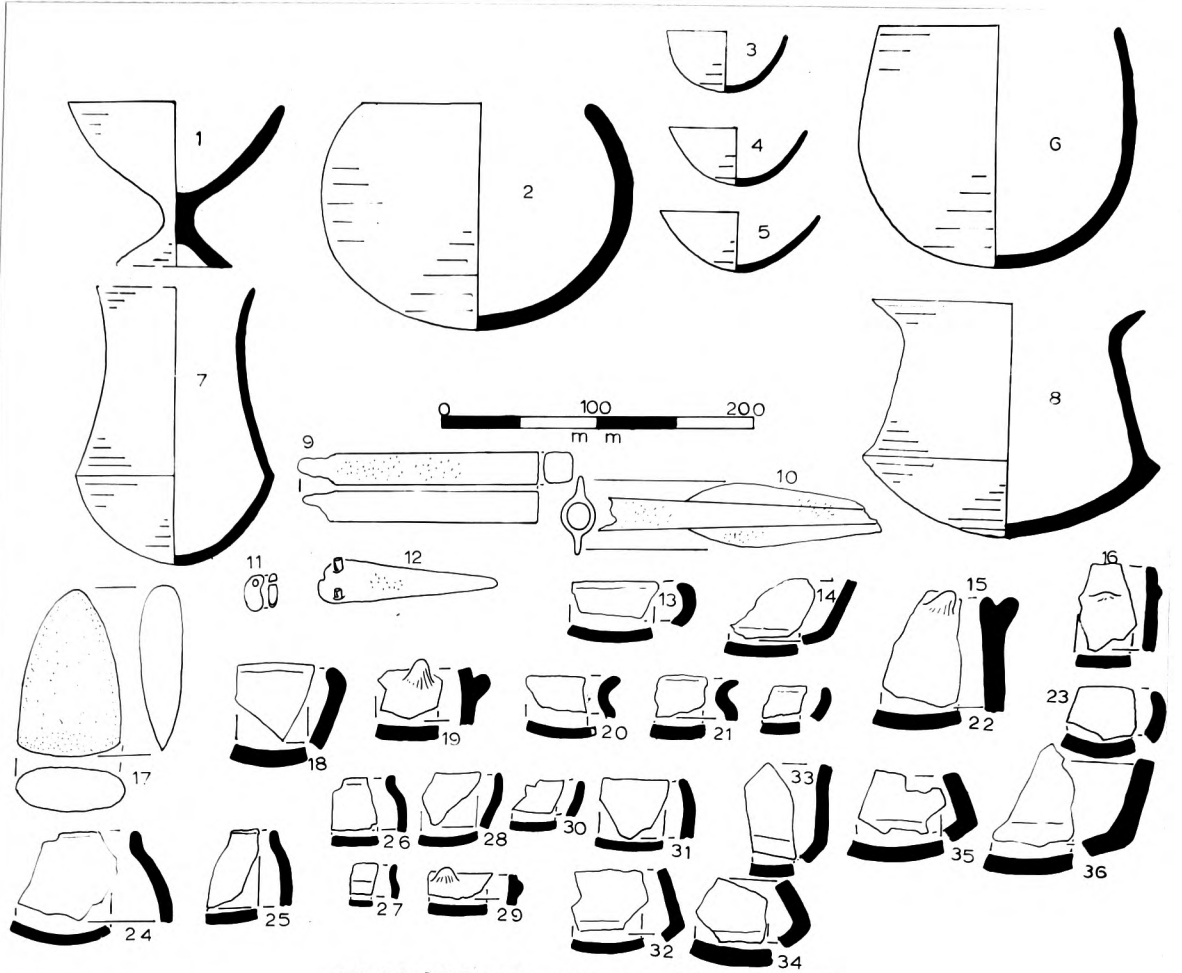
Fig. 75 — Cueva Santa, Caudete, Albacete (Albacete, Mus.Prov Nos. 1 - 5. Some sherds from burial cave, incl ding cardial impressed bowl.

Fig. 76 — Los Millares, Gador, Almería: oculus incised vessel (fragment) (Mus. L. Siret, Almería). (Grave 4 ?).

Fig. 77 — Sherd from Catí Foradá,Petrel,Alicante (Centro Excursionista de Petrel).

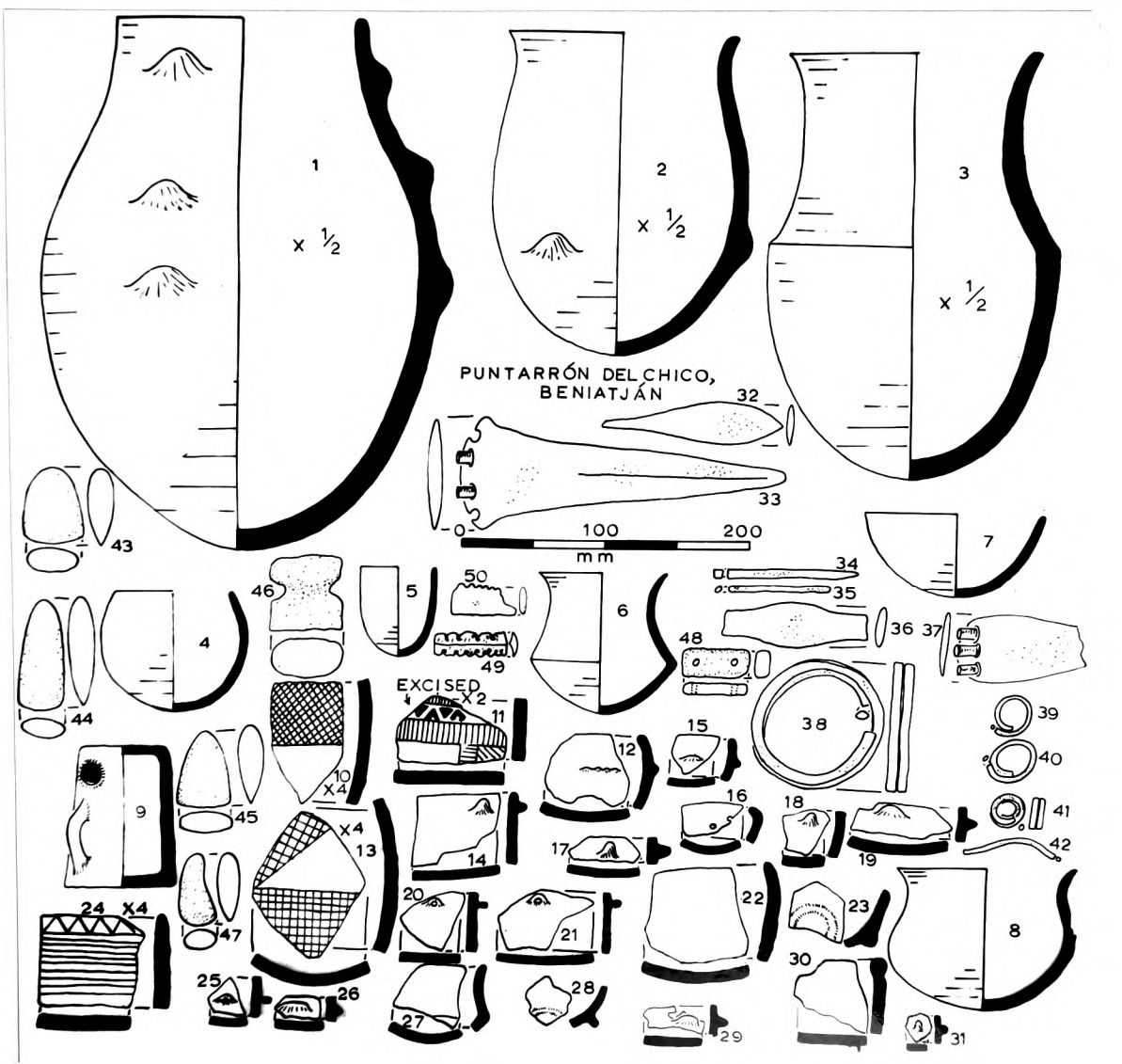
Fig./
A: 24

fig 70



CAMPO DE FUTBOL, ESCUELA-CASA DEL NIÑO,
MONTE DEL CASTILLO, LORCA

fig 71



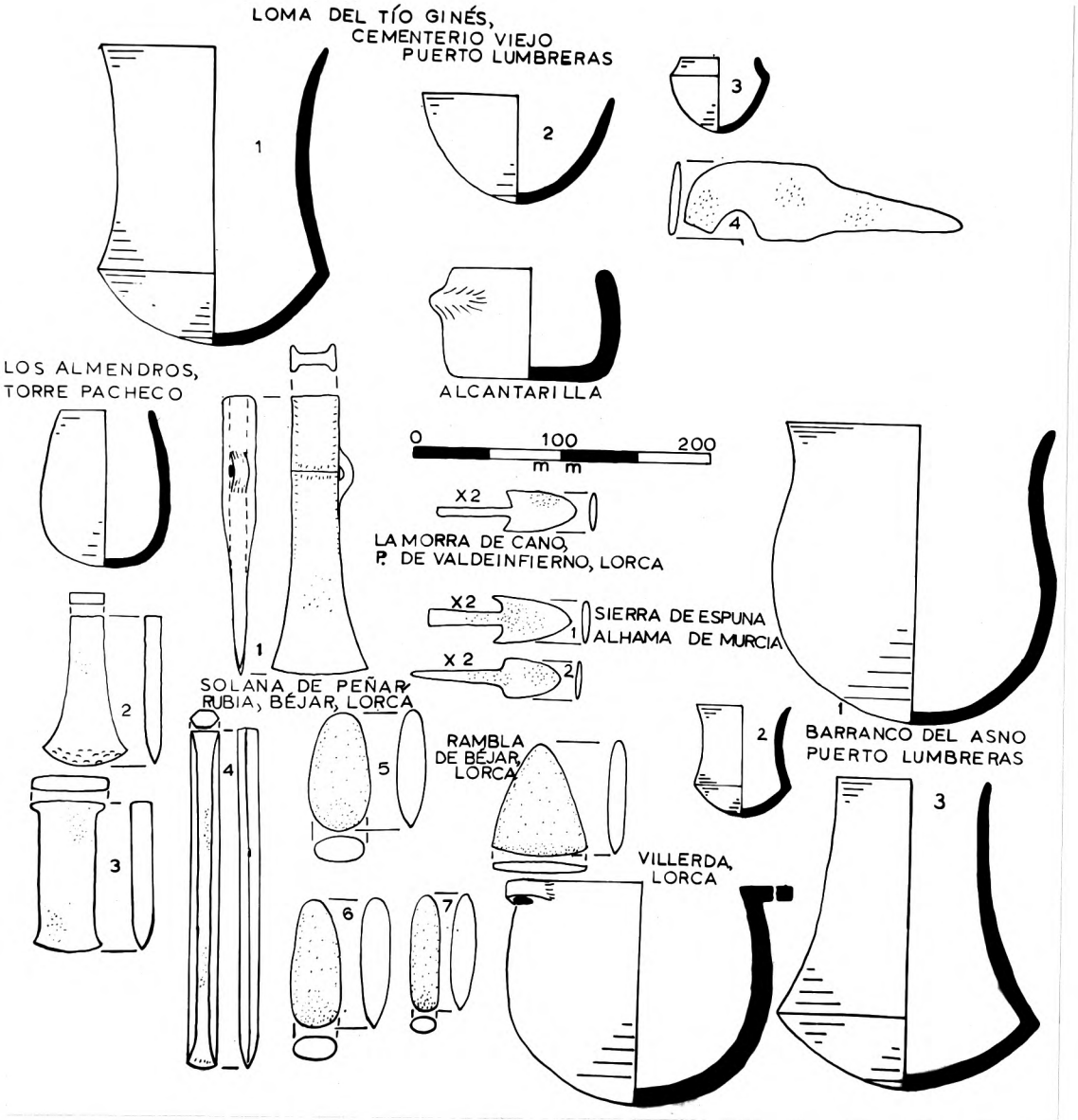
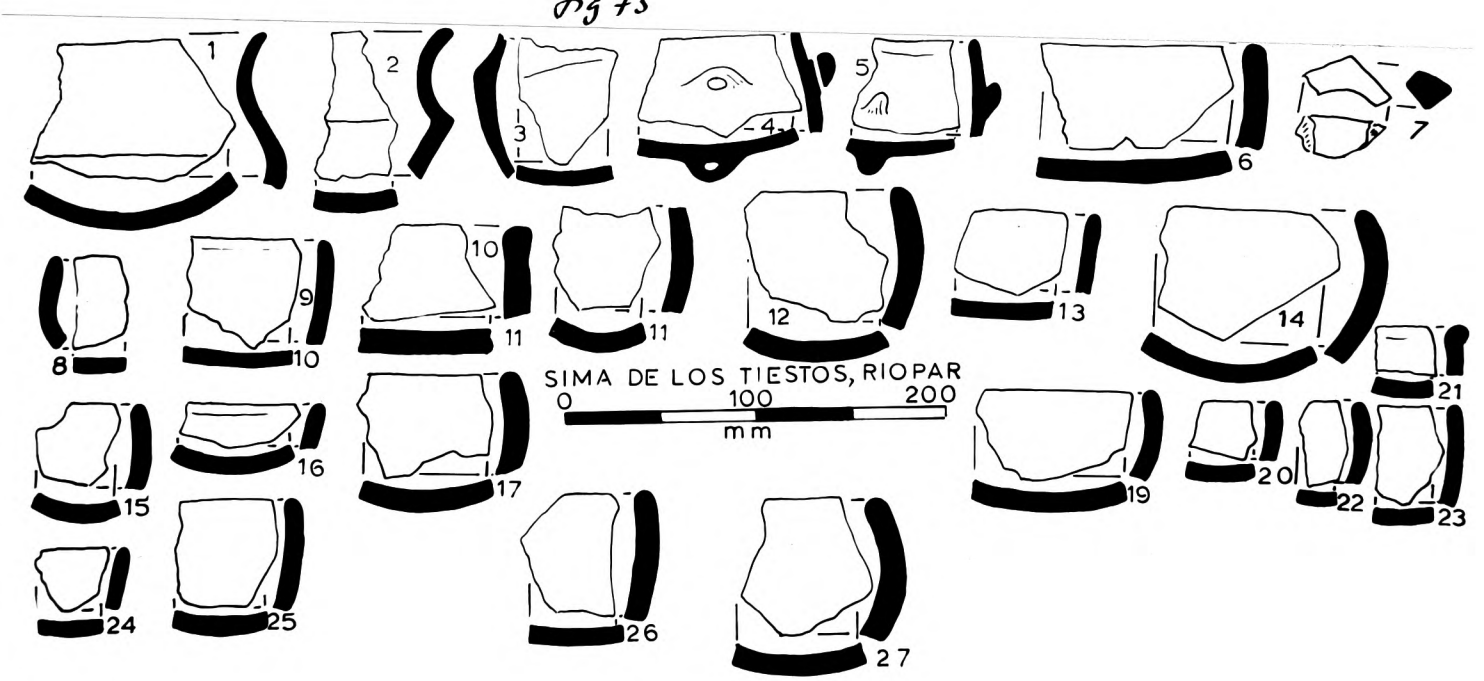

LOMA DEL TÍO GINÉS,
CEMENTERIO VIEJO
PUERTO LUMBRERAS
1
2
3
4
ALCANTARILLA
LOS ALMENDROS,
TORRE PACHECO
0 100 200
m m
X2
LA MORRA DE CANO,
P. DE VALDEINFIERNO, LORCA
X2
1
SIERRA DE ESPUNA
ALHAMA DE MURCIA
X 2
2
SOLANA DE PEÑAR-
RUBIA, BÉJAR, LORCA
1
2
3
4
5
6
7
RAMBLA
DE BÉJAR,
LORCA
VILLERDA,
LORCA
1
2
3
BARRANCO DEL ASNO
PUERTO LUMBRERAS

Fig 72

Fig 73


1
2
3
4
5
6
7
8
9
10
10
11
11
12
13
14
15
16
17
SIMA DE LOS TIESTOS, RIOPAR
0 100 200
mm
19
20
21
22
23
24
25
26
27

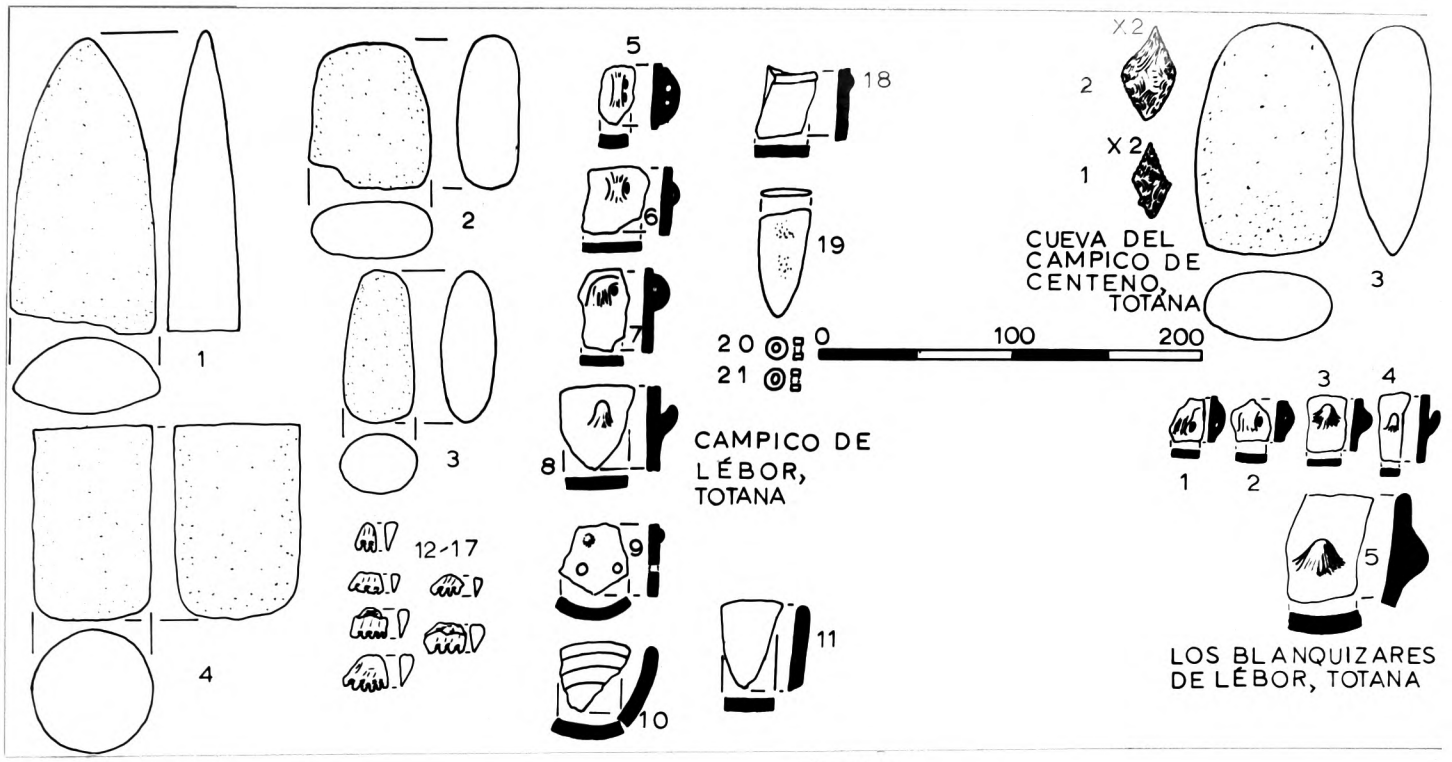
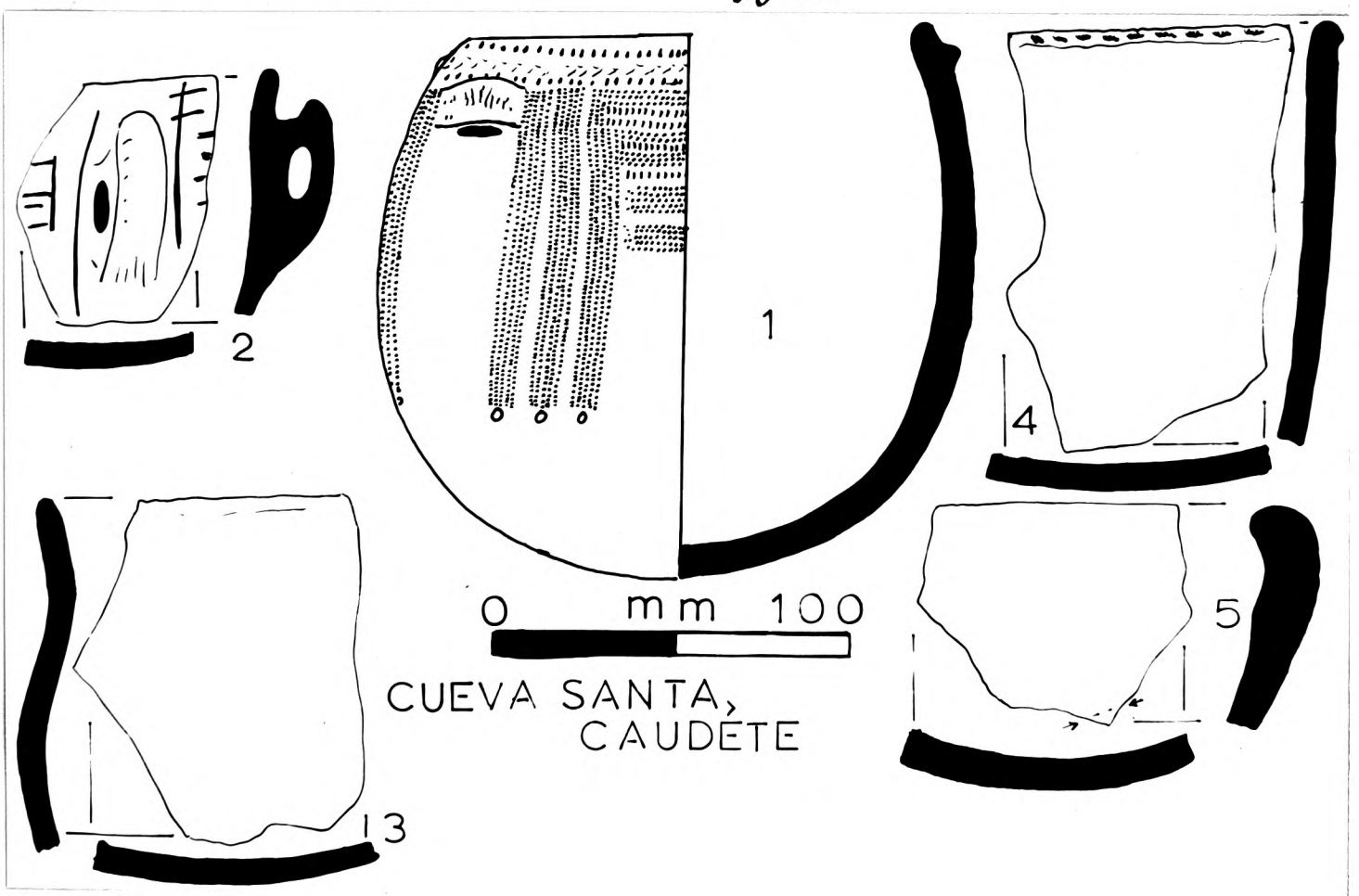

X 2
X 2
CUEVA DEL CAMPICO DE CENTENO, TOTANA
0 100 200
CAMPICO DE LÉBOR, TOTANA
12-17
LOS BLANQUIZARES DE LÉBOR, TOTANA

fig 74

fig 75


0 mm 100
CUEVA SANTA, CAUDETE

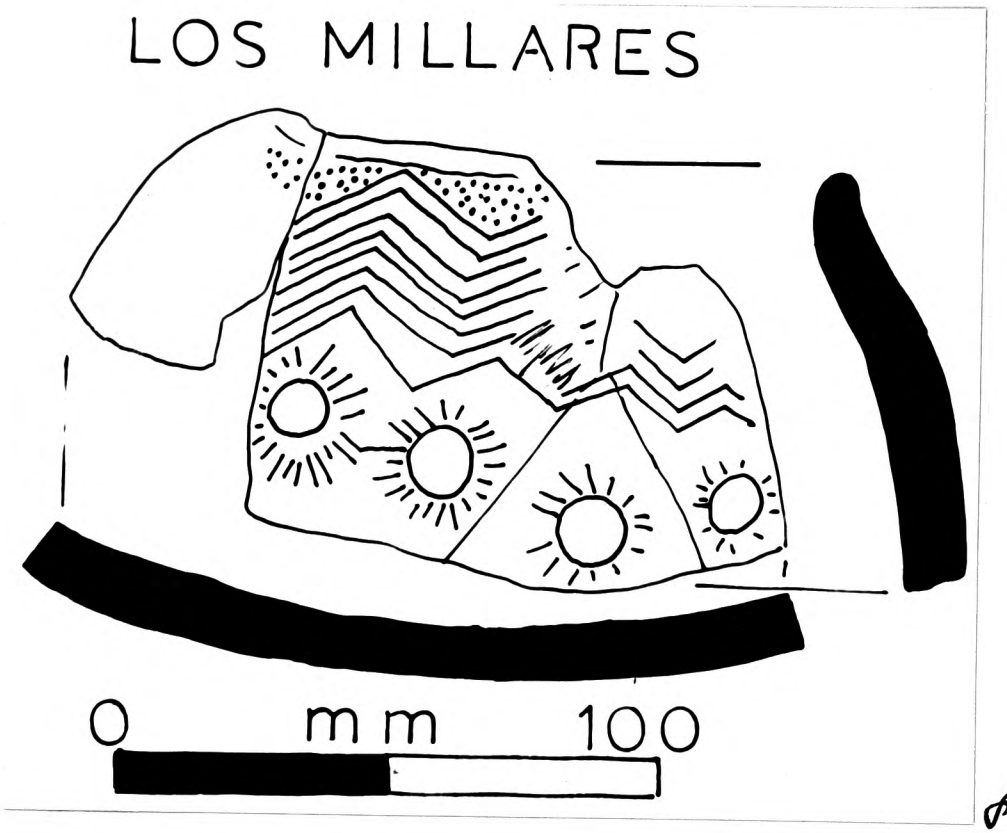


fig 76

fig 77

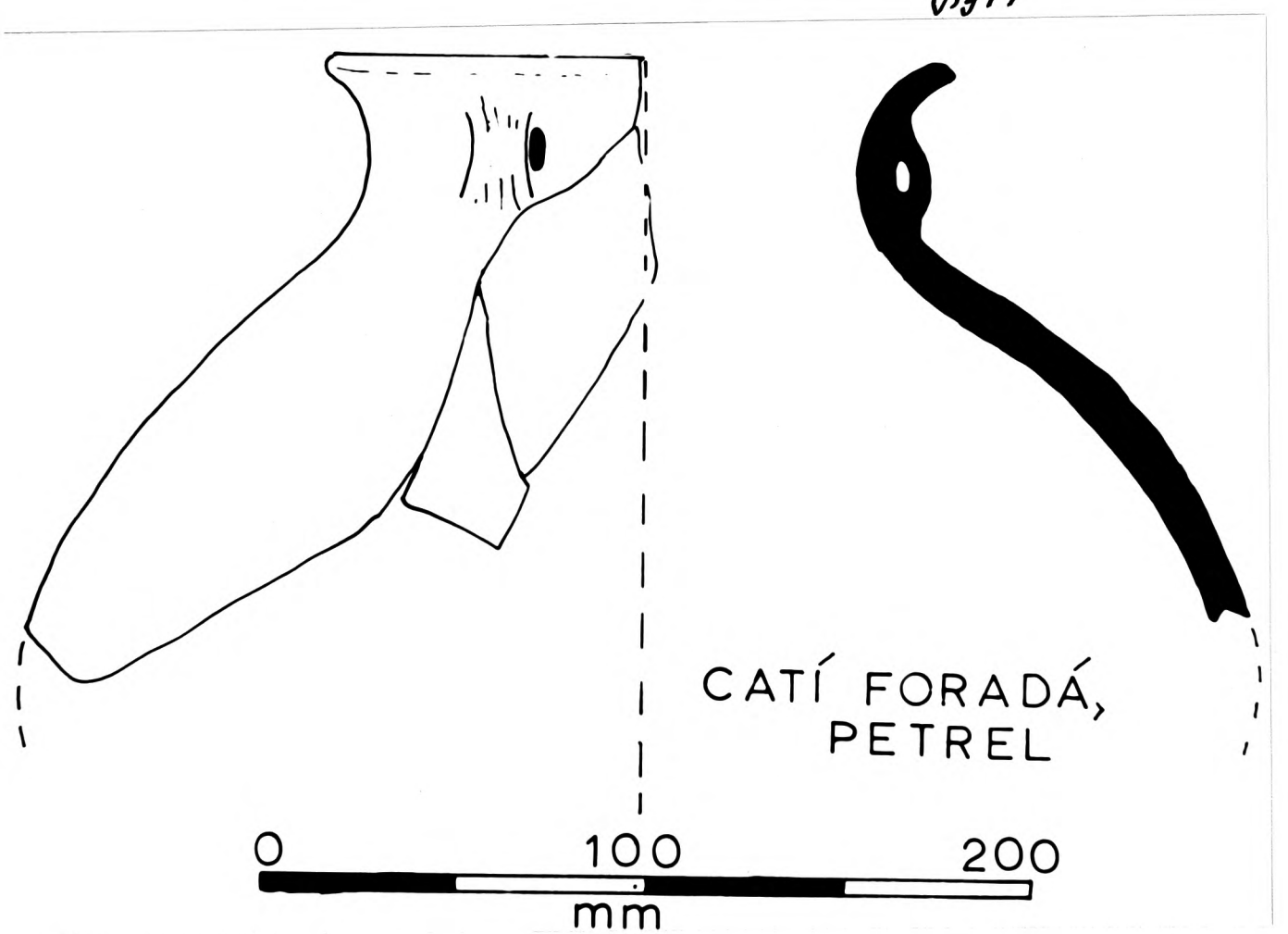


Fig. 78 — Cerro de la Campana, Yecla, Murcia (Mus. Arq., Murcia) Nos. 1 – 19: baggy vessels, lugged sherds, olive shaped stone beads, polished stone axe, polished stone idol.

Fig. 79 — Los Torrejones, Yecla (collection at Casa de Cultura, Yecla, Murcia): lugged vessel
Cerro de la Campana, Yecla, Murcia (Casa de Cultura, Yecla): sherds
Cerro del Cuchillo, Yecla, Murcia (Casa de Cultura, Yecla) Nos. 2,3,4,5,9,10,11–sherds.

Fig. 80 — Cabezo de la Mesa, Capres, Fortuna, Murcia: Nos. 1 – 5, copper points, polished stone axe (Mus. Arq.,Murcia)
Castillo del Puerto de la Cadena, Murcia, (Mus. Arq., Murcia), Nos. 1–2, Argaric vessel and bowl.
Monte de Santa Catalina, Verdolay, Murcia, Murcia (Mus. Arq., Murcia): Nos. 1 – 3, globular vessel, copper axe, rivetted knife.

Fig. 81 — Alcanaria, La Escucha, Purias, Lorca, Murcia (Mus. Arq., Murcia) Nos. 1 – 12: Argaric and lugged pottery, copper blade, stone penda

Fig. 81–88 — Furgús Collection, (Biblioteca Pública, Orihuela Alicante and Colegio de la Inmaculada, Carretera de Valencia, Alicante, Alicante). This and the following figures represent a consecutive enumeration of the extant remains of F. Furgús' excavations in the Orihuela district at the turn of the century. Nos. 1–239 are the new enumeration. Numbers of the type 1–4, 3–7 etc. represent labels on artefacts, O indicating the Orihuel collection, A the Alicante collection. The principal sites are San Antón, Orihuela; Callosa de Segura; Monteagudo,Murcia; La Algorfa, Alicante.

Fig. 89 — San Antón, Orihuela, Alicante (Mus. Arq., Murcia) Argaric pottery, wrist-bracers-polishers, copper saw, flint saw, bone pommels, copper pins and bangles, etc. Nos. 1 –24.

Fig. 90 — Monteagudo, Murcia, Murcia (Mus. Arq., Murcia) Nos. 1 – 13 Argaric pottery, lugged vessel, bowls, copper knives, halberds.

Fig. 91 — Cerro de Cabeza Gorda, Totana, Murcia (Mus. Arq., Murcia) Nos. 1 – 7 Argaric pottery, lugged sherd, rivetted sword, stone beads.

Fig. 92 – 95 — La Bastida, Totana, Murcia (Mus. Arq., Murcia) Nos. 1 – 37, 1–14, 1 – 10,1 – 4. This is material displayed. Other material is closed to inspection. See text.

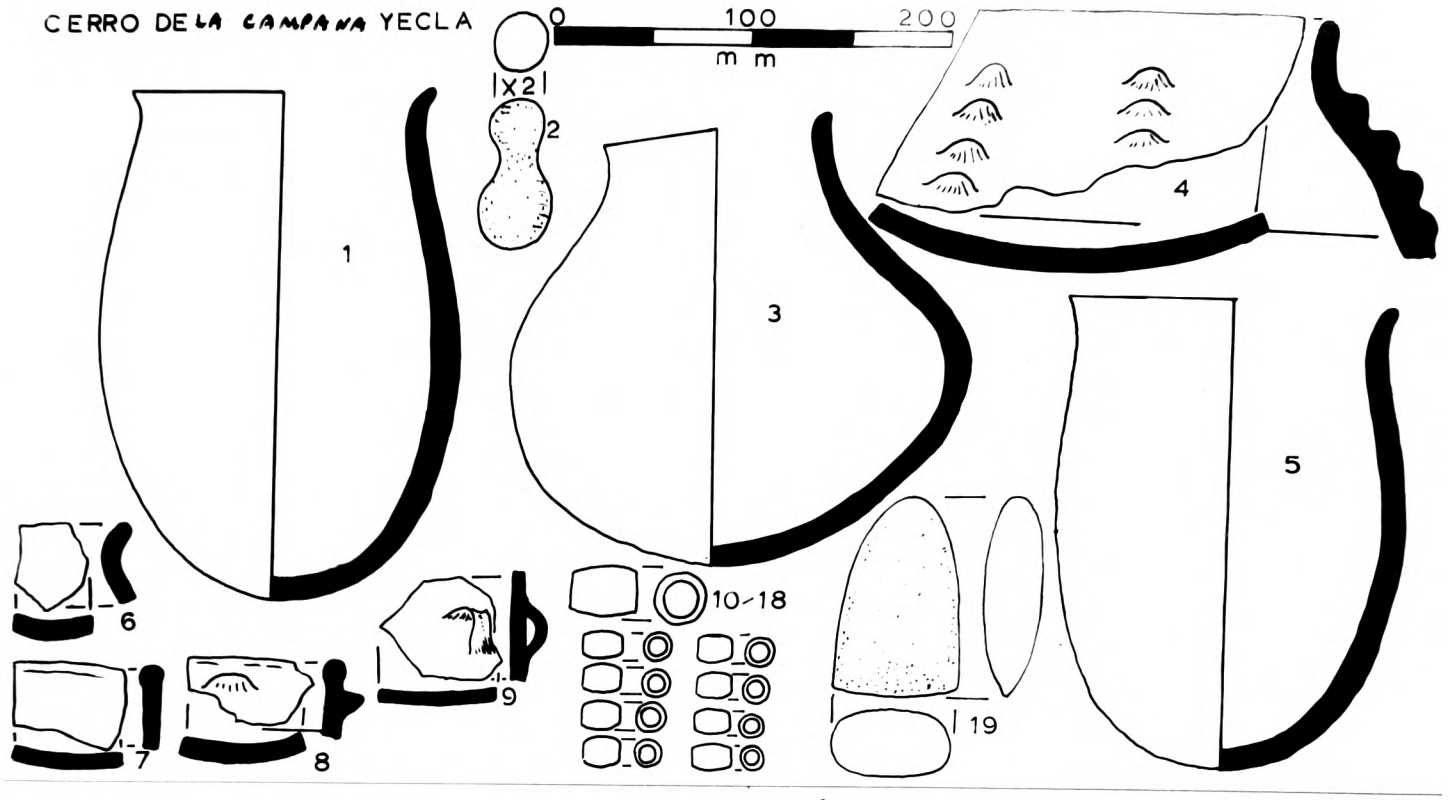
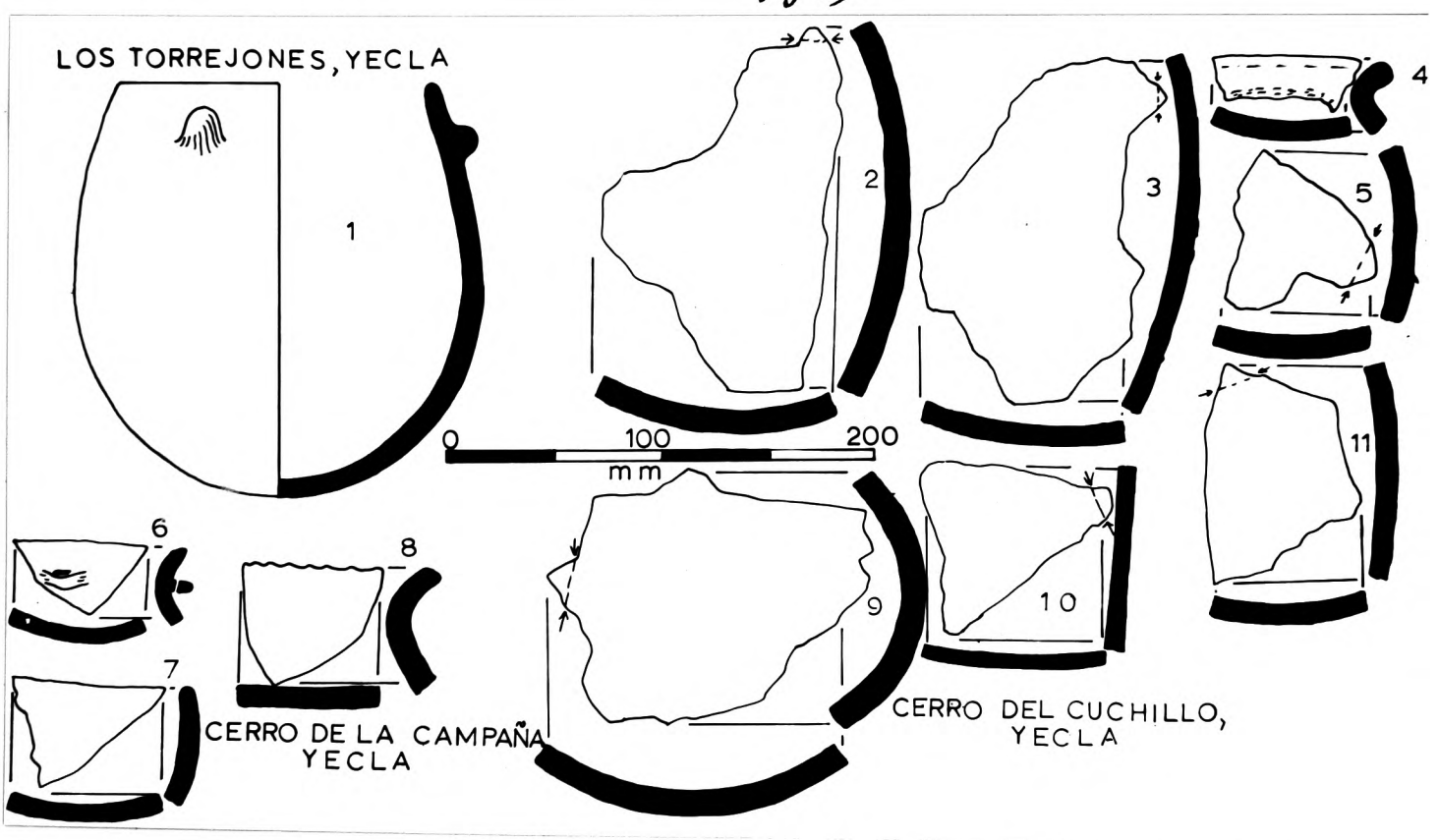

CERRO DE LA CAMPANA YECLA
0
100
200
m m
X2
1
2
3
4
5
6
7
8
9
10-18
19

Fig 78

Fig 79


LOS TORREJONES, YECLA
0
100
200
m m
1
2
3
4
5
6
7
8
9
10
11
CERRO DE LA CAMPAÑA
YECLA
CERRO DEL CUCHILLO,
YECLA

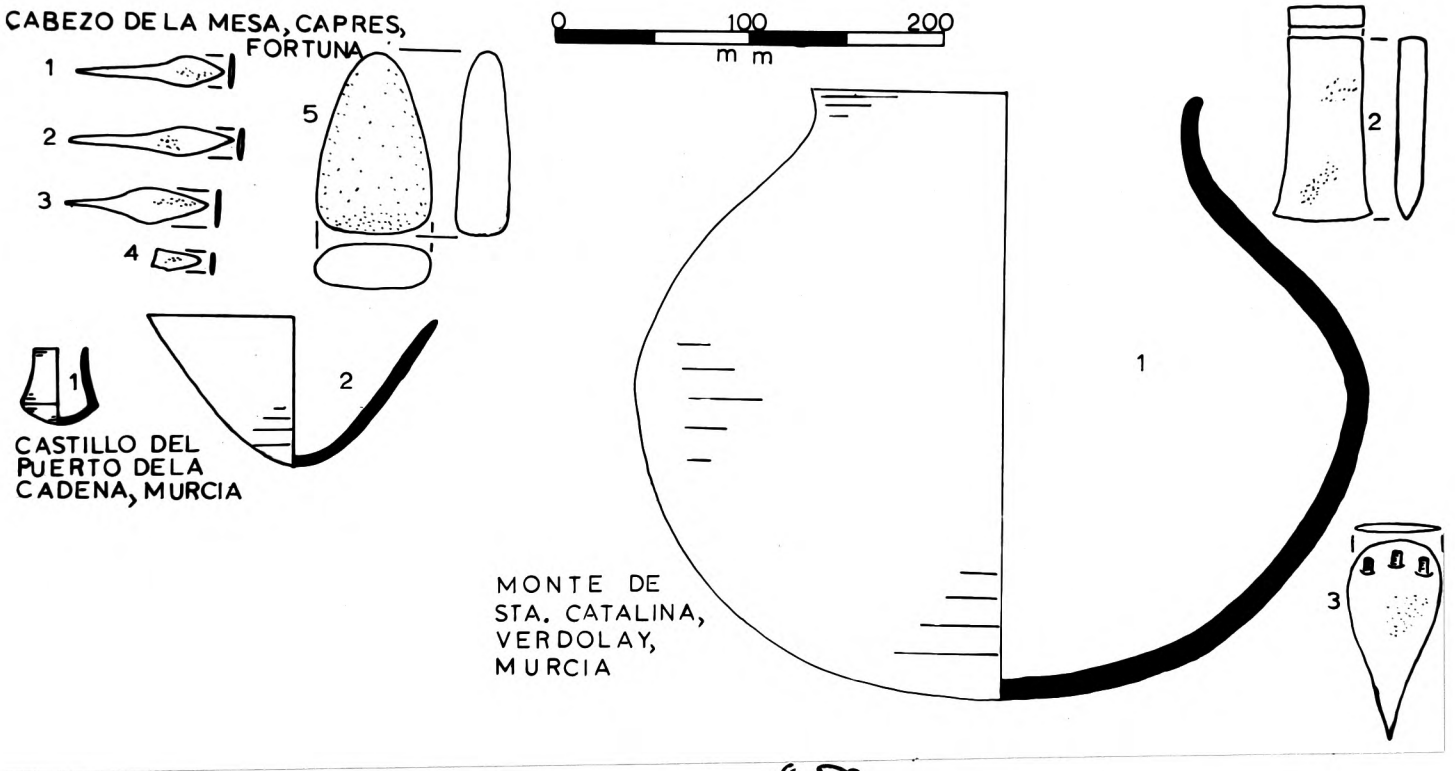

CABEZO DE LA MESA, CAPRES, FORTUNA
0 100 200
m m
1
2
3
4
5
1
2
CASTILLO DEL PUERTO DE LA CADENA, MURCIA
MONTE DE STA. CATALINA, VERDOLAY, MURCIA
1
2
3

Fig 80

Fig 81

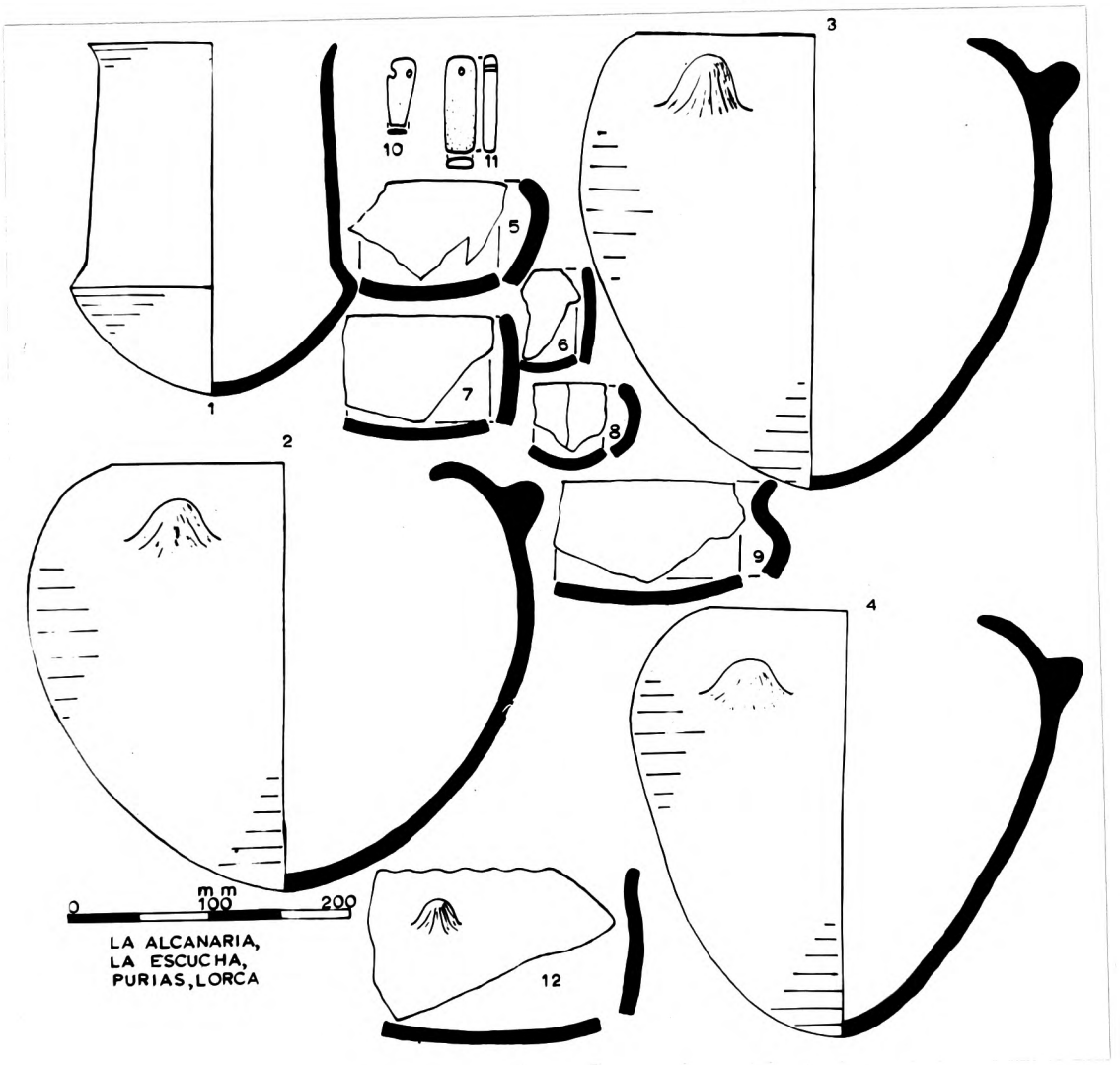

1
2
3
4
5
6
7
8
9
10
11
12
0 100 200
m m
LA ALCANARIA, LA ESCUCHA, PURIAS, LORCA

fig 82

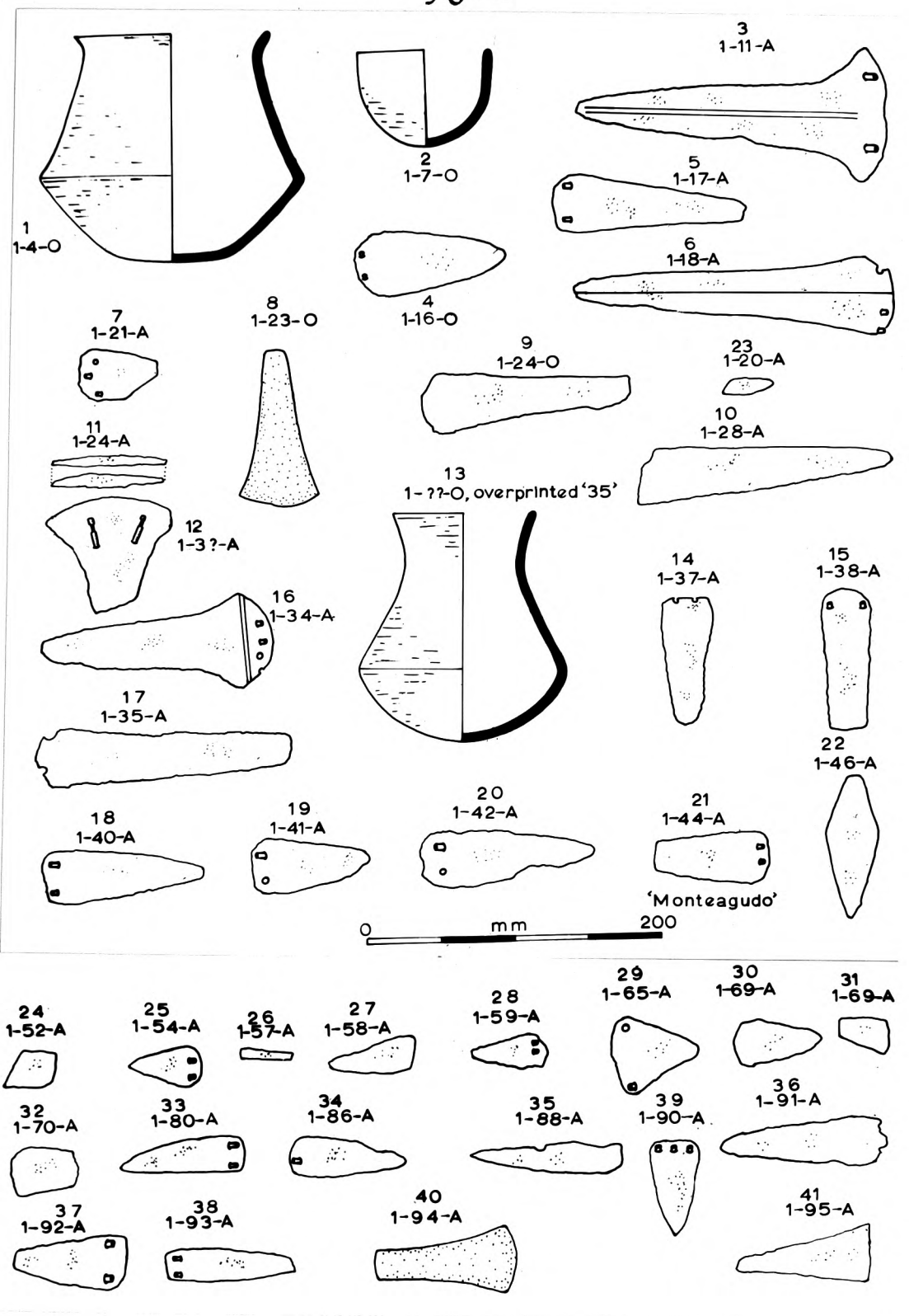

1
1-4-O
2
1-7-O
3
1-11-A
4
1-16-O
5
1-17-A
6
1-18-A
7
1-21-A
8
1-23-O
9
1-24-O
10
1-28-A
11
1-24-A
12
1-3?-A
13
1-??-O, overprinted '35'
14
1-37-A
15
1-38-A
16
1-34-A
17
1-35-A
18
1-40-A
19
1-41-A
20
1-42-A
21
1-44-A
22
1-46-A
23
1-20-A
'Monteagudo'
0
mm
200
24
1-52-A
25
1-54-A
26
1-57-A
27
1-58-A
28
1-59-A
29
1-65-A
30
1-69-A
31
1-69-A
32
1-70-A
33
1-80-A
34
1-86-A
35
1-88-A
36
1-91-A
37
1-92-A
38
1-93-A
39
1-90-A
40
1-94-A
41
1-95-A

fig 83

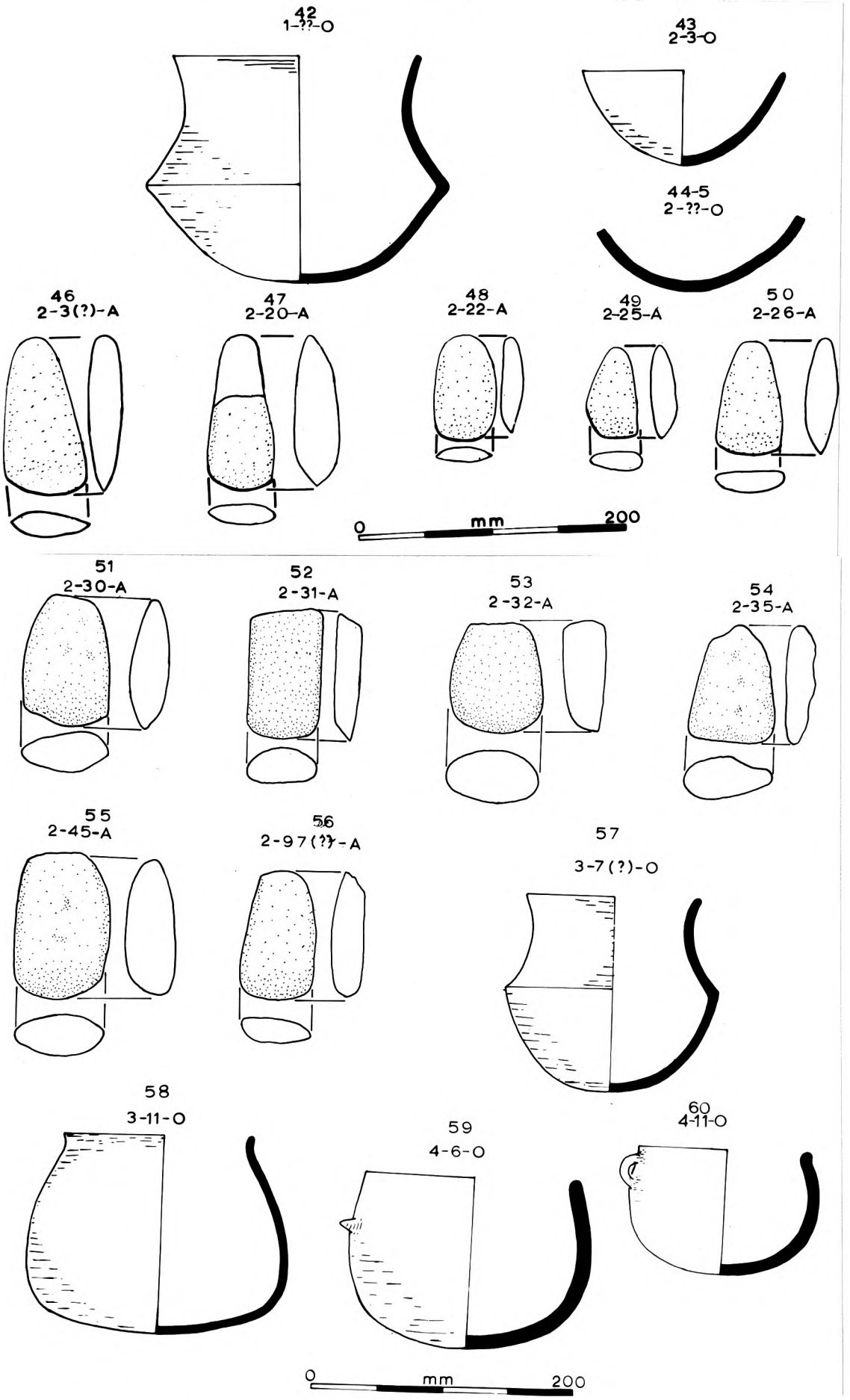

42
1-??-O
43
2-3-O
44-5
2-??-O
46
2-3(?)-A
47
2-20-A
48
2-22-A
49
2-25-A
50
2-26-A
0
mm
200
51
2-30-A
52
2-31-A
53
2-32-A
54
2-35-A
55
2-45-A
56
2-97(??)-A
57
3-7(?)-O
58
3-11-O
59
4-6-O
60
4-11-O
0
mm
200

fig 84

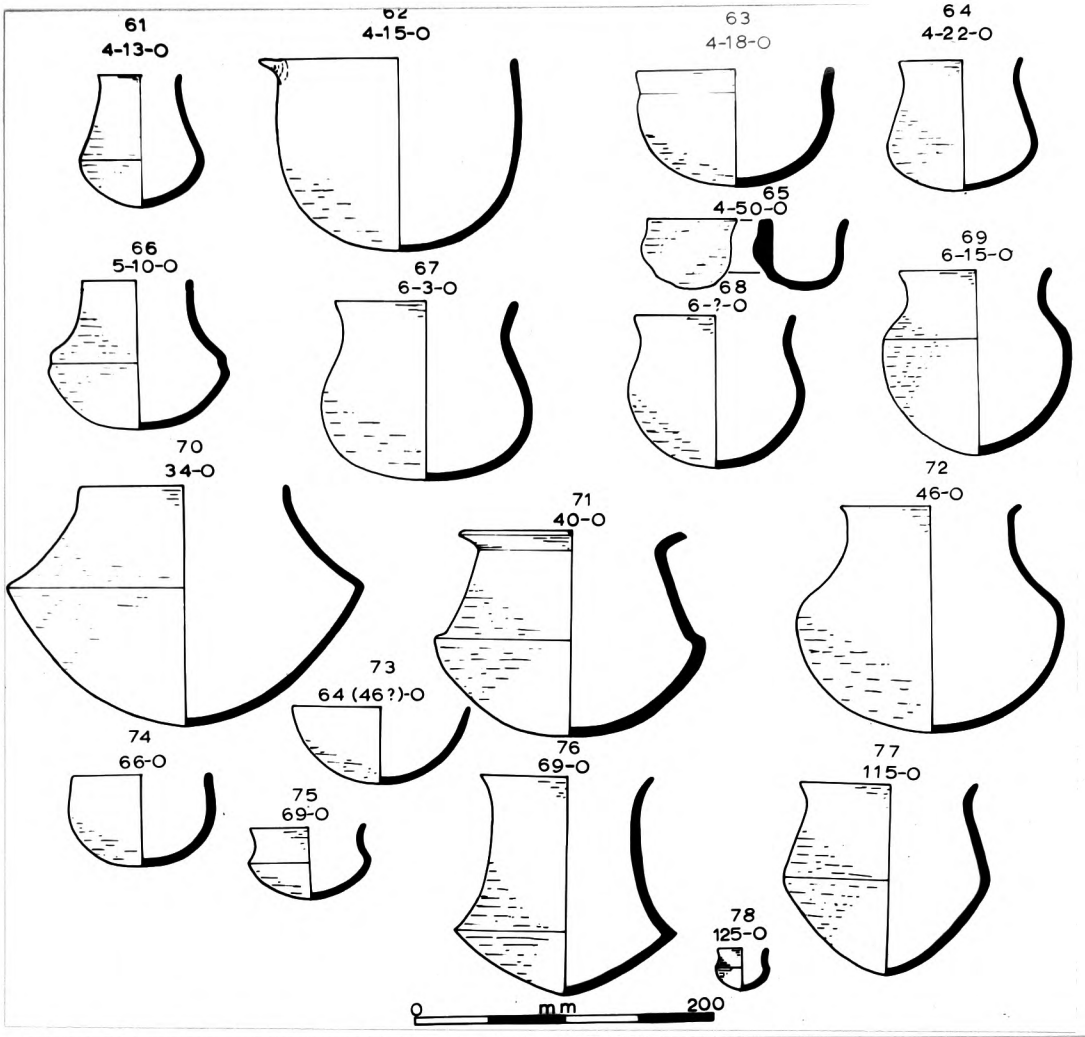

61
4-13-O
62
4-15-O
63
4-18-O
64
4-22-O
65
4-50-O
66
5-10-O
67
6-3-O
68
6-?-O
69
6-15-O
70
34-O
71
40-O
72
46-O
73
64 (46?)-O
74
66-O
75
69-O
76
69-O
77
115-O
78
125-O
0
mm
200

fig 85

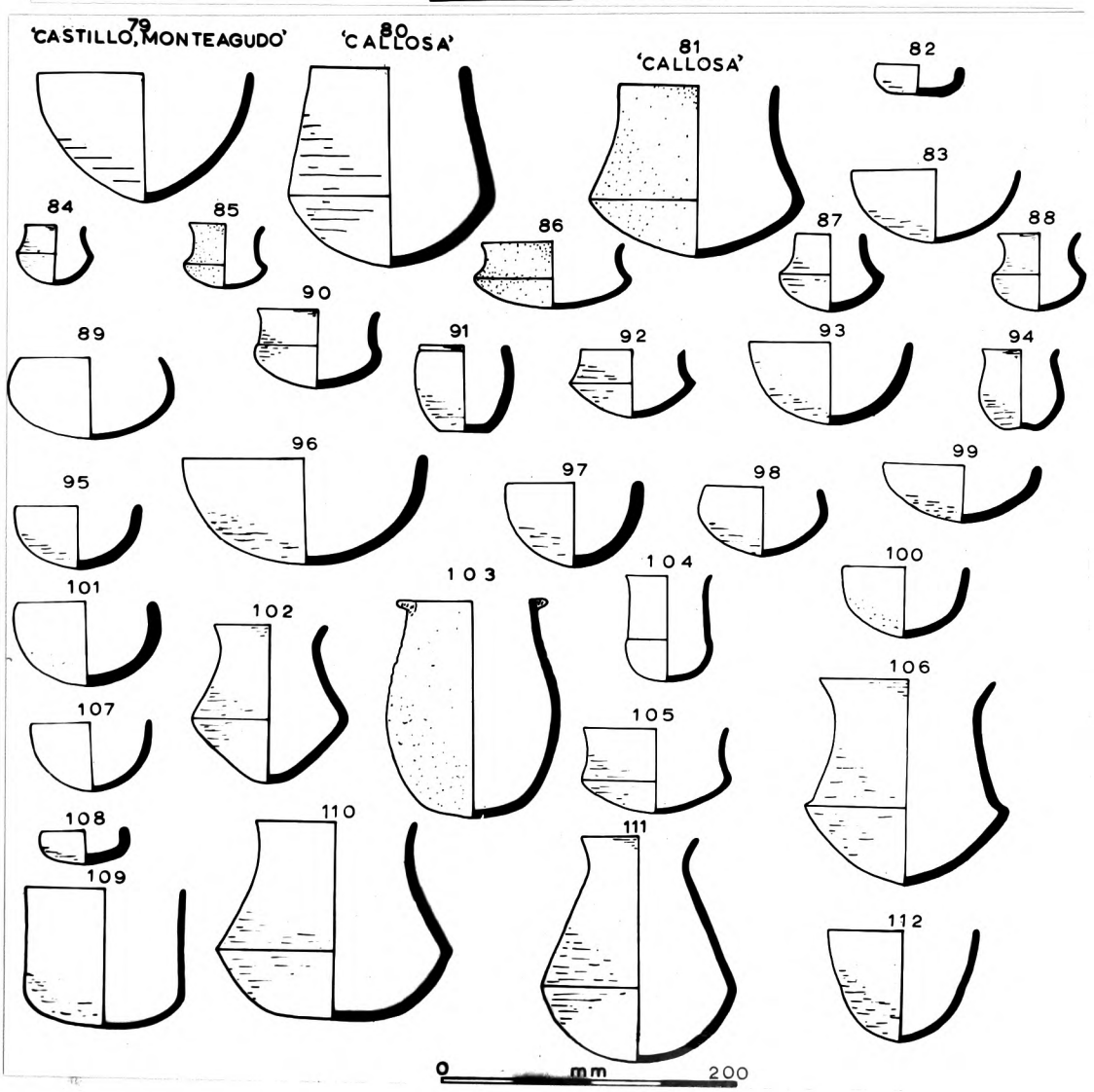

'CASTILLO, MONTEAGUDO'
79
'CALLOSA'
80
'CALLOSA'
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
0
mm
200

Fig 86

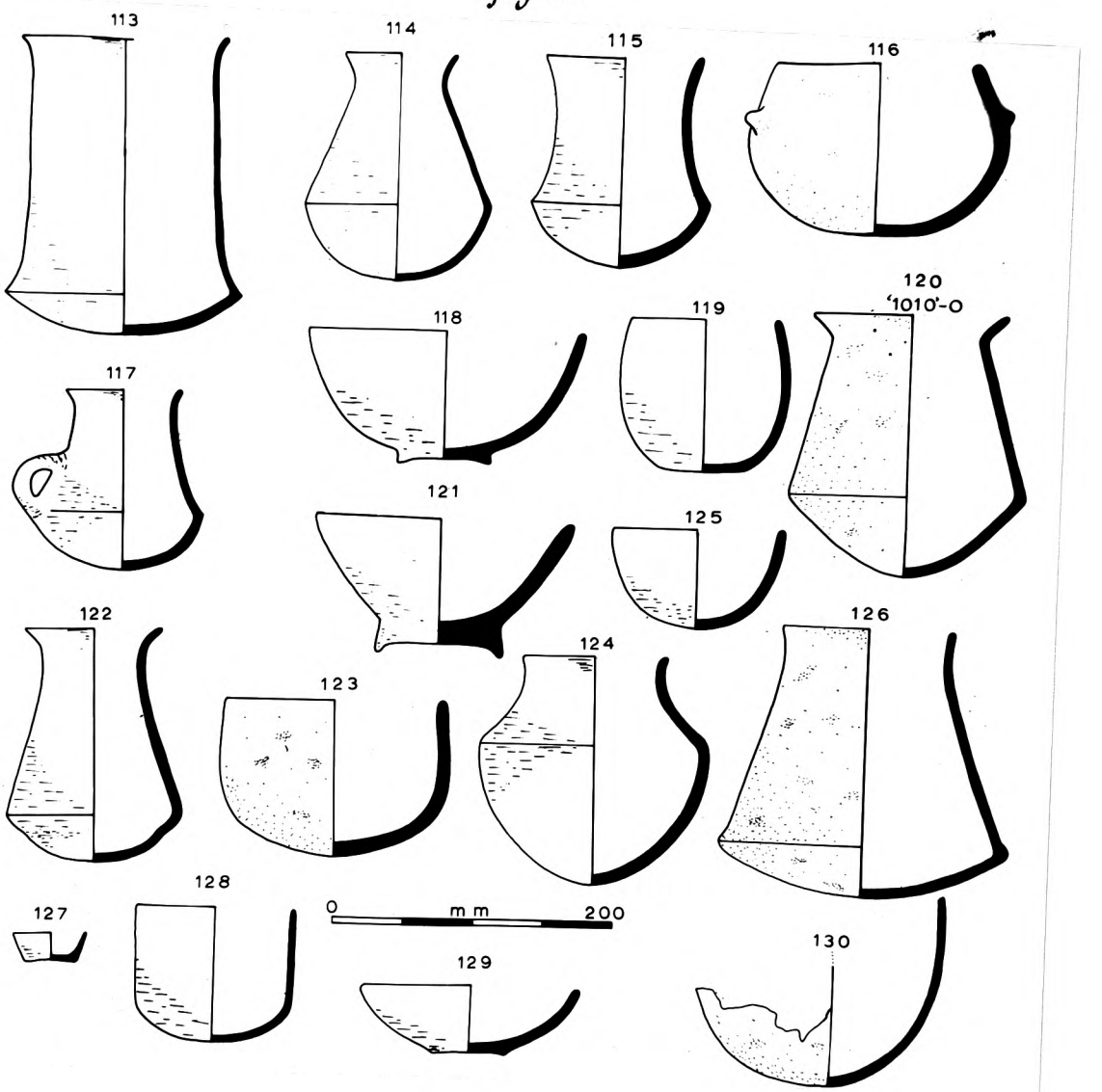

113
114
115
116
120
'1010'-0
118
119
117
121
125
122
126
124
123
128
127
0 mm 200
129
130

fig 84

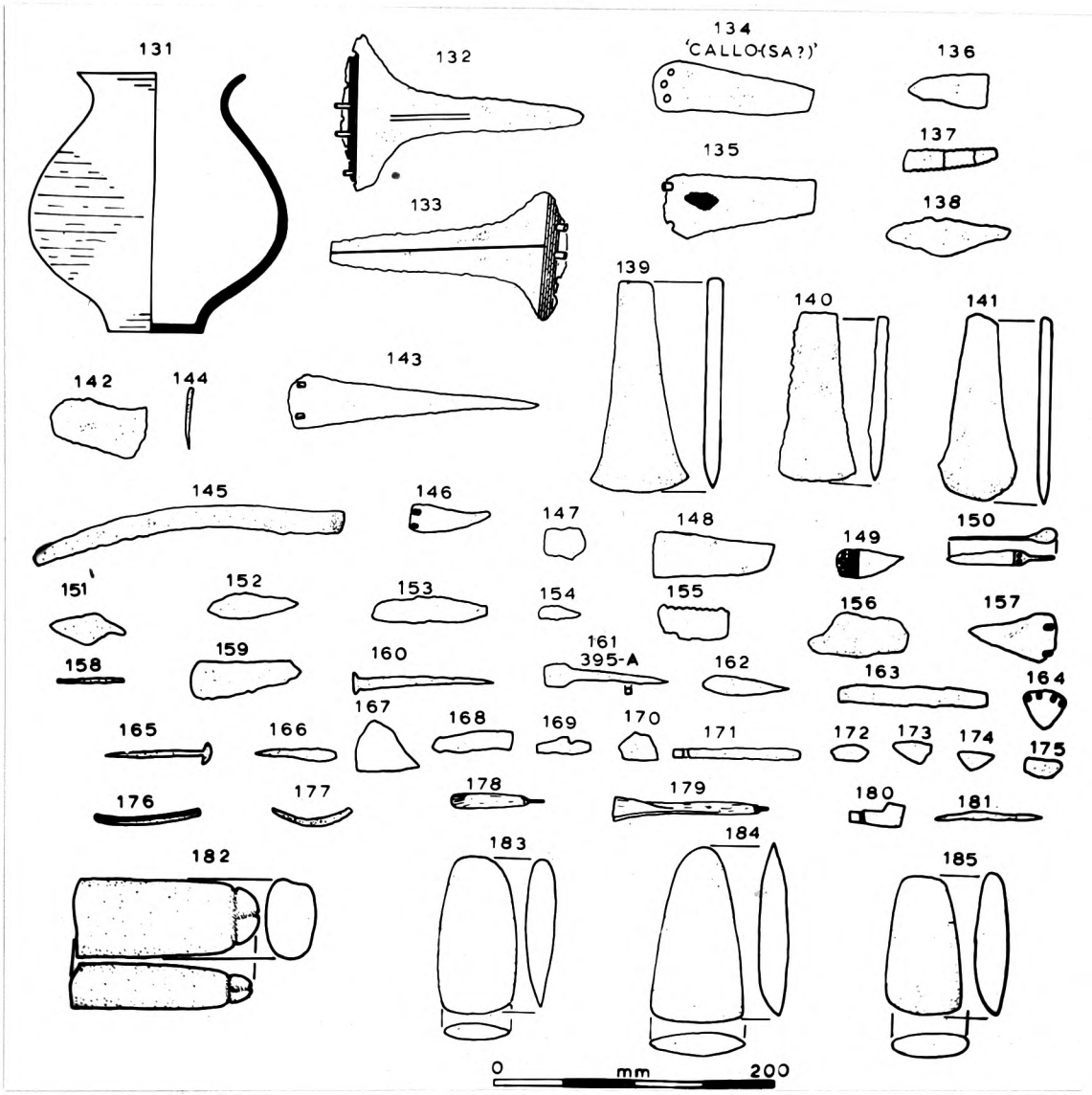
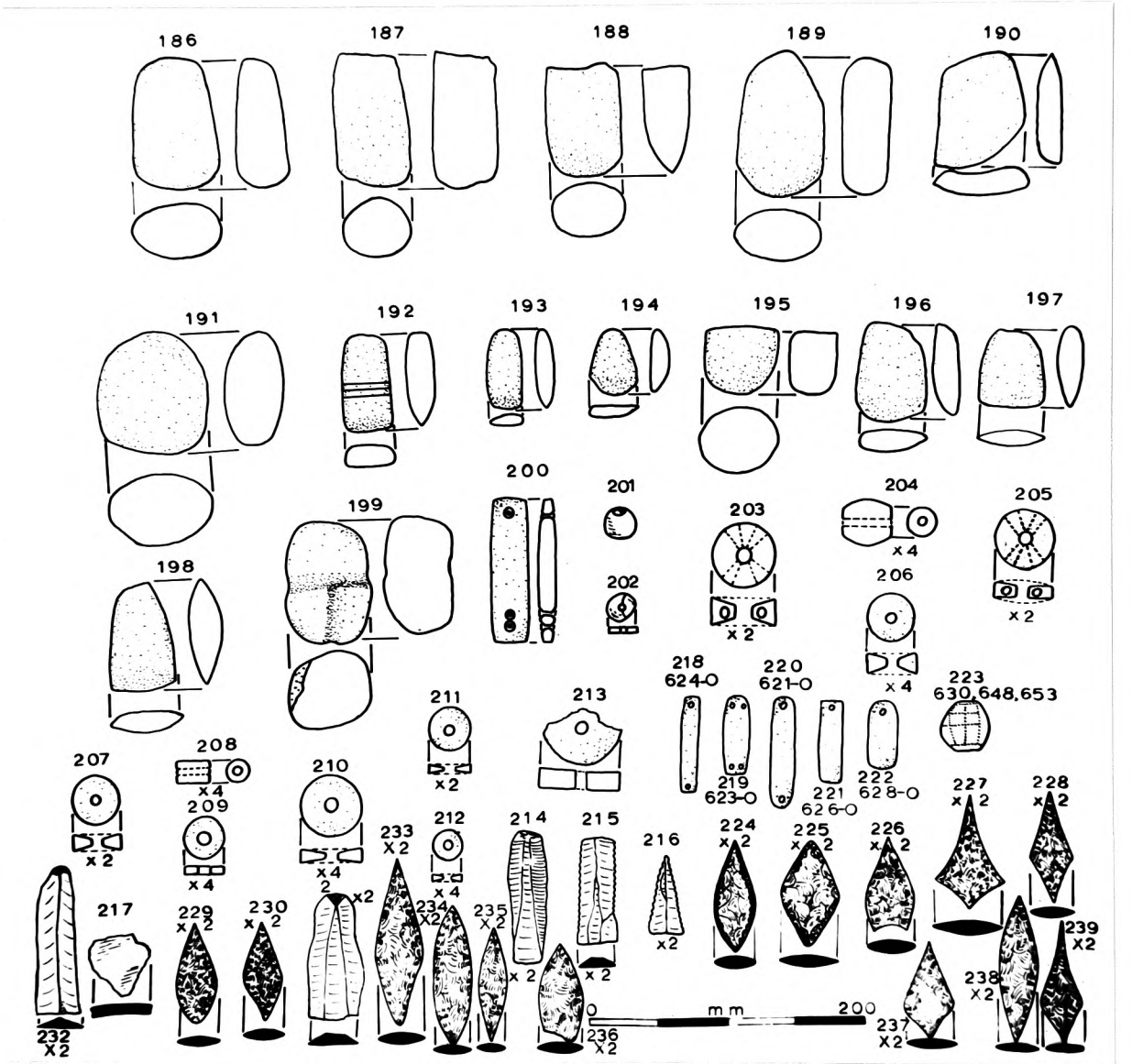

131
132
134
'CALLO(SA?)'
136
137
135
133
138
139
140
141
142
144
143
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
395-A
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
0
mm
200

fig 88


186
187
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212
213
214
215
216
217
218
624-O
219
623-O
220
621-O
221
626-O
222
628-O
223
630,648,653
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
x2
x4
mm
0
200

Fig. 96 — La Almolaya, Pliego, Murcia (Mus. Arq., Murcia) Nos. 1 - 5 Argaric pottery.
Cerro del Santuario de la Luz, Murcia (Mus. Arq., Murcia) Nos. 1 - 12 Argaric pottery.

Fig. 97 — Various: Palacio Municipal Museo Soler, Villena, Alicante.
Sherds from Cabezo Redondo, Cueva del Lagrimal, Acequia del Rey, Puntal de los Carniceros, Casa de Lara (all in término of Villena) some of which were sectioned.
La Macarolla, Acequia del Rey, Villena: flint arrow points
Puntal de los Carniceros, Villena: beaker bowl.
Arenal de la Virgen, Casa de Lara, Villena: incised and impressed vessels with handles.

Fig. 98 — Las Penicas, Villena: (Palacio Municipal, Villena), Nos. 1 - 17 baggy vessels, V-perforated toggles, wrist-bracer-polisher object, sickle flints, bone awls
Cueva de las Delicias, Villena - stone beads, copper ear-rings, bifacial flint arrow-point.

Fig. 99 — Cerro de las Víboras, Bagil, Sabinar, Moratalla, Murcia: bowl in collection of J. Martínez Sánchez, Moratalla
Rincón de los Huertos, Campo de S. Juan, Moratalla, Murcia: polished stone axe, same collection.
Caravaca: polished stone axes, collection of sr. Guerrero Torres, Caravaca.

Fig. 100 — Cueva de las Lechuzas, Villena, Alicante (Palacio Municipal, Villena) Nos. 1 - 33 arrowpoint bowls, polished stone axes, beads, bone awls.

Fig. 101 — Escalera de los Moros, Casas Nuevas, Librilla, Murcia (Mus. Arq., Murcia) Nos. 1 -11 polished stone tools, sherds.

Fig. 102 — Various: Palacio Municipal, Villena, Alicante.
Peñón de la Zorra, Villena: copper points
La Languilla, Villena: copper point
Cerrico de la Escoba, Villena: strainer bowl, flint arrow-points, sickle flint, copper pins/rods.
Cabezo Redondo, Villena: Nos. 1 - 22 Argaric and other pottery, bone arrow-points, idols, copper axe, knife, arrow-point, ring, beads, sickle flints
Cueva del Alto, Villena: copper ear-rings

Fig. 103 — El Cegarrón, Montealegre del Castillo, Albacete (Mus. Prov., Albacete) : Nos. 1-3 sherds.
Cueva de la Decorada, Letur, Albacete: 2 bowls
Los Calderones, El Azaraque, Agramón, Albacete: Nos. 1 - 6: bowls.

Fig. 104 — Plan and Section: CatíForadá, Petrel, Alicante

Fig. 105 — ditto: Cueva de los Tiestos, Jumilla, Murcia

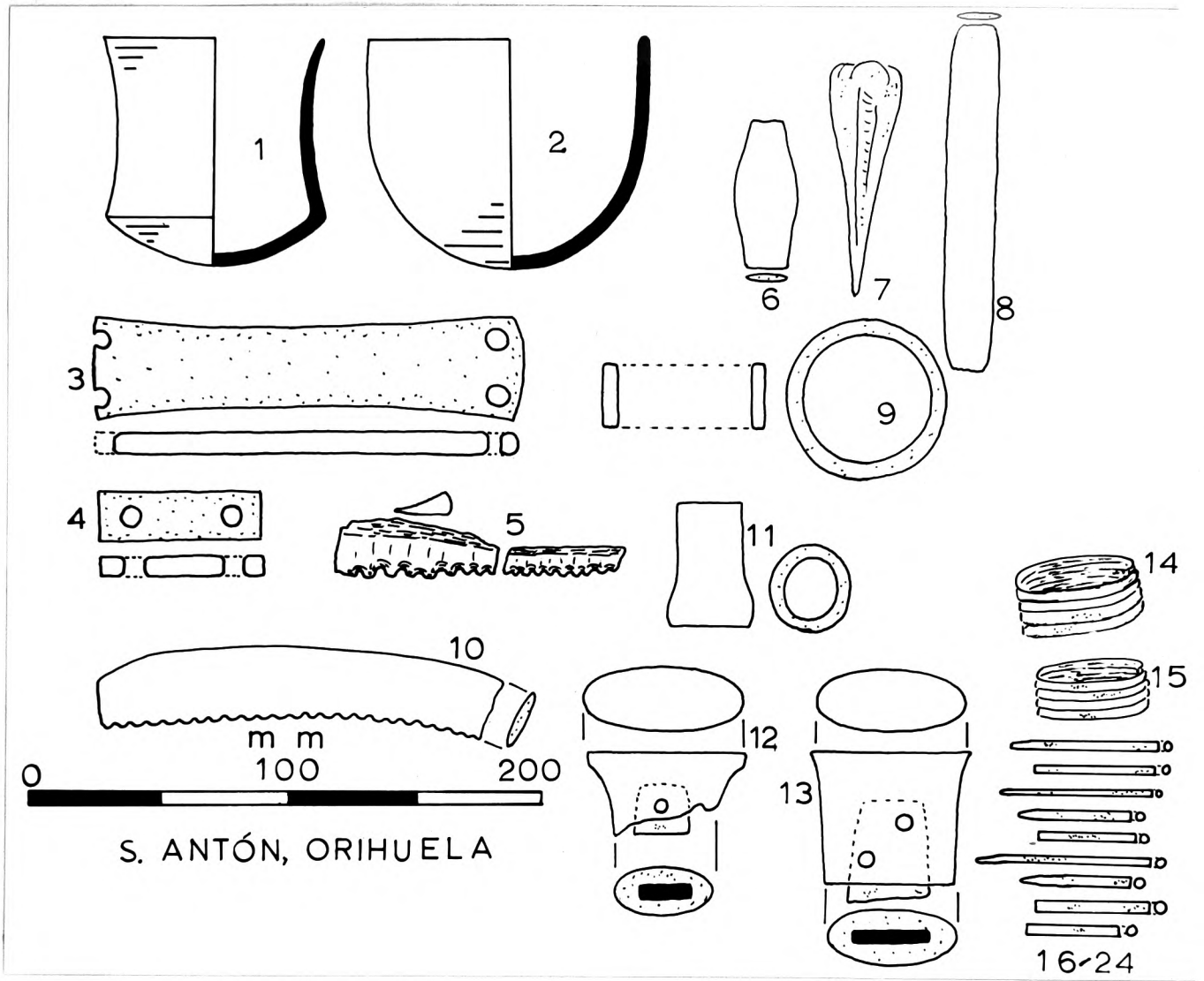
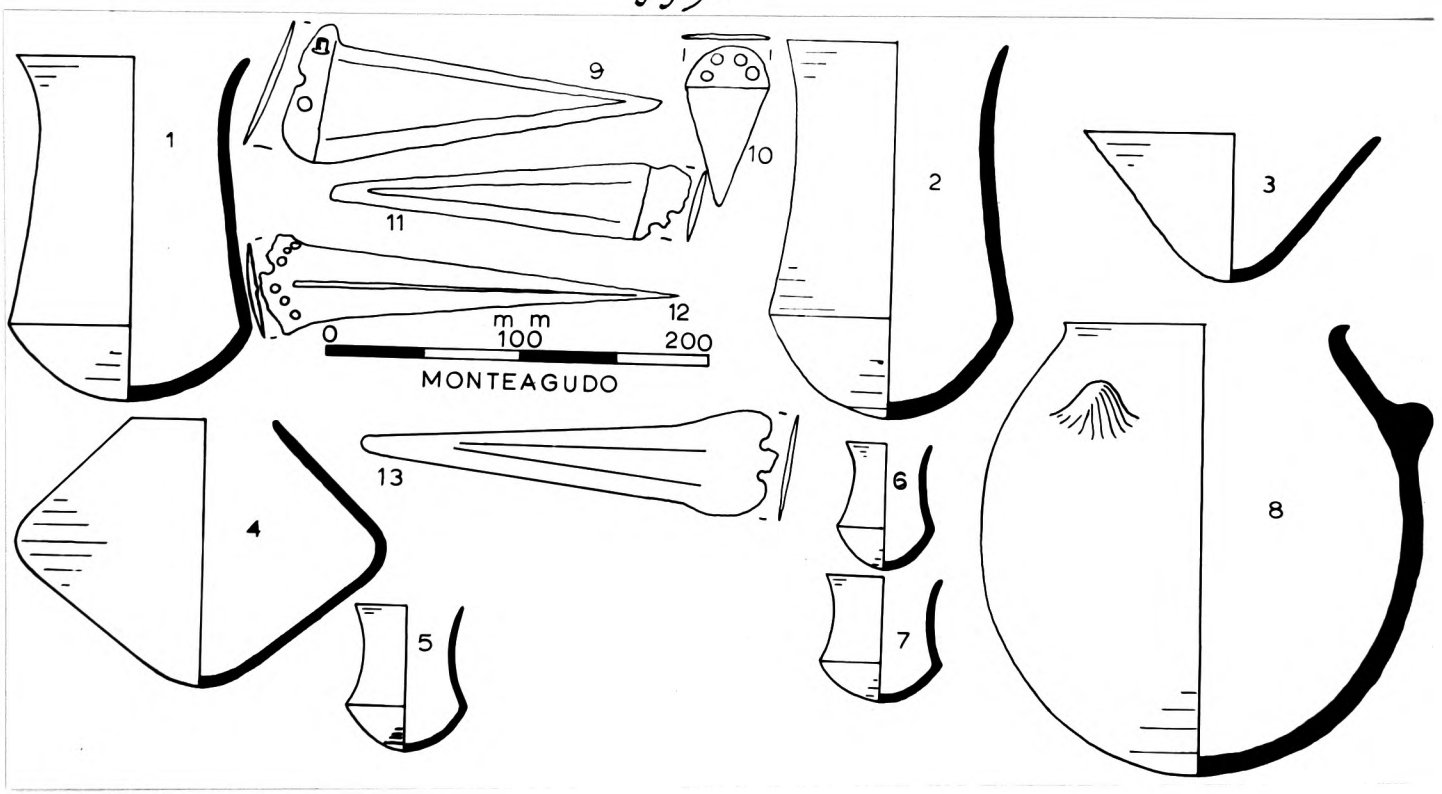

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16-24
m m
0
100
200
S. ANTÓN, ORIHUELA

fig 89

fig 90


1
2
3
4
5
6
7
8
9
10
11
12
13
m m
0
100
200
MONTEAGUDO

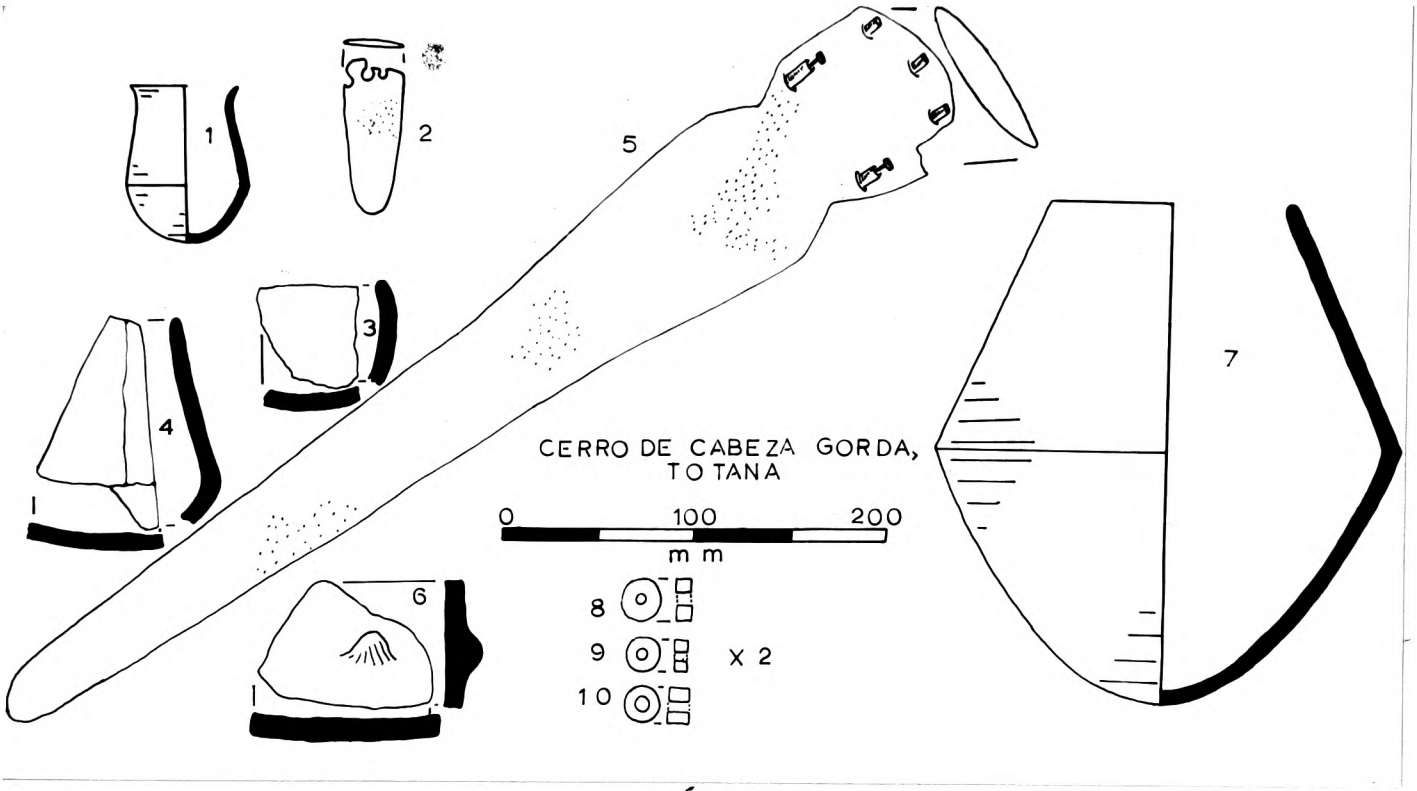
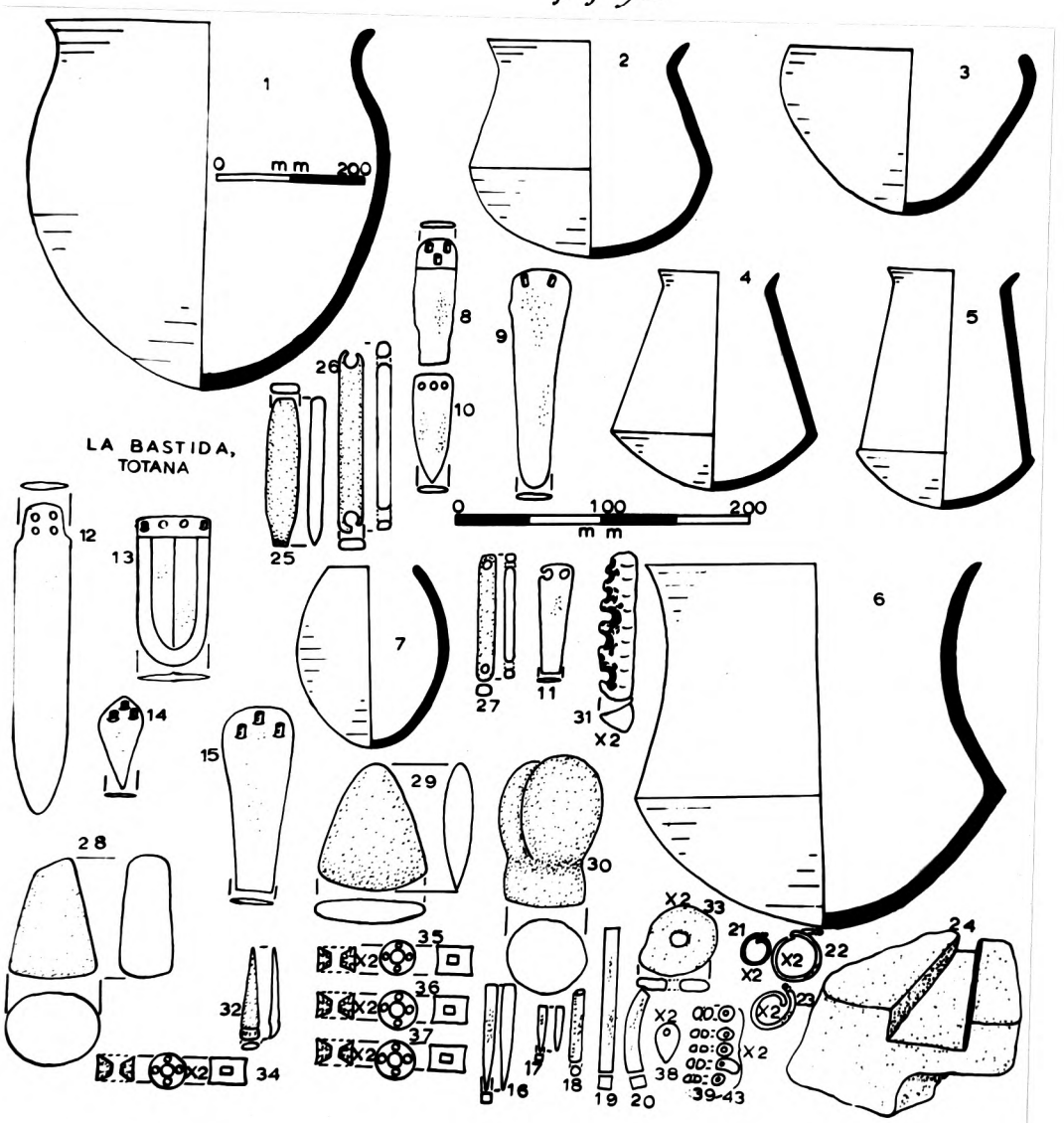

CERRO DE CABEZA GORDA,
TOTANA
0 100 200
m m
X 2

Fig 91

Fig 92


LA BASTIDA,
TOTANA
0 mm 200
0 100 200
m m
X2

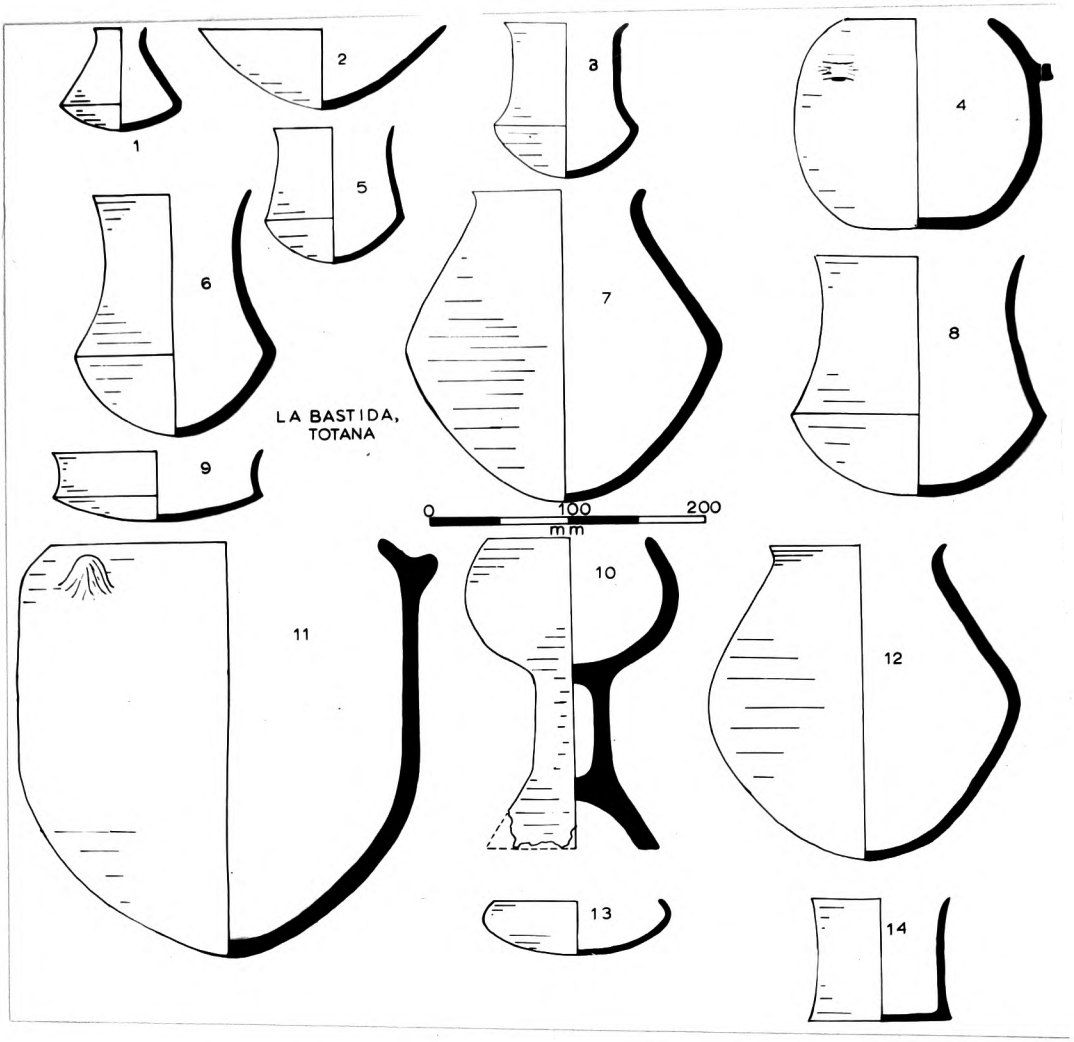
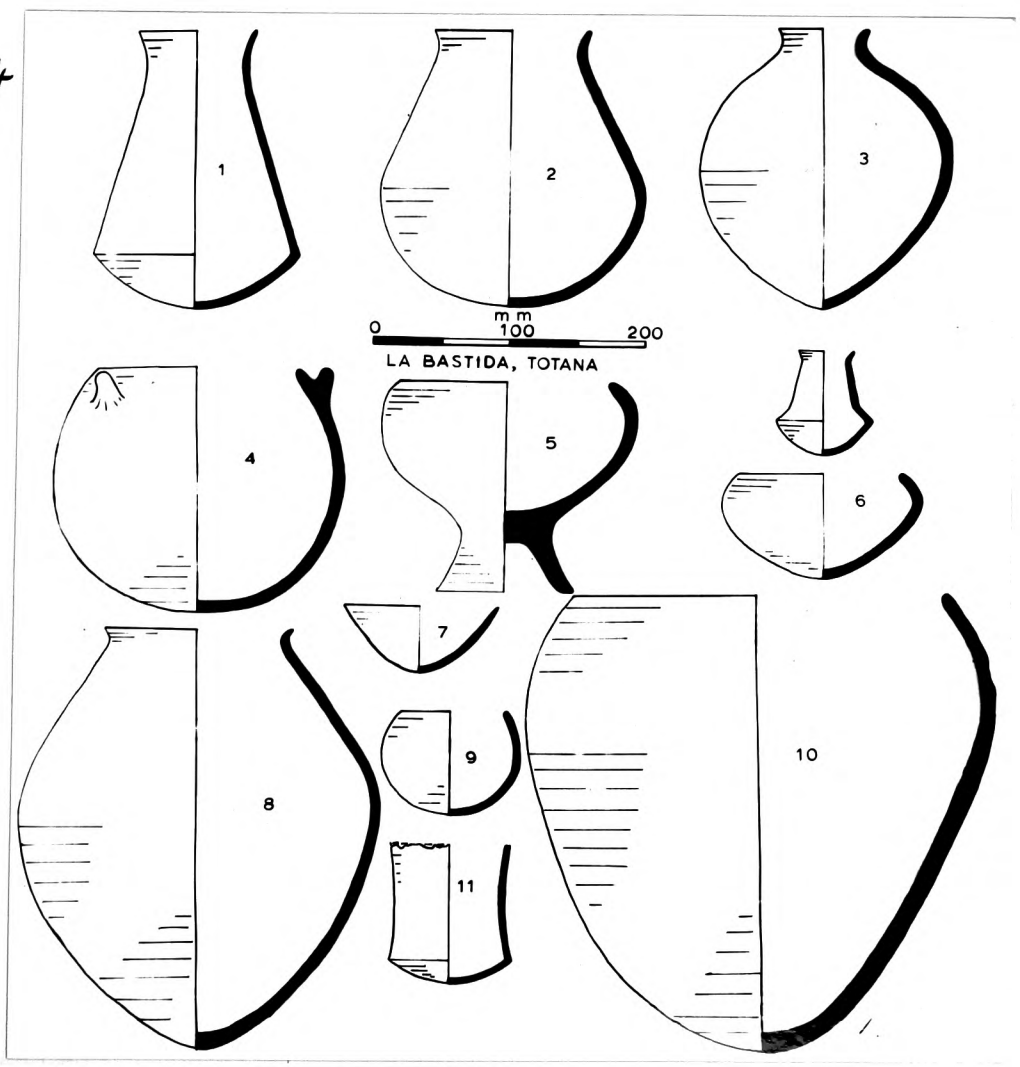

1
2
3
4
5
6
7
8
9
10
11
12
13
14
LA BASTIDA,
TOTANA
0
100
200
mm

Fig 93

Fig 94


1
2
3
4
5
6
7
8
9
10
11
0
mm
100
200
LA BASTIDA, TOTANA

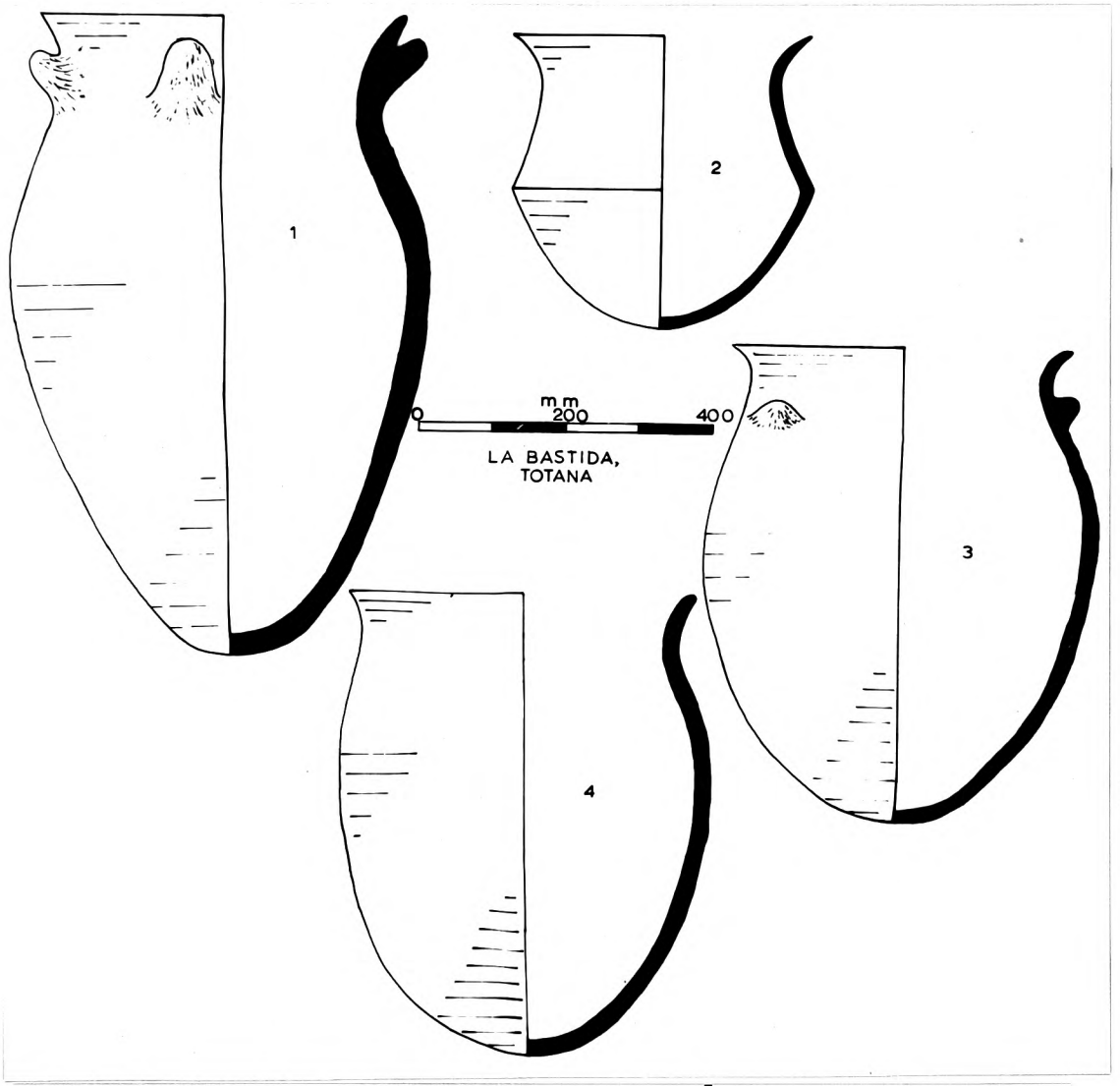

1
2
3
4
mm
0
200
400
LA BASTIDA,
TOTANA

fig 95

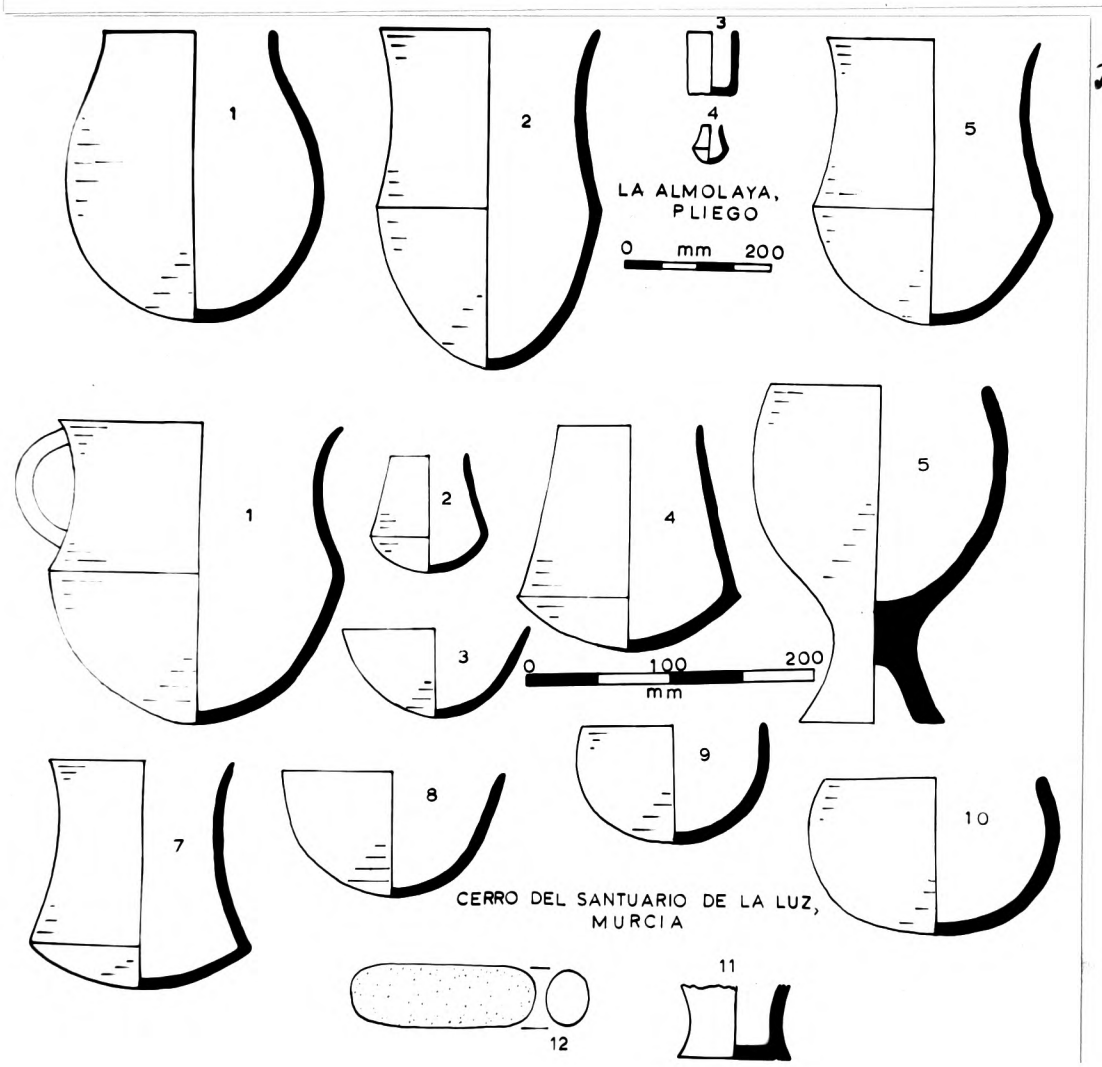

1
2
3
4
5
LA ALMOLAYA,
PLIEGO
0 mm 200
1
2
3
4
5
0 100 200
mm
7
8
9
10
CERRO DEL SANTUARIO DE LA LUZ,
MURCIA
12
11

fig 96

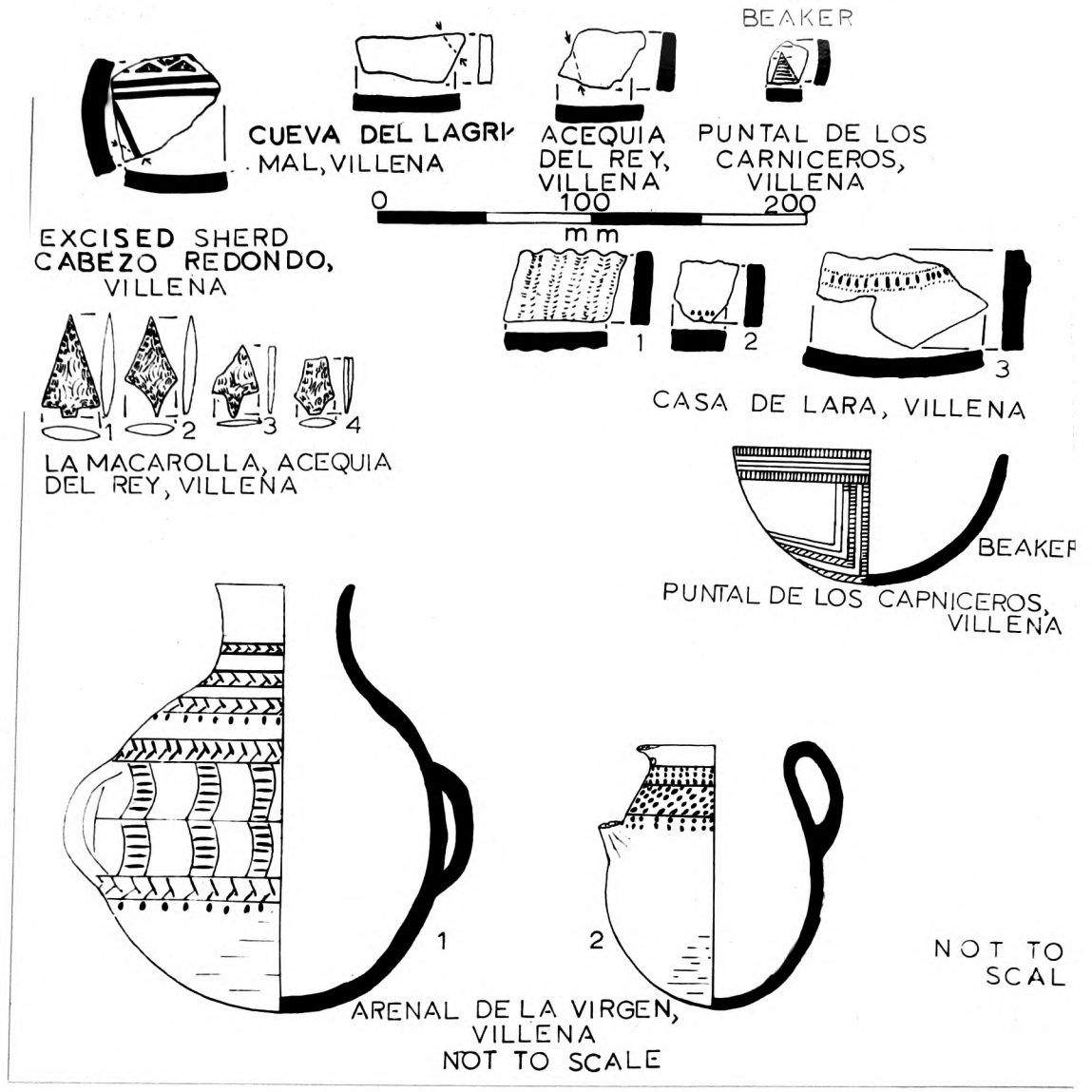
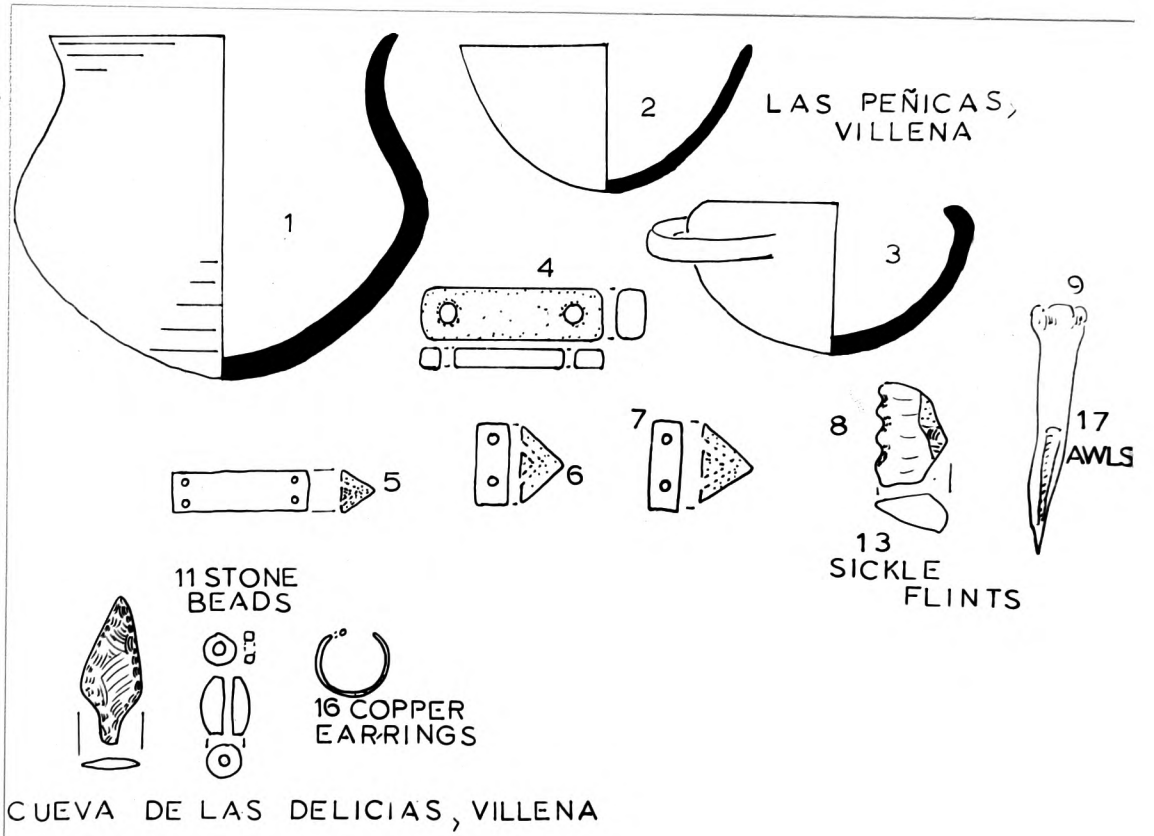


fig 97

ARENAL DE LA VIRGEN, VILLENA
NOT TO SCALE

fig 98

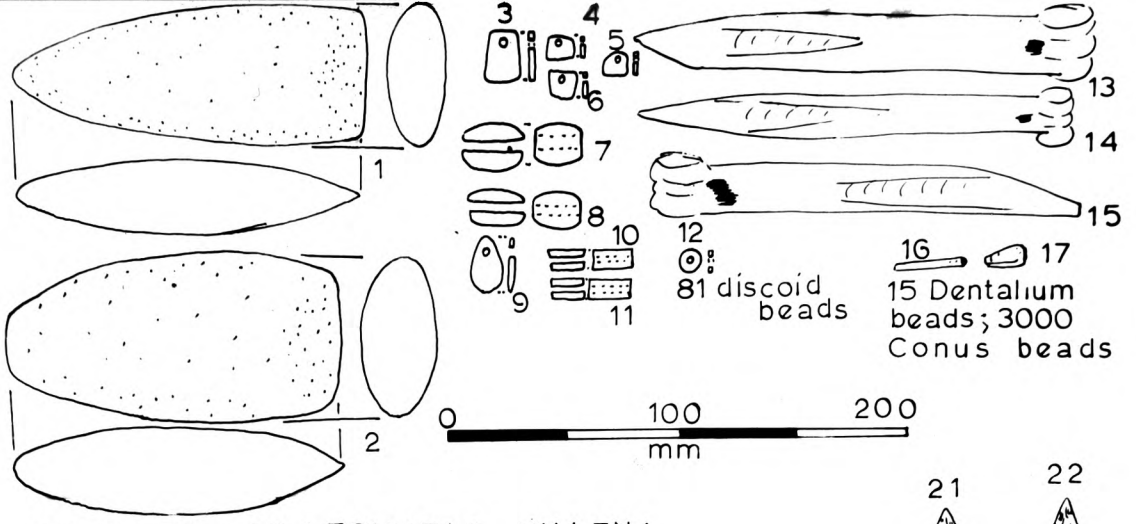


CUEVA DE LAS DELICIAS, VILLENA



ESCALERA DE LOS MOROS,
CASAS NUEVAS,
LIBRILLA

fig 101



CUEVA DE LAS LECHUZAS, VILLENA

fig 100

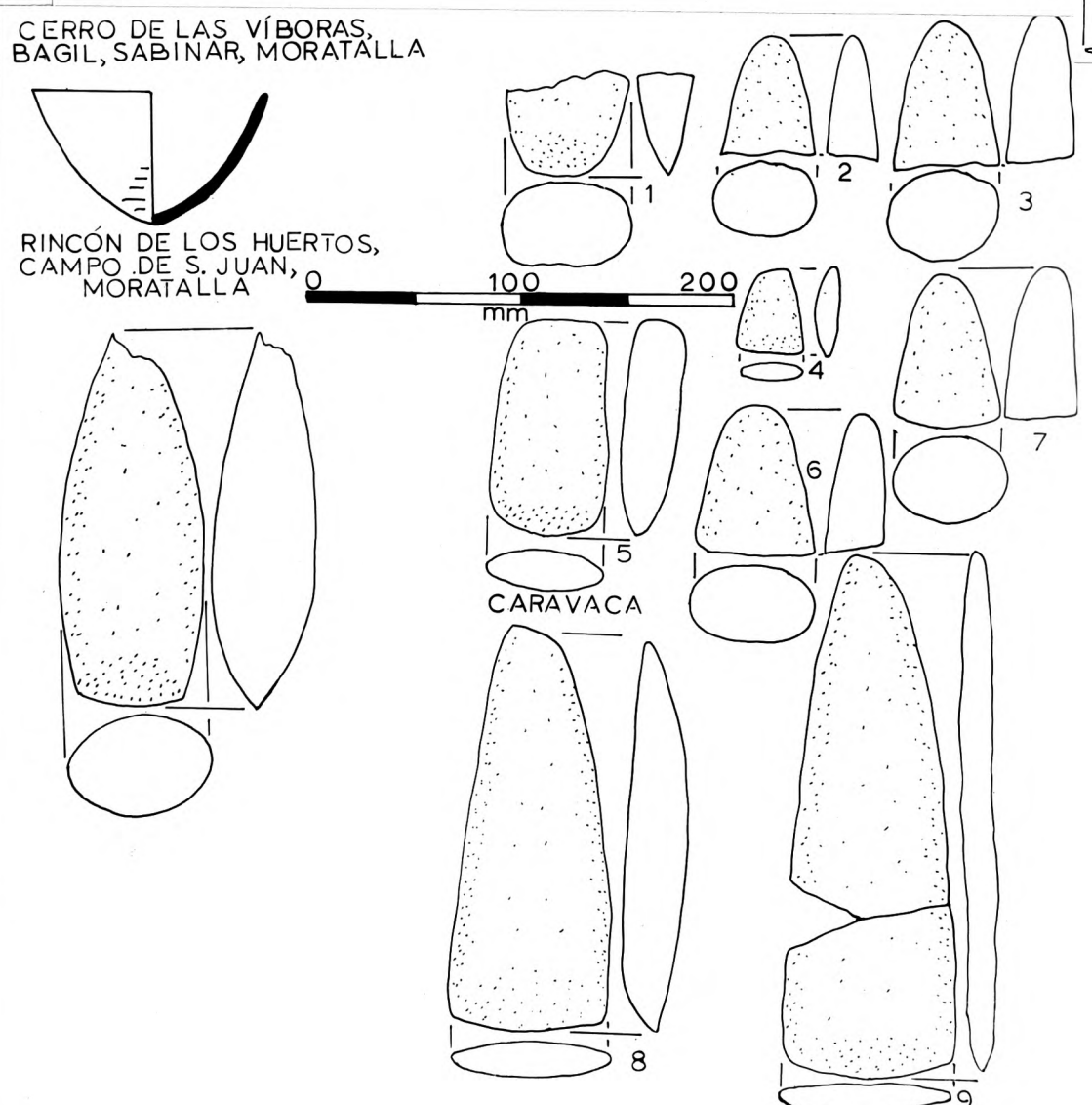


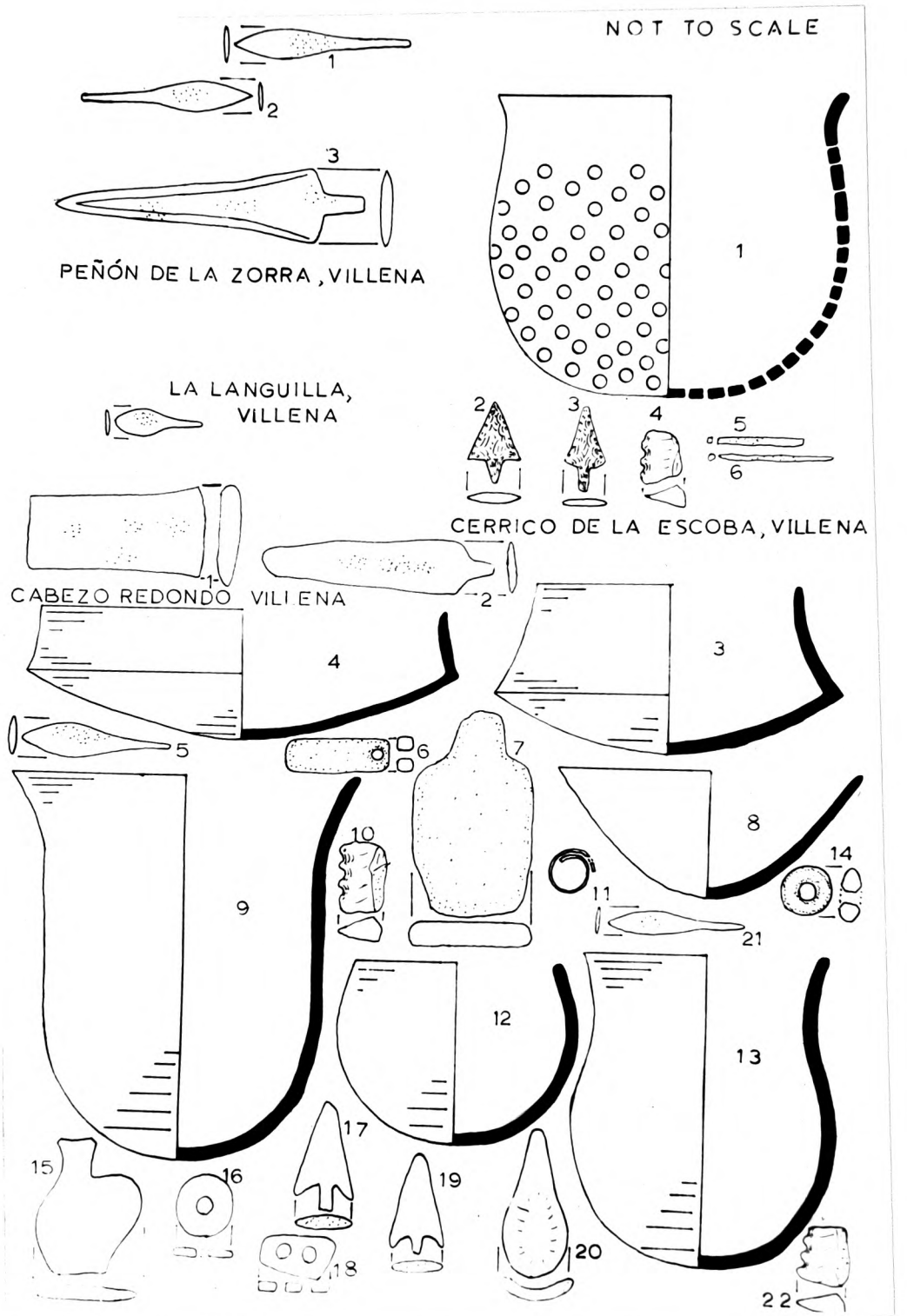
fig 99

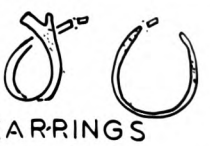
CERRO DE LAS VÍBORAS, BAGIL, SABINAR, MORATALLA

RINCÓN DE LOS HUERTOS, CAMPO DE S. JUAN, MORATALLA

CARAVACA







COPPER EARRINGS

CUEVA DEL ALTO, VILLENA

fig 102

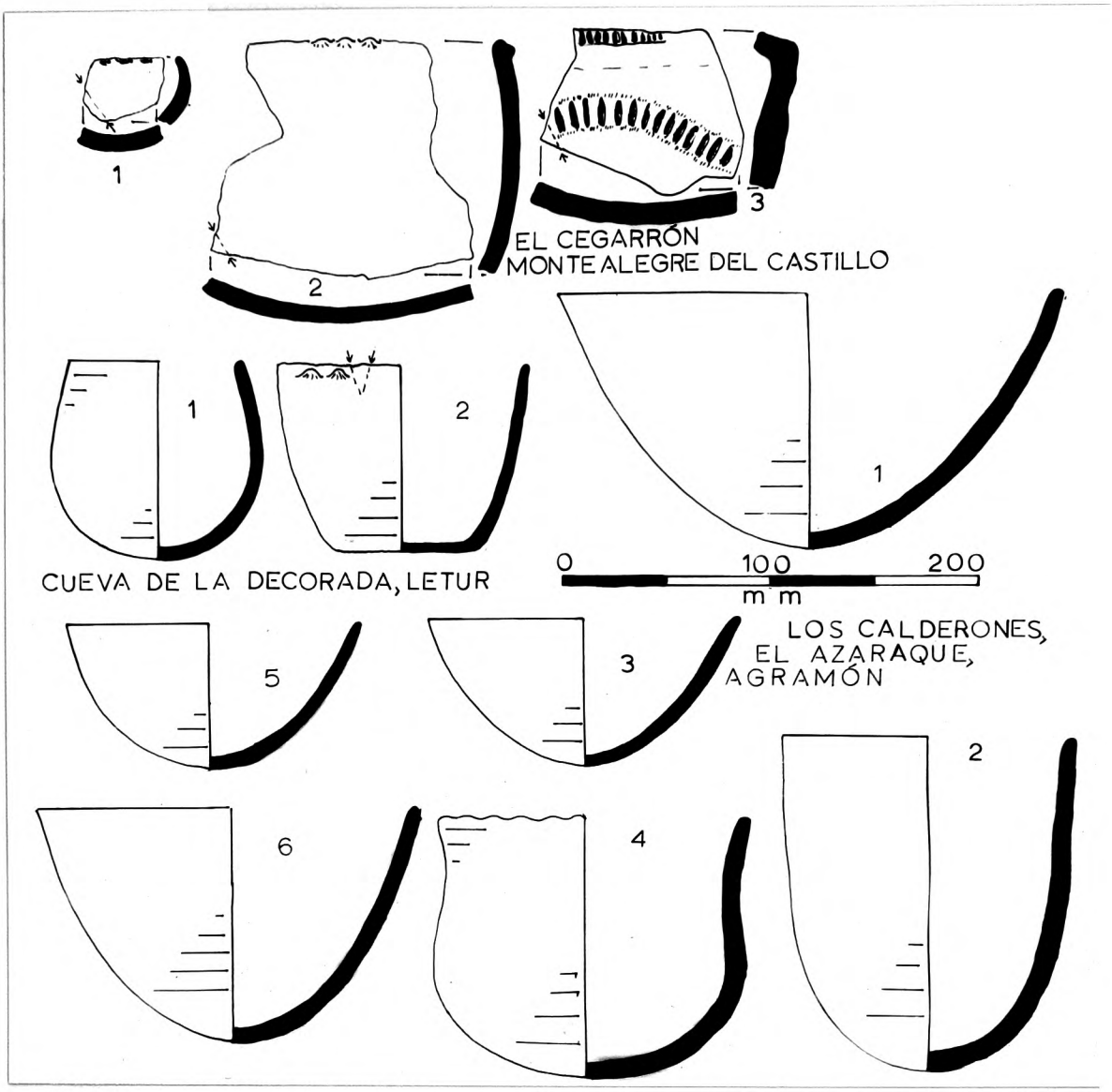
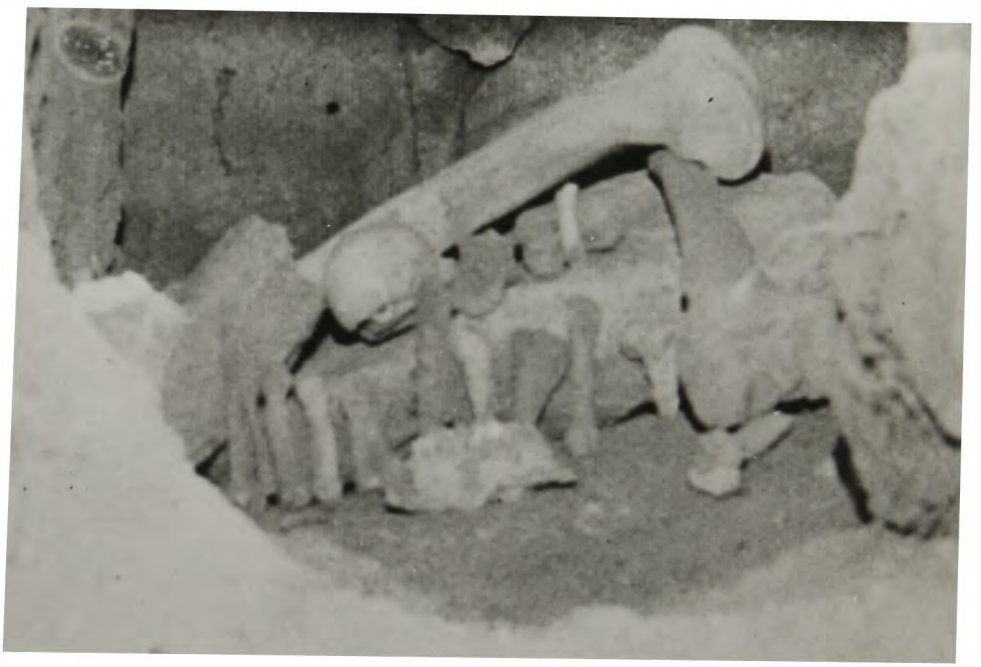

1
2
3
EL CEGARRÓN
MONTE ALEGRE DEL CASTILLO
1
2
CUEVA DE LA DECORADA, LETUR
1
0
100
200
m m
5
3
LOS CALDERONES,
EL AZARAQUE,
AGRAMÓN
6
4
2

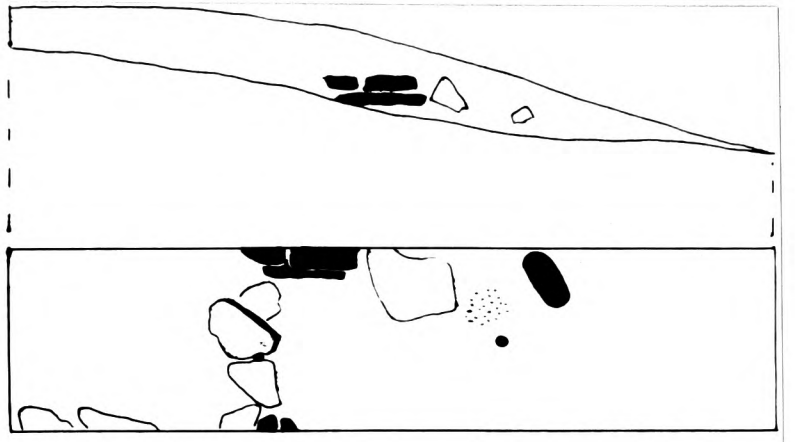
fig 103







Pl LXXXIII a - LXXXIII c



0 60
cm

Burnt Grain

Potsherds

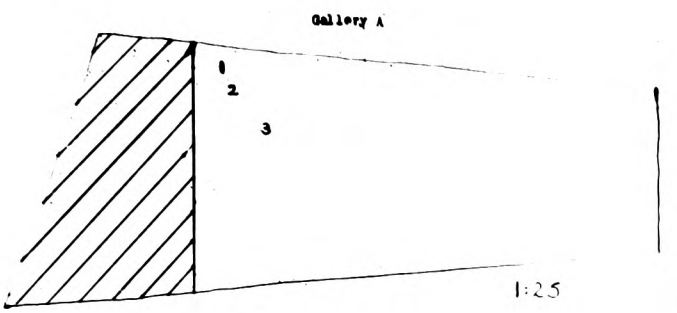
Grain rubbers

Cari Foradá
Perrel

1968

fig 104

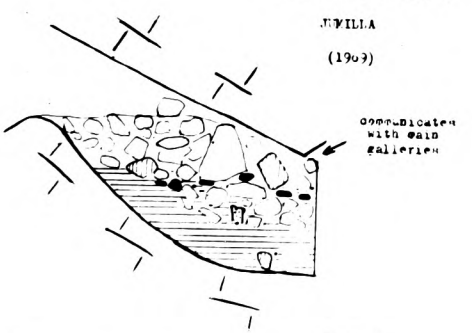
fig 105



Unexcavated

1 Copper point
2,3 Bone spatulae

CUEVA DE LOS [illegible]
JUMILLA
(1969)



Layer 1 : grey soil with blocks

Orange soil of layer 2

Potsherds

Bones

Burnt grain

Limestone self-rock

1970

Fig. 107 - 110 X-Ray Emission Spectrographs of pottery from various sites as labelled.

Figs. 111 - 118 Multidimensional Scaling plots of Furgús Collection pottery.

Plate LXXI Painted Alabaster vessel from los Blanquizares de Lébor, Totana, Murcia (Mus. L. Siret, Almería)

Plate LXXII Pottery from Blanquizares de Lébor, same collection.

Plate LXXIII Bone objects, Blanquizares de Lébor, Mus.L.Siret

Plate LXXIV Cueva de la Decorada, Letur, Albacete (Mus.Prov. Albacete)

Plate LXXV Sherd from Catí Foradá, Petrel, Alicante (Centro Escursionista de Petrel).

Plate LXXVI Impressed bowl: Cueva Santa, Caudete, Albacete (Mus.Prov., Albacete)

Plate LXXVII Sherds from Cueva Santa (Mus.Prov., Albacete)

Fig. 119 Published examples of painted pottery: (see tex

1 Los Millares grave 40 , Almería
2 Rambla de Huéchar grave 2, Almería
3 Loma de Belmonte grave 1, Almería
4 Loma del Llano de las Eras 2, Almería
5 Los Millares grave 1, Almería
6 Los Millares grave 1, Almería
7 Los Millares grave 9, Almería
8 Los Millares grave 8, Almería
9 Fonelas grave 10, Granada
10 'Millares'
11 Mesas de Asta, Carmona, Sevilla
12 Mesas de Asta, Carmona, Sevilla
13 Cueva de Mongó, Denia, Alicante
14 Llano de la Teja, Fonelas B-16, Granada
15 'Almería '
16,17 Campo Real, Carmona (Bonsor, 1899)
18-23 Mesas de Asta, Carmona (after Evans, 1958)

Plates LXXVIII - LXXXIII Photomicrographs of ceramic thin sections (see text)

Pl. LXXXIIIa-c Cista fissure graves: Cerro de las Víboras (Almería)

Plate LXXXIV Section: Cueva de los Tiestos, Jumilla, Murci

Plate LXXXV Finds from Cueva de los Tiestos Jumilla, Murcia

Plate LXXXVI Painted sherds: Cueva de los Tiestos, Jumilla, Murcia (Mus.Municipal, Jumilla)

Plate LXXXVII Painted sherds: Cueva de Mongó, Denia, Alicante (Mus. Prov., Alicante)

Plate LXXXVIII — Mousterian flints and quartzite tools: collection of Grupo Espeleológico de Cieza.

Plate LXXXIX — Flints in collection of Grupo Espeleológico de Cieza, uncertain provenance.

Fig. 120 — Nos. 1 - 4 flints from Fuente de la Zarza, Jumilla-Fortuna-Abanilla boundary, Murcia.
Backed bladelet: Casa de Lara, Villena, Alicante
Pyramidal flint: Canaica del Calar, El Sabinar, Moratalla, Murcia.

Fig. 121 — Nos. 1 - 6 Flints from Rambla del Agua Salada, Fortuna-Santomera, Murcia.

Plates XC - CLI — Serial photographs of cup markings and gutters Monte Arabí, Yecla, Murcia (see text)

Plates CLII - CLV — Palaeolithic skull: Cueva del Parpalló, Valencia (Mus. de Prehist., Valencia)

Plates CLVII - CLX — Fossilised skull from Alicante, Alicante (private collection of sr. J. Moncholi Ortiz)

Plate CLXI — Skull from Cueva de la Pastora with mandibular pathology (Mus. de Prehist., Valencia)

Plate CLXII — Skull from Cueva de la Pastora with osteoporotic lesions (Mus. de Prehist., Valencia)

Plate CLXIII — Skull from Cueva de la Pastora with cribra orbitalia (Mus. de Prehist., Valencia)

Plate CLXIV — Skull from Cueva de la Pastora with enlarged mastoid foramen (Mus. de Prehist., Valencia)

Plate CLXV — Skull from Cueva de la Pastora with missing left premolar (Mus. de Prehist., Valencia)

Plate CLXVI — Skull from Cueva de la Pastora with healed zygomatic fracture (Mus. de Prehist., Valencia)

Plate CLXVII — Skull from Cueva de la Pastora with trepanation (Mus. de Prehist., Valencia)

Plate CLXVIII — Mandible from Ereta del Pedregal (Mus. de Prehist

Plate CLXIX — Skull from Cueva de la Pastora with porotic lesion and middle meningeal excavations (Mus. de Prehist., Valencia)

Plate CLXX — Skull from Cueva de la Pastora with trepanation (Mus. de Prehistoria)

Plate CLXXI — Skull from Beni Sid with osteoma (?) (Mus. de Prehist., Valencia)

Plate CLXXII — Skull from Cueva de Beni Sid showing maxillary dentition (Mus. de Prehist., Valencia)

Plate CLXXIII — Mandible showing carious molar (Mus. de Prehist., Valencia)

Plate CLXXIV — Skull from El Puig, Alcoy, Alicante showing healed parietal fracture (Mus. Visedo Molto, Alcoy)

Plate CLXXV — Skull from La Bastida, Totana, Murcia (Mus. L. Siret, Almería)

Plate CLXXVI — Skull from La Bastida showing absent left coronal suture (Mus. L. Siret, Almería)

Plate CLXXVII — Skull from Blanquizares de Lébor with trepanation (Mus. L. Siret, Almería)

Plate CLXXVIII — Skulls in Mus. Arq., Murcia from cave at Cerro del Cuchillo, Yecla, Murcia.

Plate CLXXIX — Skull from cave of Peñón del Trinitario, Elda (Centro de Excursionista Eldense)

Plate CLXXX — Skull from Cueva del Hacha, Elda (Centro Excursionista Eldense)

Plate CLXXXI — Skulls from La Bastida with healed depressed fractures (Mus. L. Siret, Almería)

Plate CLXXXII — Facial skeleton and post-cranial bones from Cueva Santa, Caudete (Mus. Prov., Albacete)

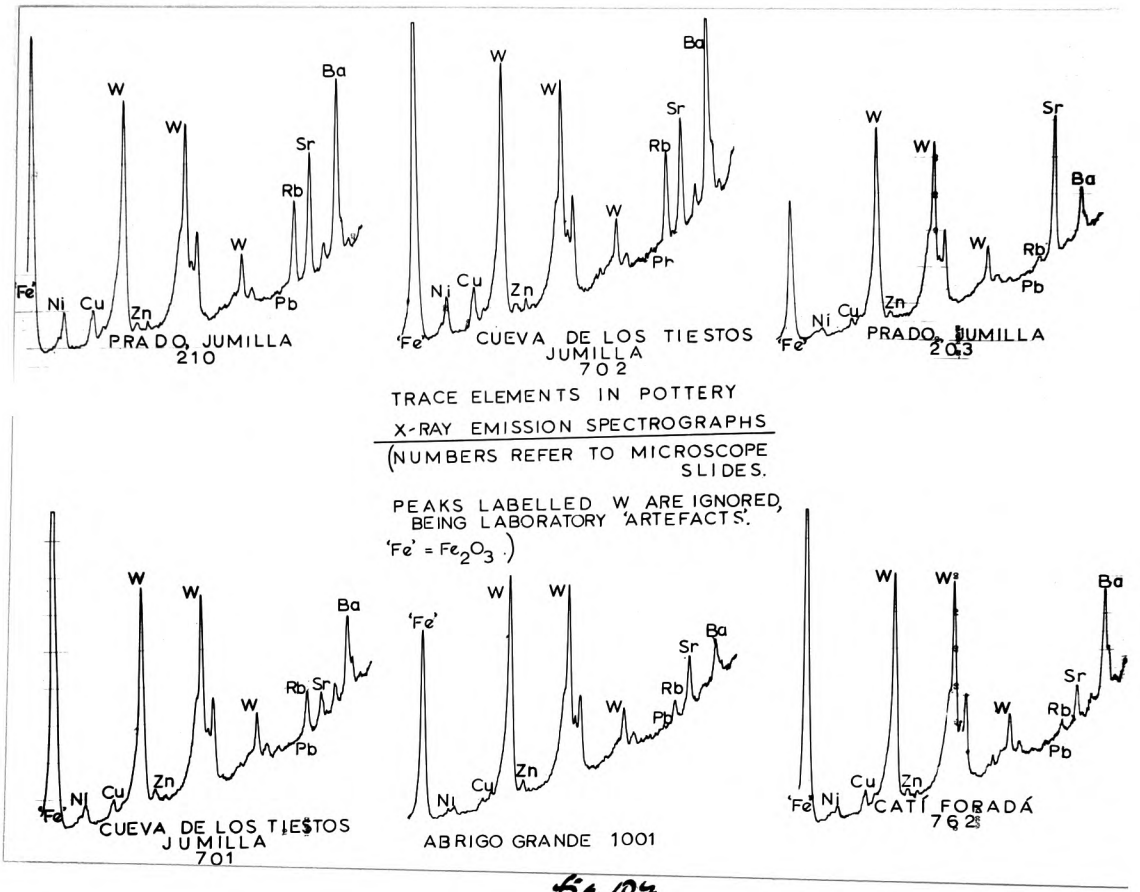
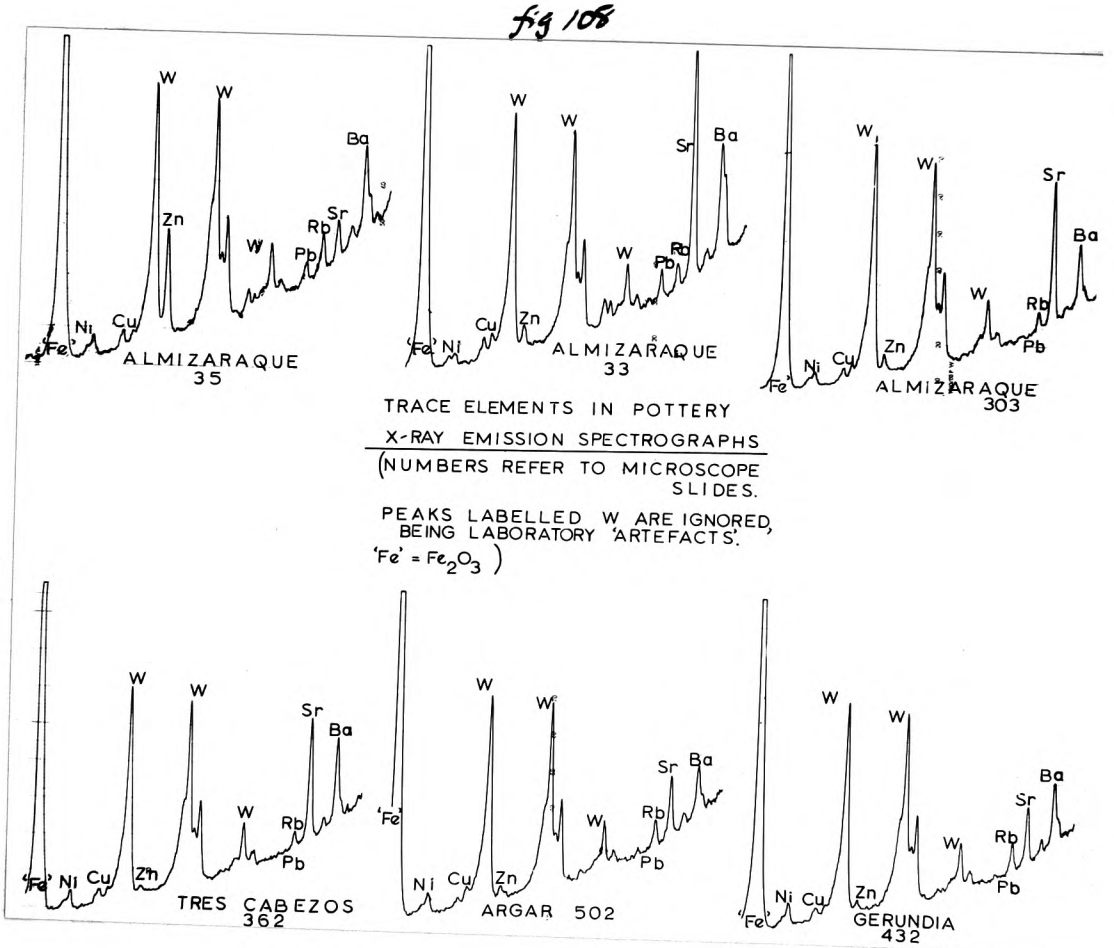
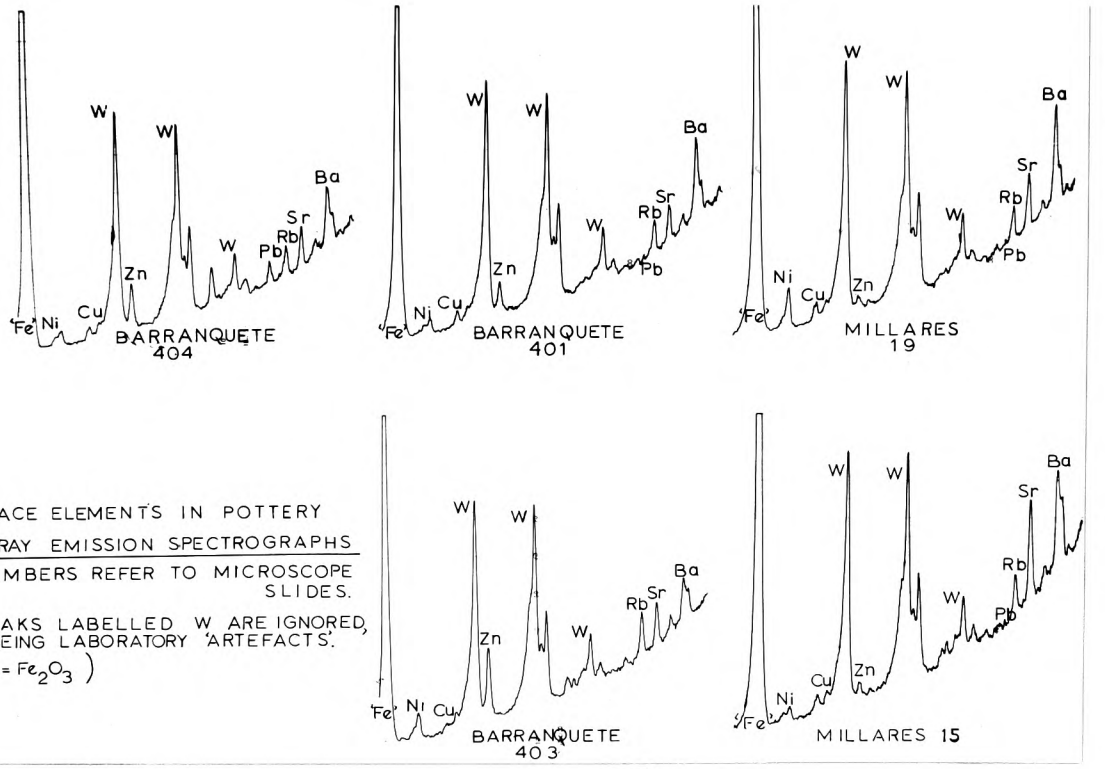


fig 104

fig 105

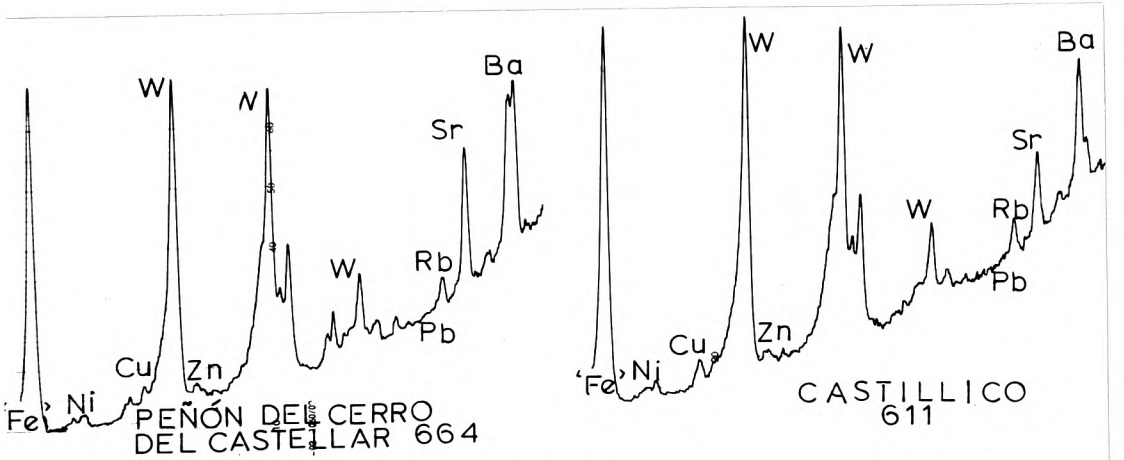




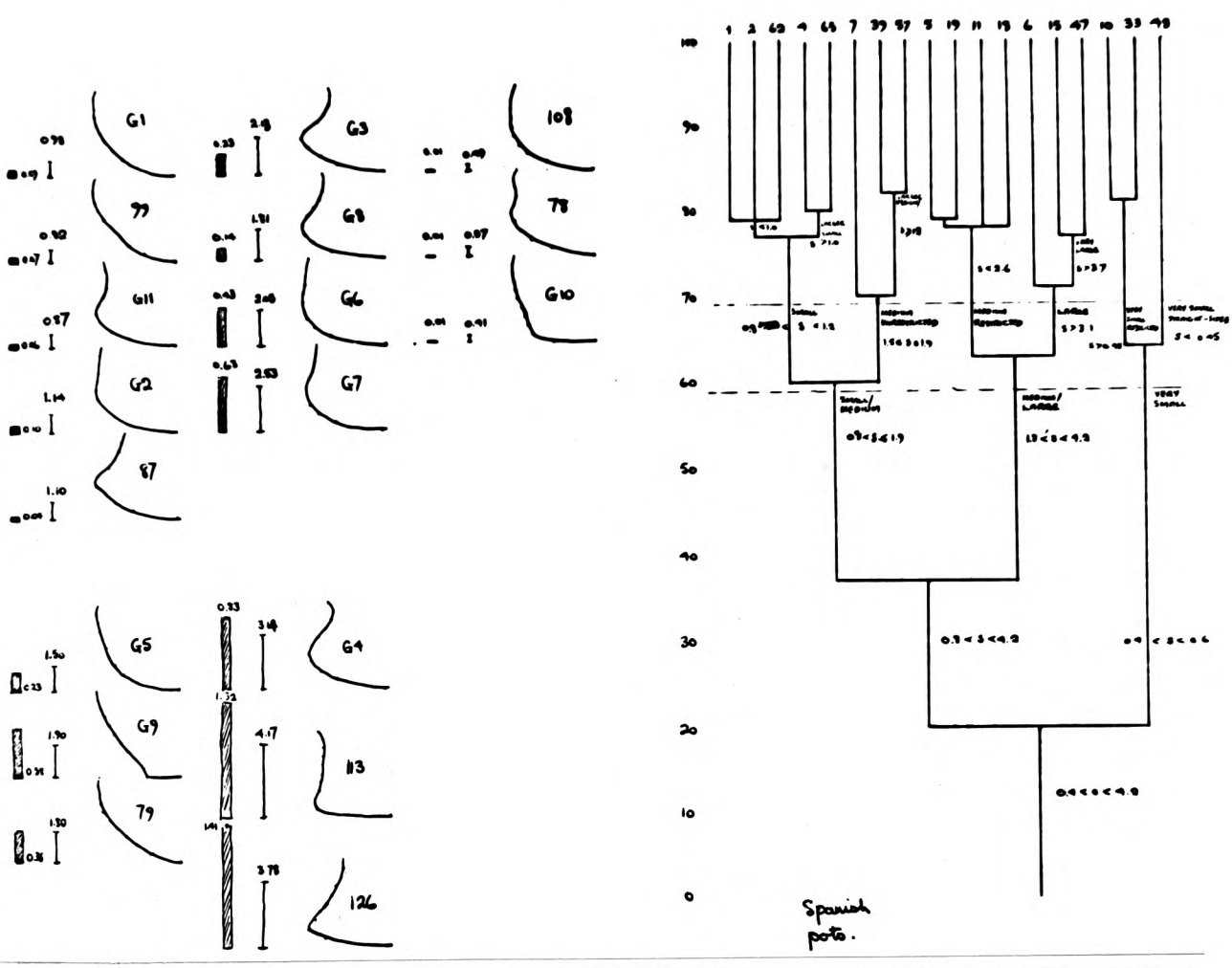
TRACE ELEMENTS IN POTTERY
X-RAY EMISSION SPECTROGRAPHS
(NUMBERS REFER TO MICROSCOPE SLIDES.
PEAKS LABELLED W ARE IGNORED, BEING LABORATORY 'ARTEFACTS'.
'Fe' = Fe_2O_3)

fig 109

fig 110



TRACE ELEMENTS IN POTTERY
X-RAY EMISSION SPECTROGRAPHS
(NUMBERS REFER TO MICROSCOPE SLIDES.
PEAKS LABELLED W ARE IGNORED, BEING LABORATORY 'ARTEFACTS'.
'Fe' = Fe_2O_3 .)



figs 111, 112

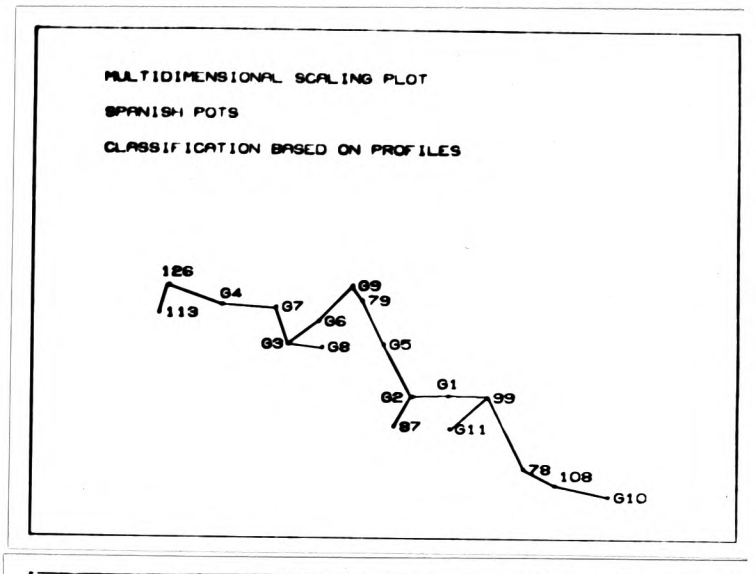


fig 113

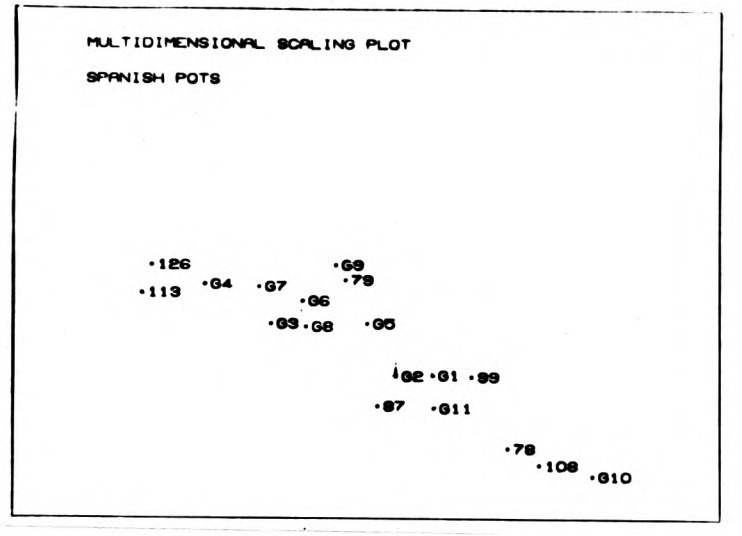
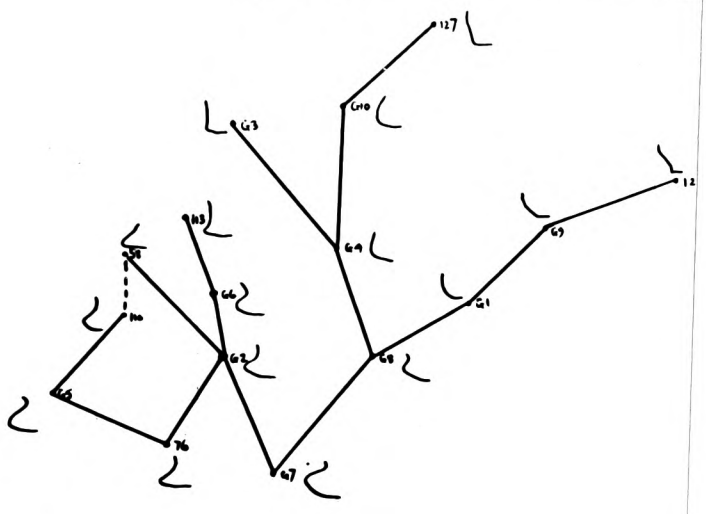
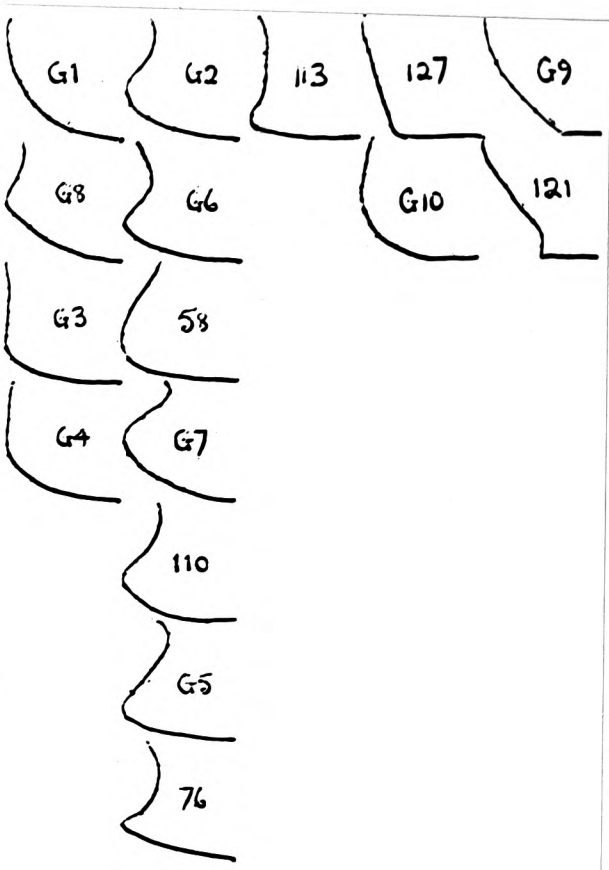


fig 114

fig 115

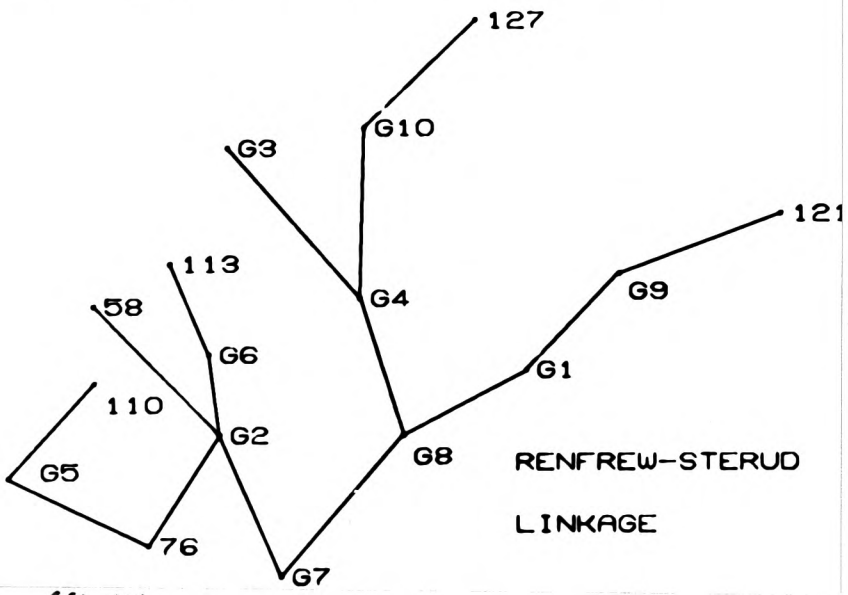


SPANISH POTS
MDSCAL
WITH LINKAGE



SCALOGRAM FOR SPANISH POTS

BASED ON PROFILE COMPARISONS ONLY



RENFREW-STERUD

LINKAGE

fig 116

SPANISH POTS

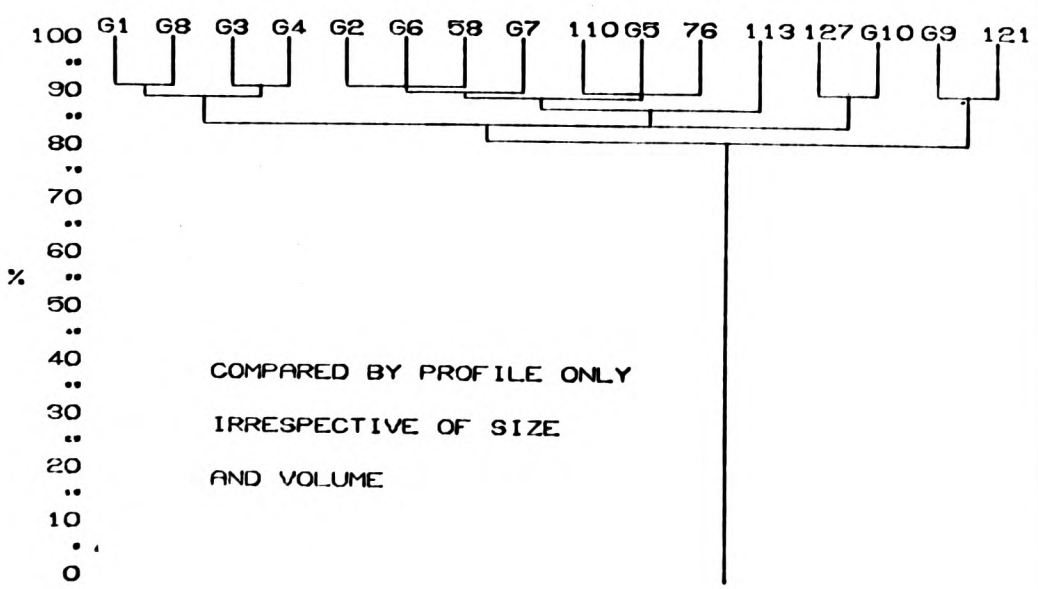
WEIGHTED PAIR GROUP CLUMPING

BASED ON PROFILE ONLY

fig 118

fig 117

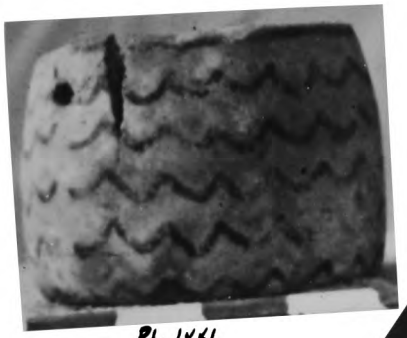
SPANISH POTS DENDROGRAM



COMPARED BY PROFILE ONLY

IRRESPECTIVE OF SIZE

AND VOLUME



Pl. LXXI



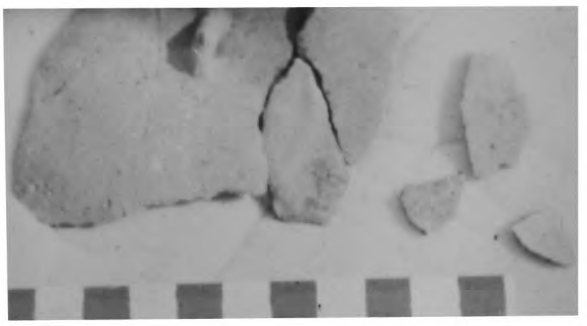
Pl. LXXII



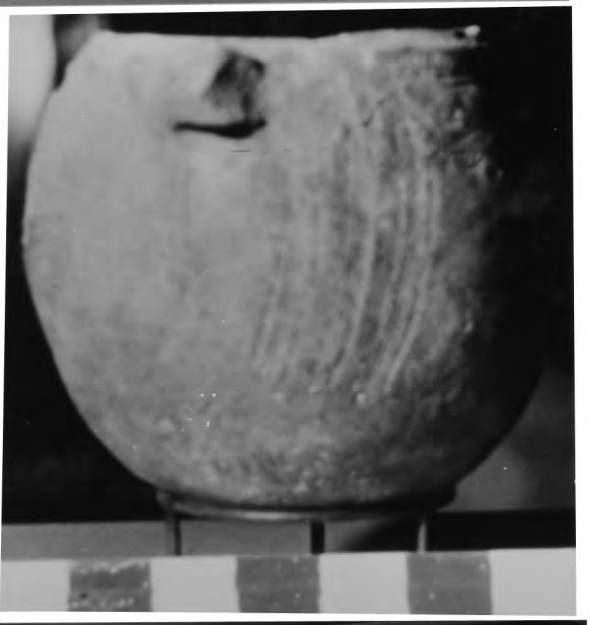
Pl. LXXIII



Pl. LXXIV



Pl LXXV



Pl LXXVI



Pl LXXVII

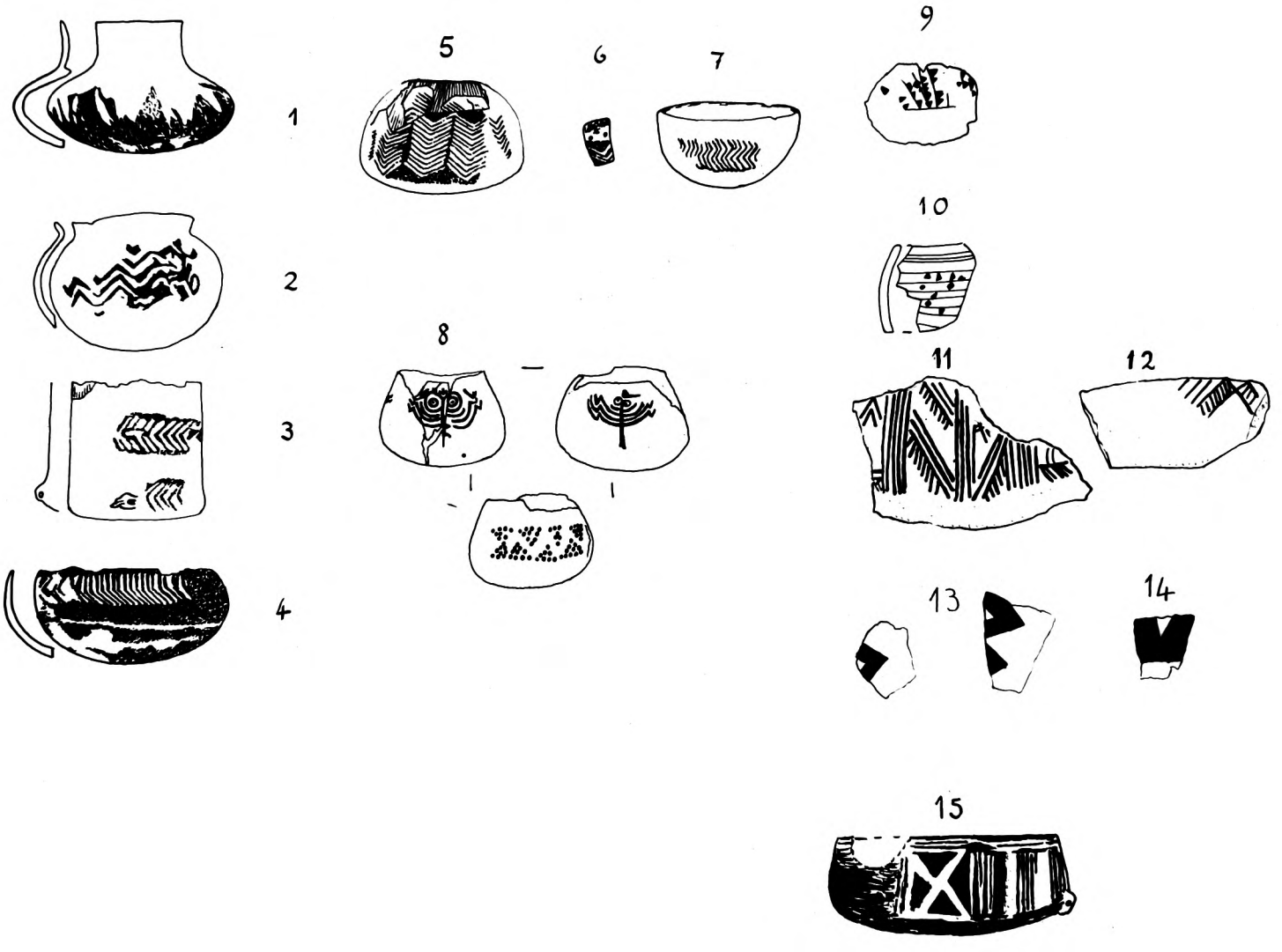
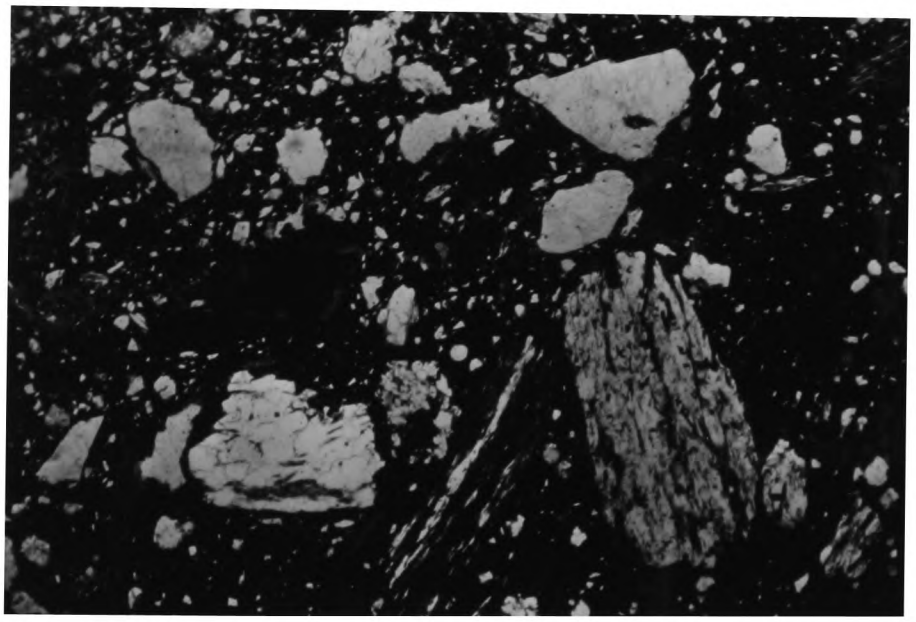


fig 119

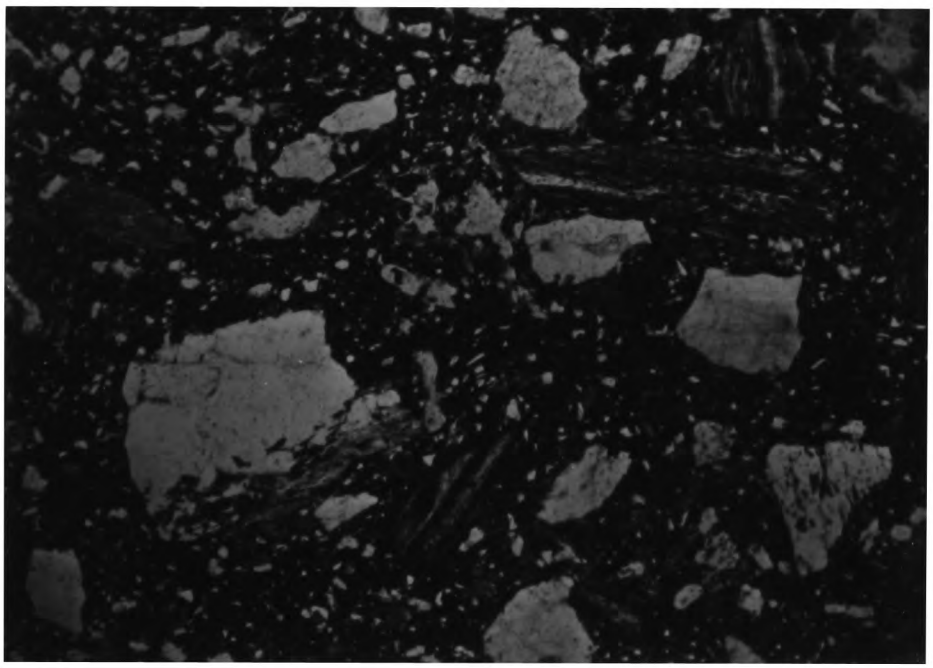
Pl. LXXVIII

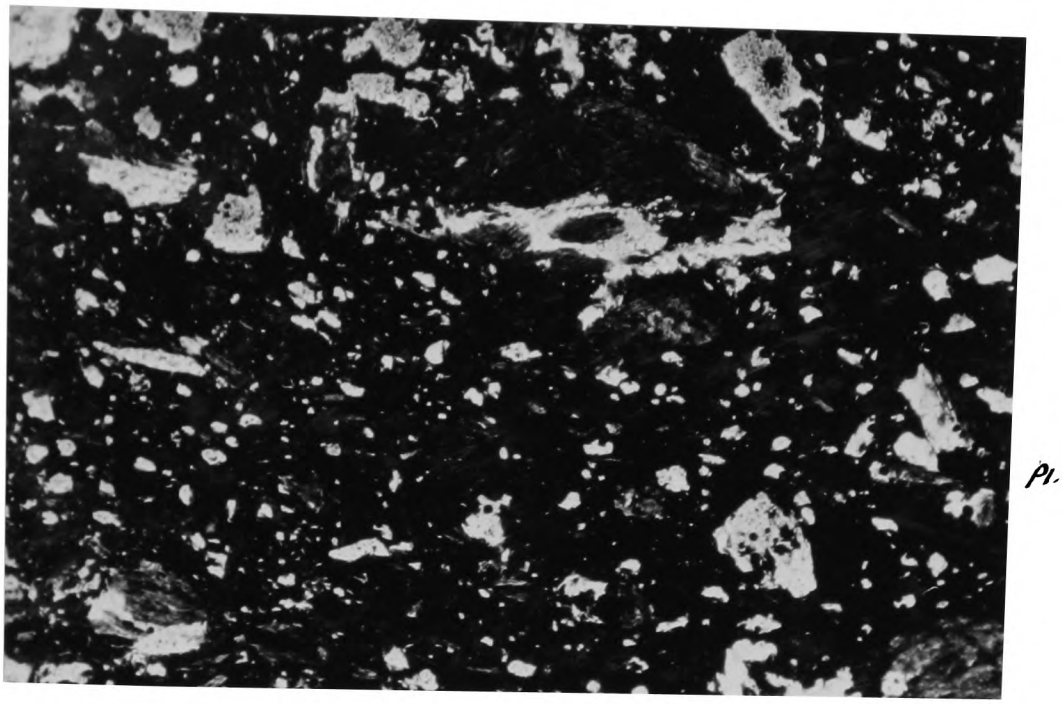


Pl LXXIX

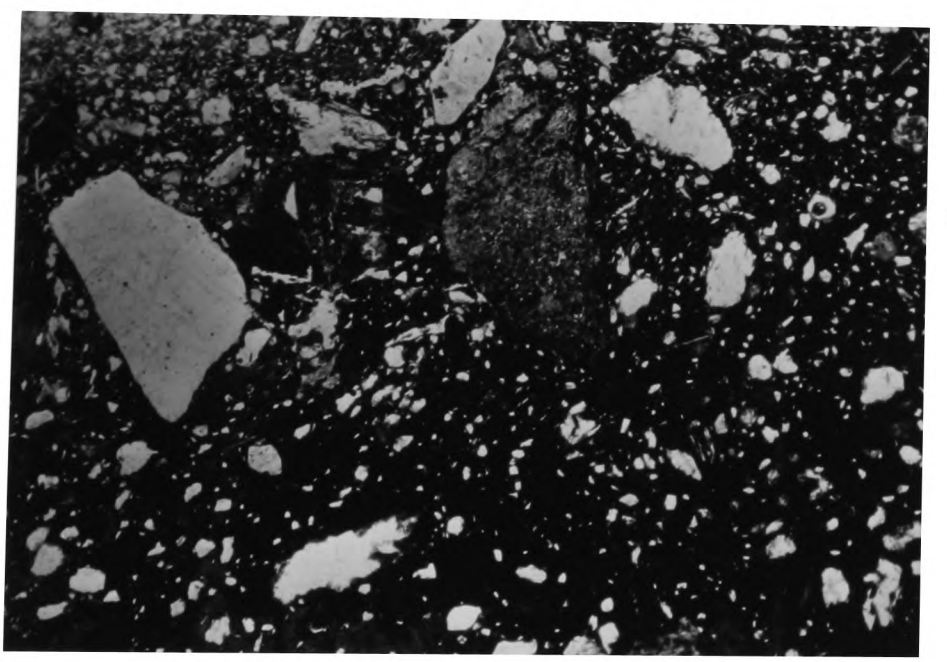


Pl LXXX

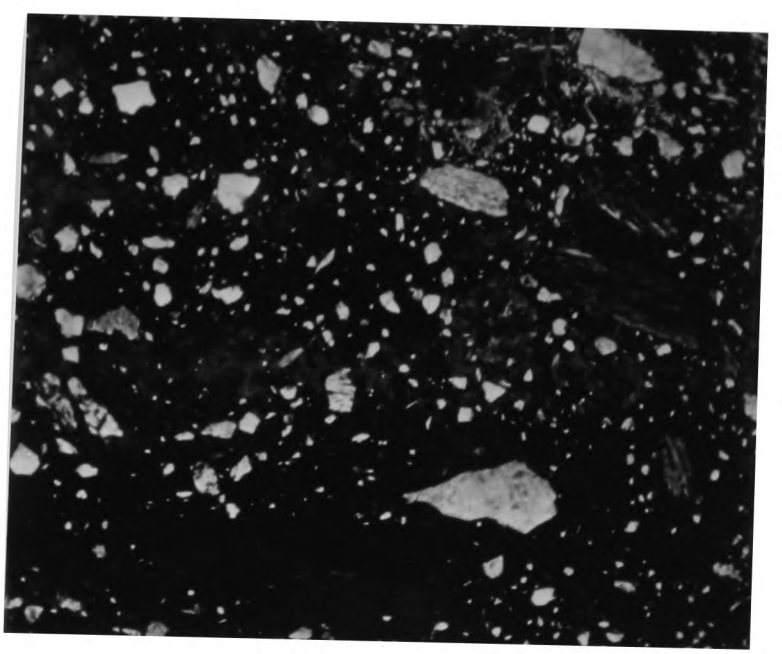




Pl. LXXXI.



Pl. LXXXII

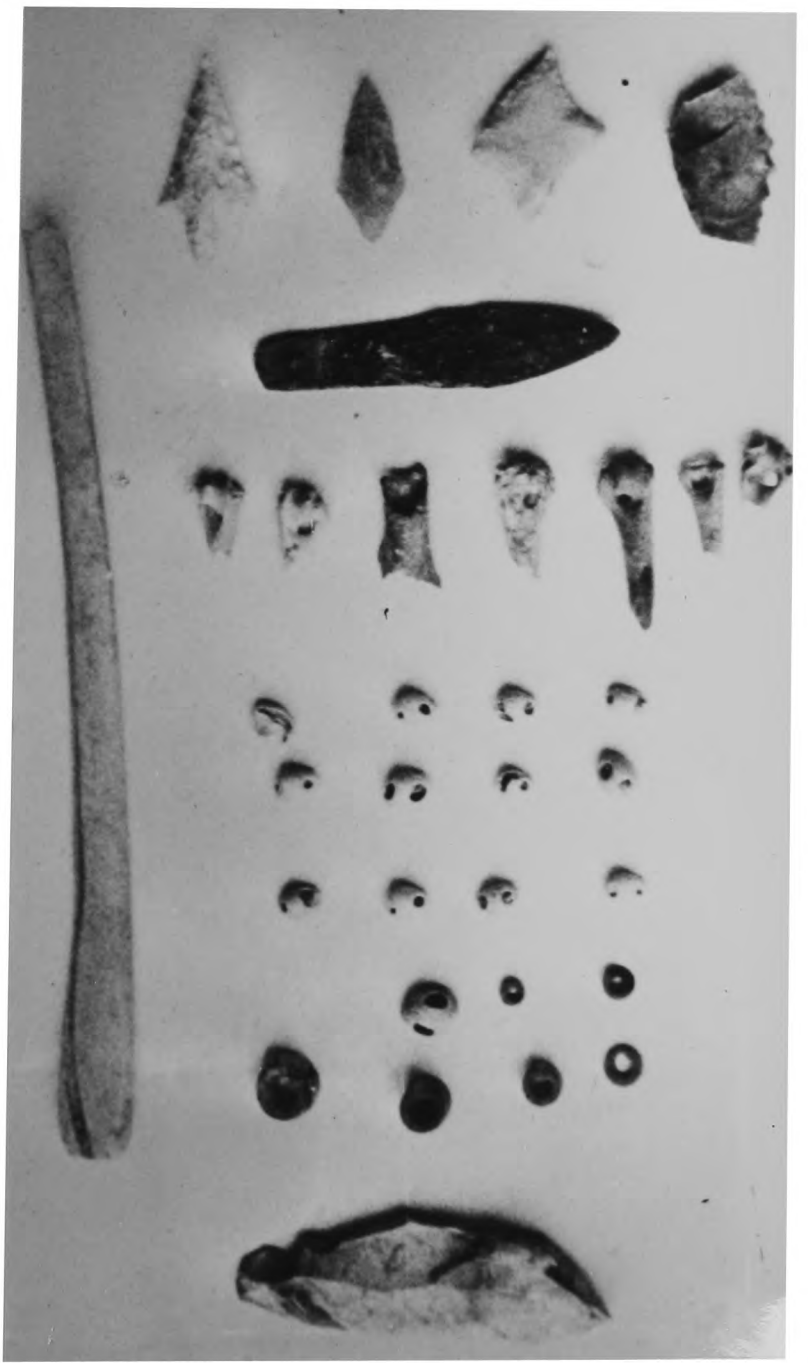


Pl. LXXXIII



Pl LXXXIV

Pl LXXXV



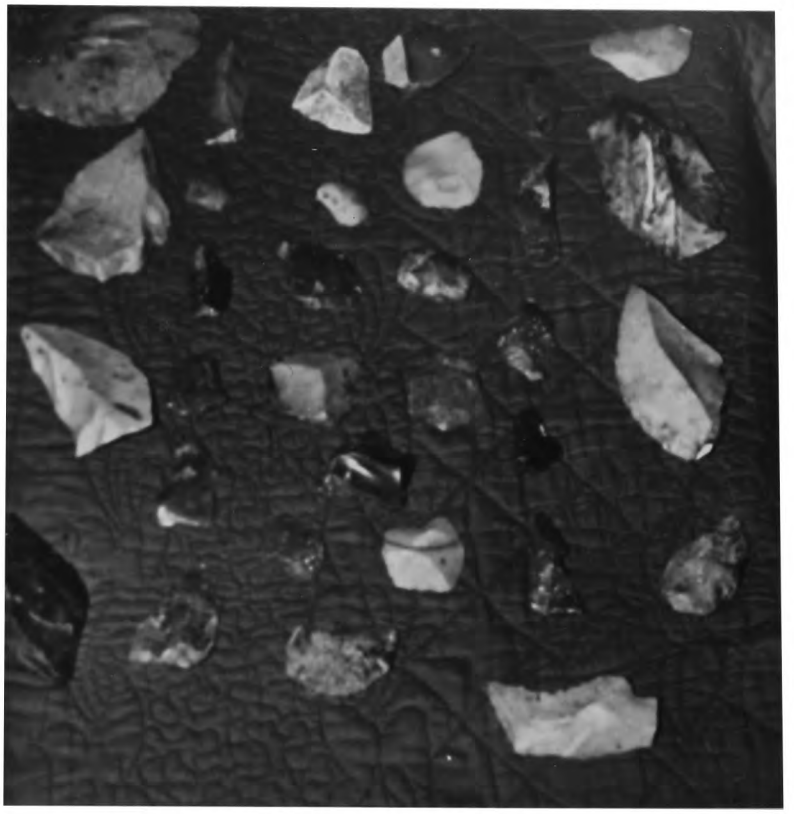


Pl. LXXXV.

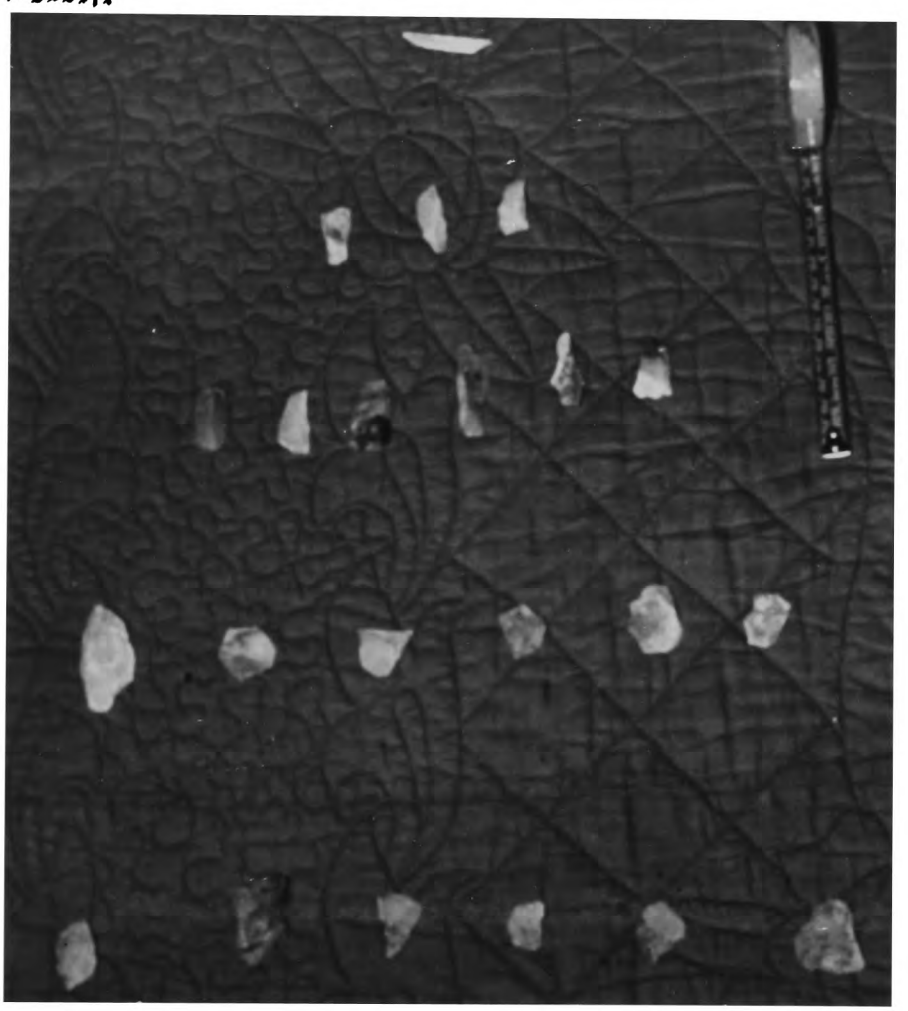
Pl. LXXXVI.



Pl. LXXXVIII



Pl. LXXXIX



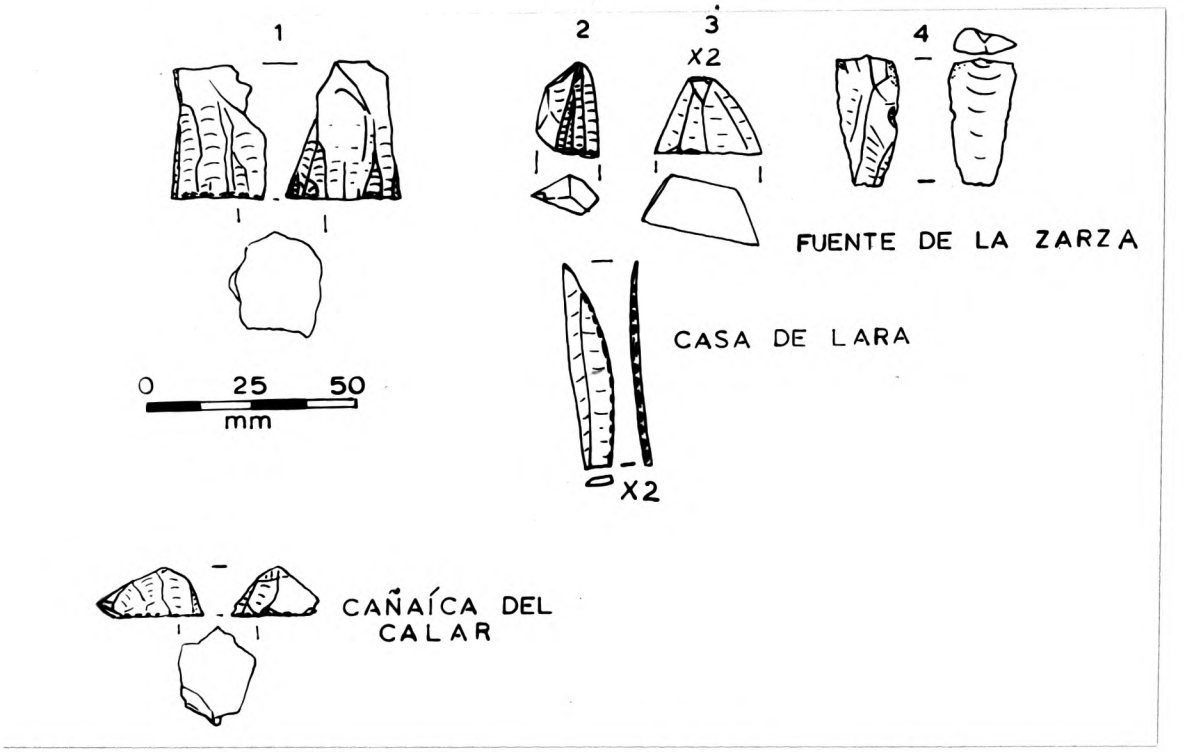


fig 120

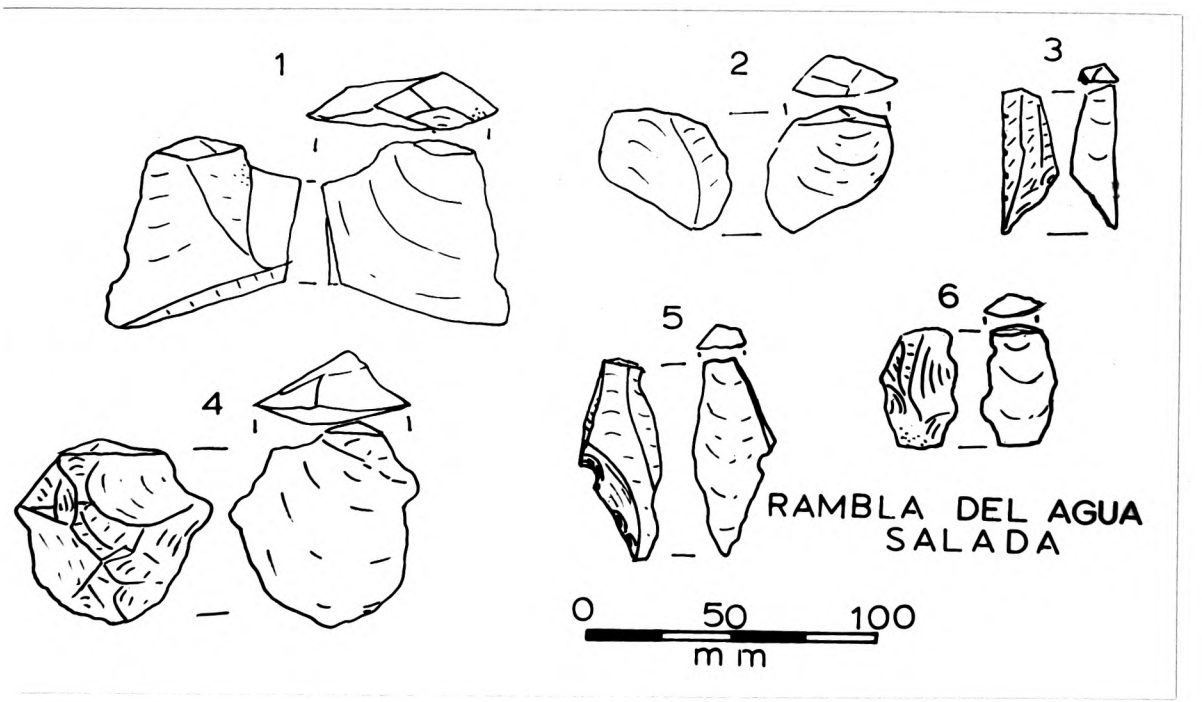
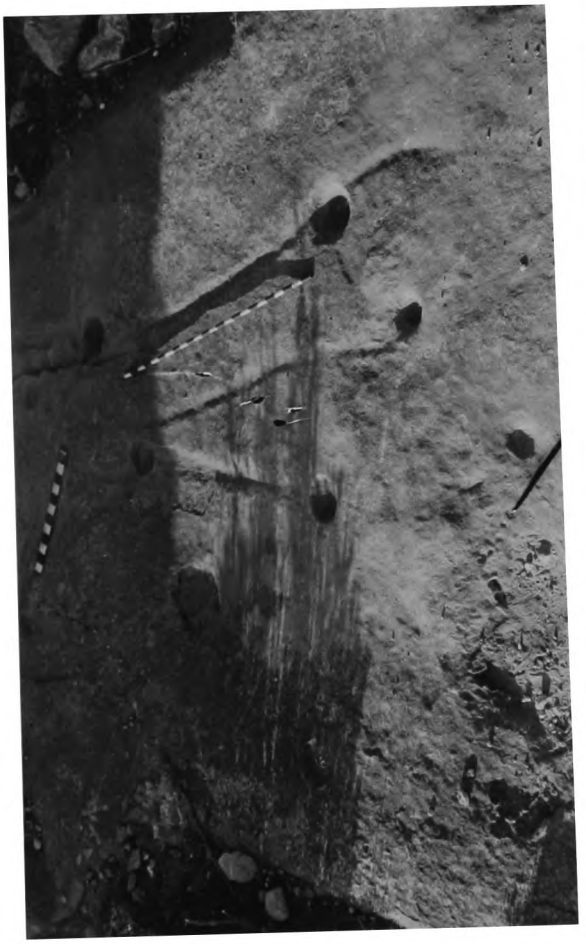


fig 121





Pl. XC-xcm

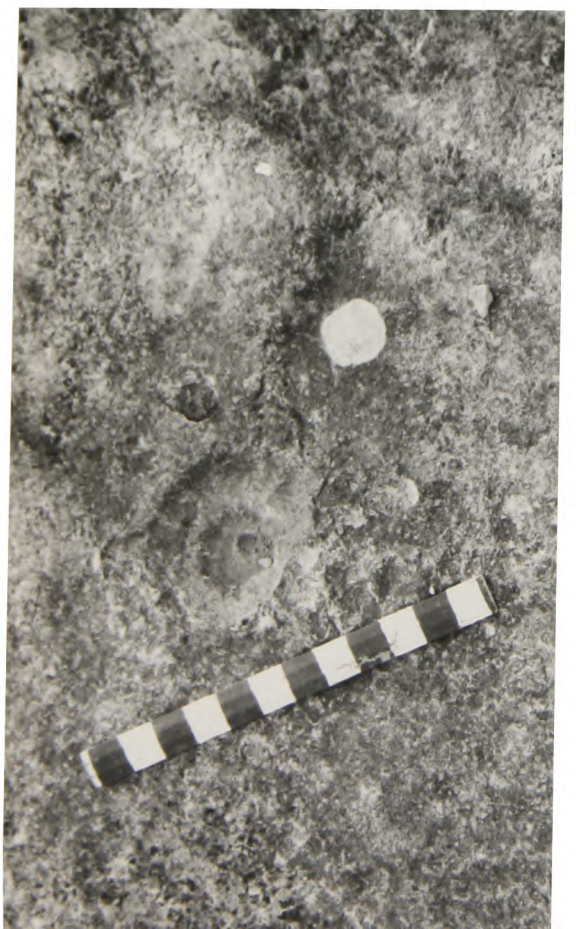


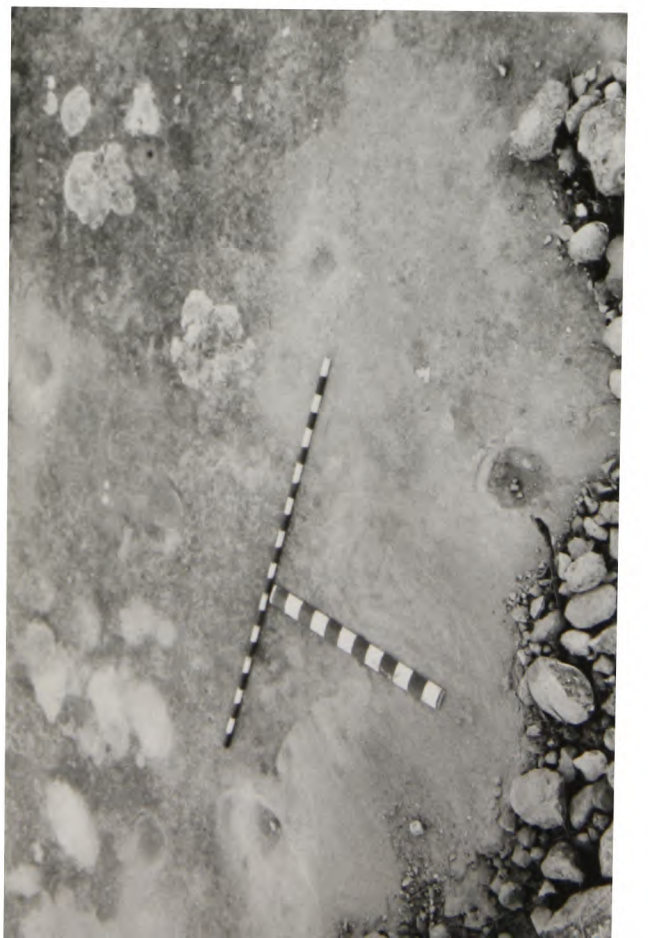


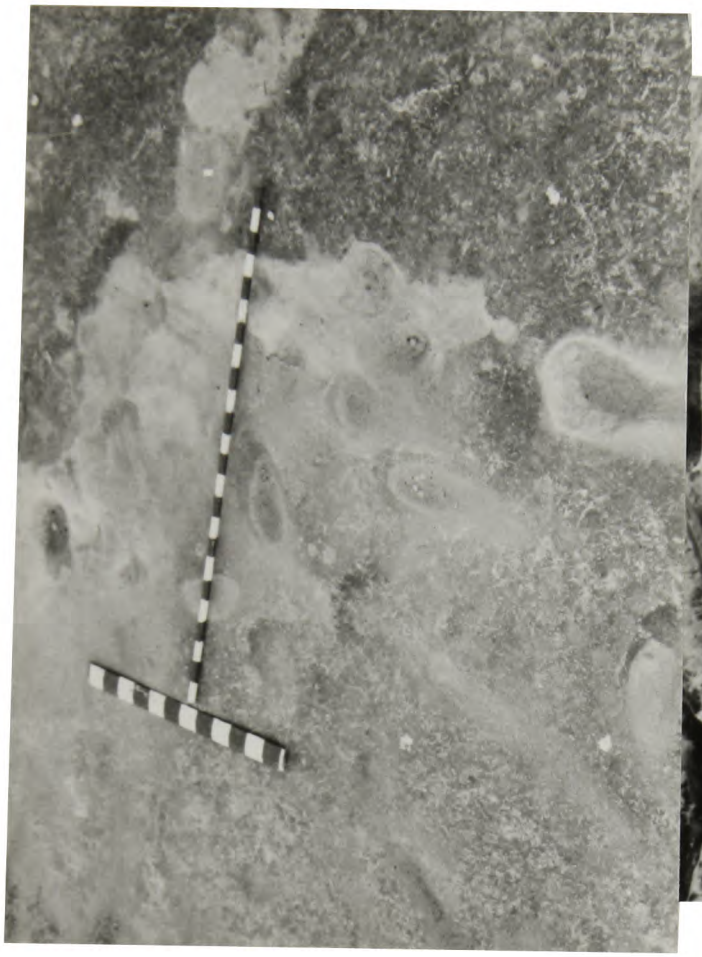




Pl. XCIV - Pl. XCVII









Pl. XCVIII - C 1

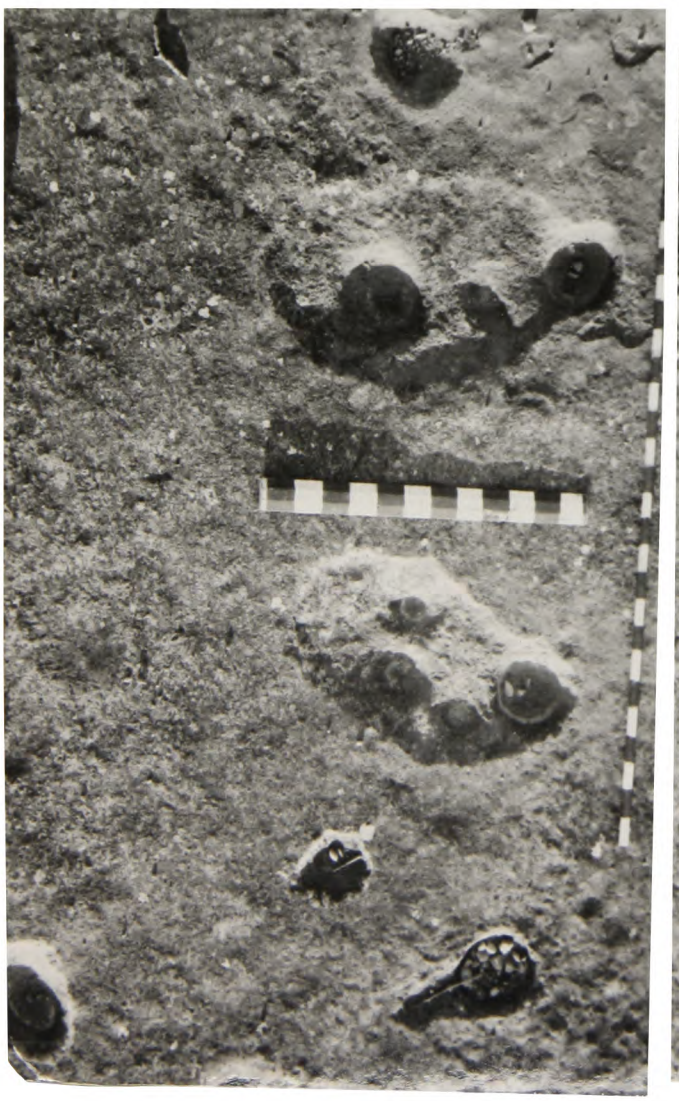








Pl. CII - CV









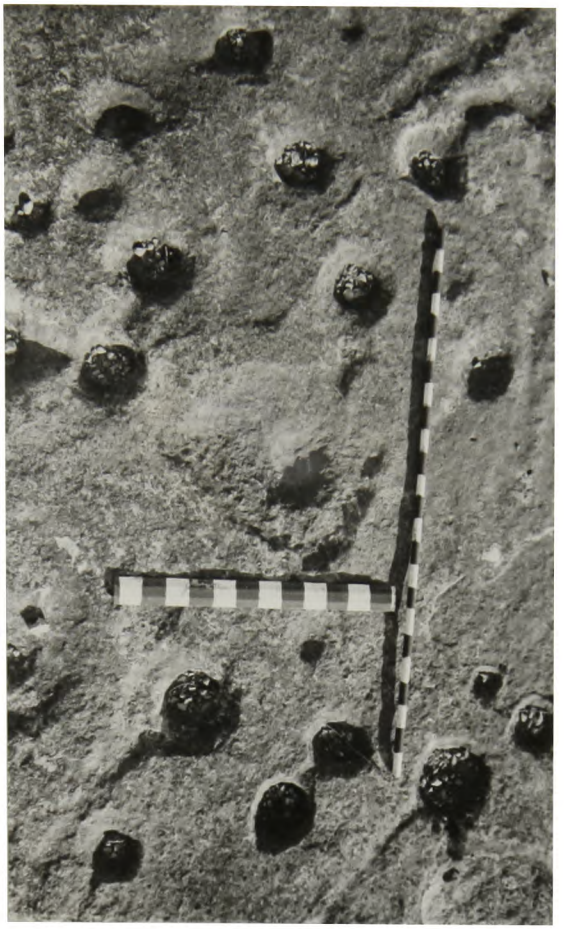
Pl. CVI - CVIII





Pl. cix - cx







Pl. CXI - CXIV









Pl. CXV – CXVIII







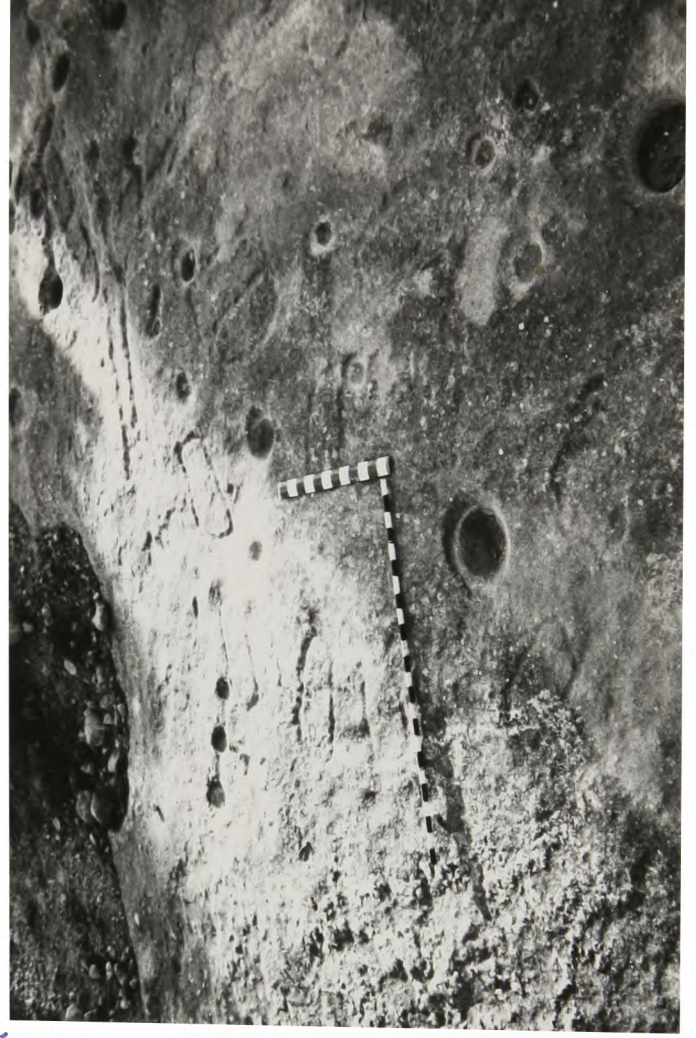


Pl. CXIX - CXXII





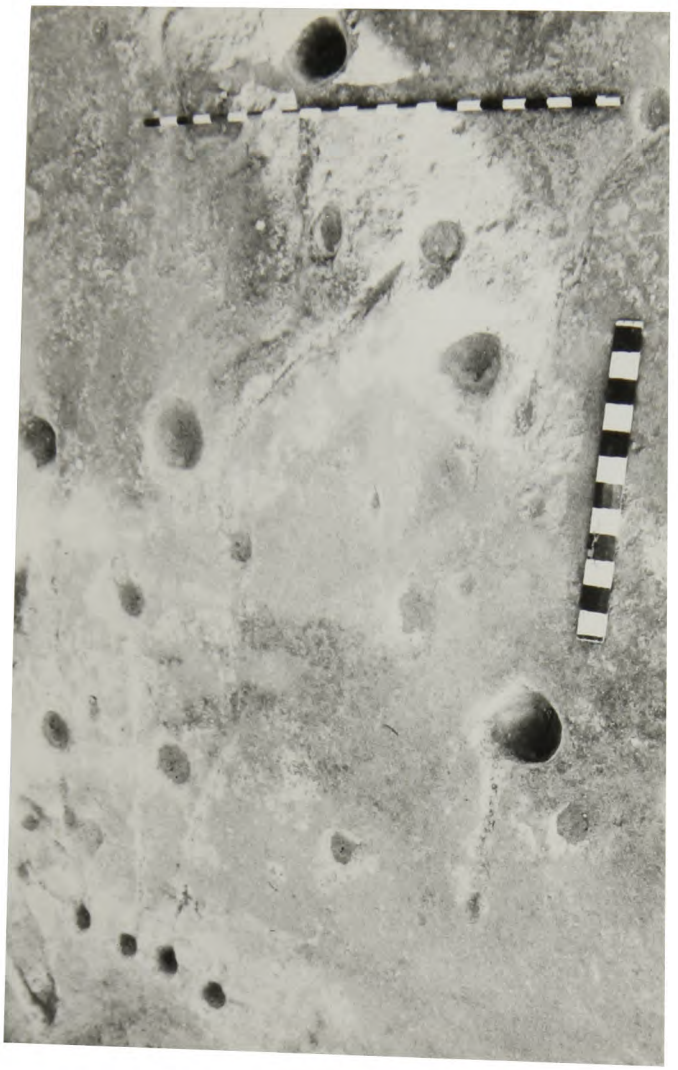




Pl. CXXIII - CXXVI









Pl. CXXVII - CXXX

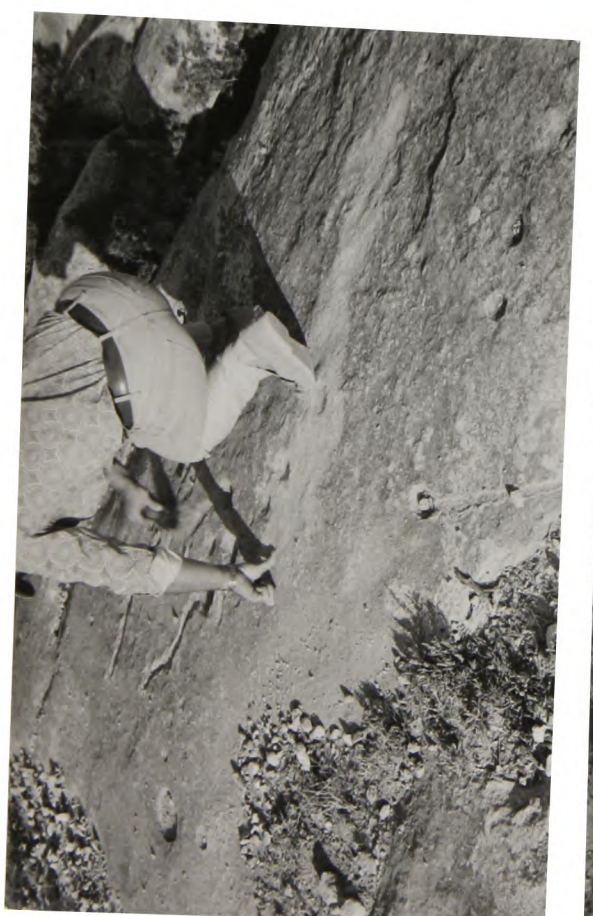




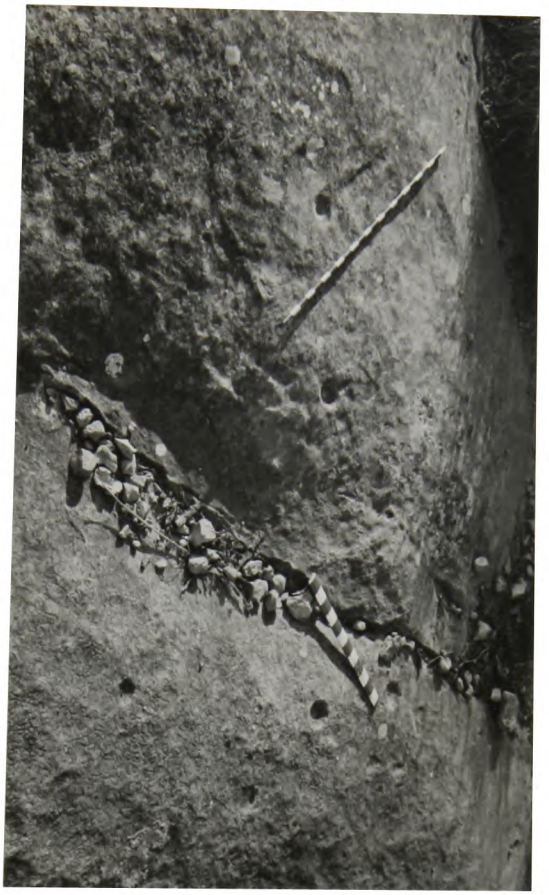




Pl. cxxxi - cxxxiv



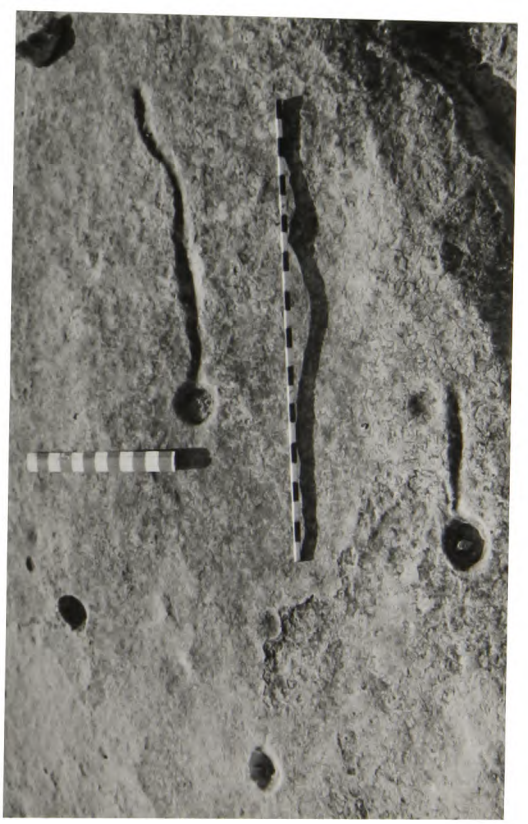






Pl. cxxxv - cxxxviii











Pl. CXXXIX - CXLIV











Pl. CXLV-CXLVIII









Pl. CXLIV - Pl. CLI





Pl. CLIII

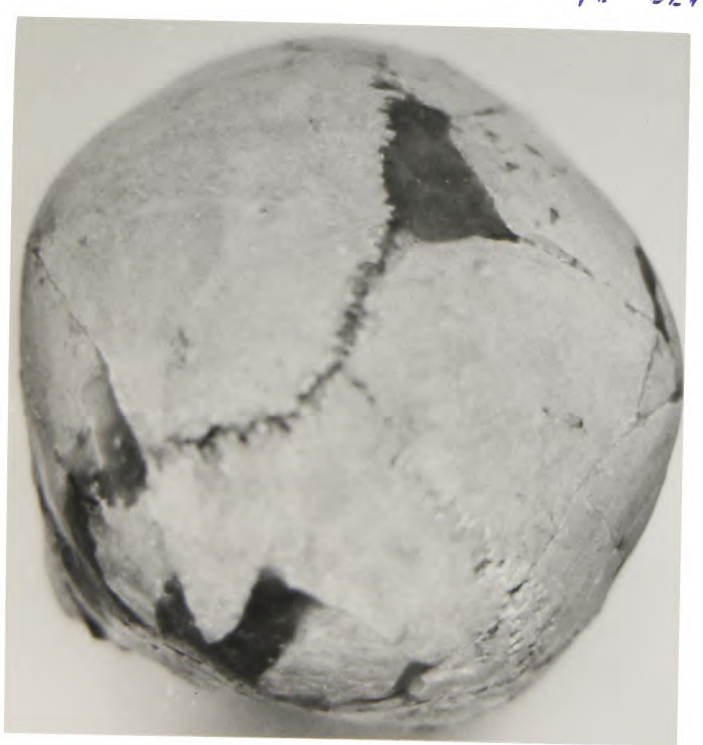
Pl. CLIV





Pl. CLV

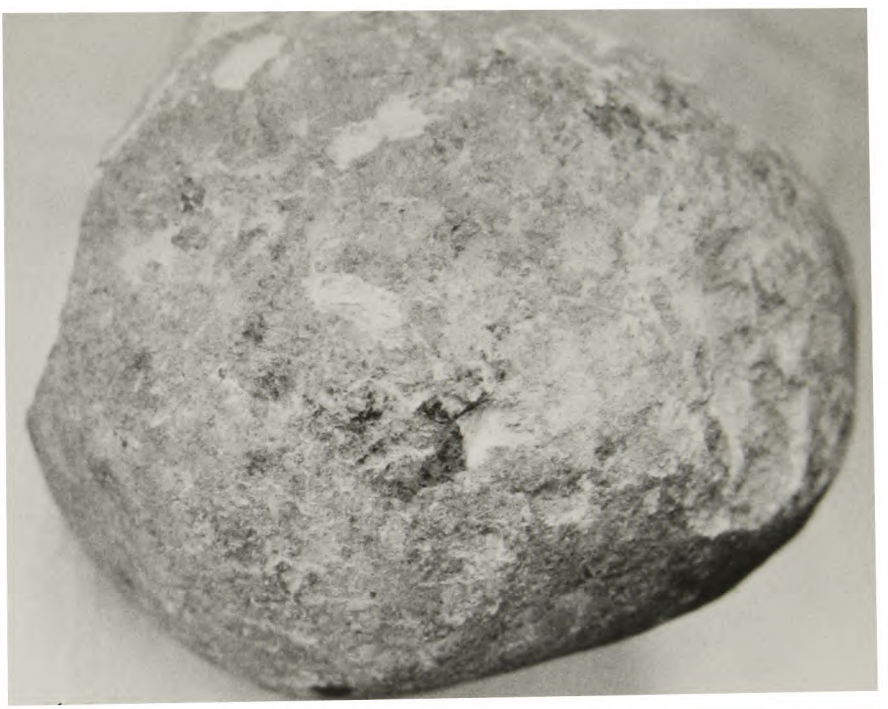
Pl. CLV



Pl. CLVII



Pl. CLVIII



Pl. CLIX



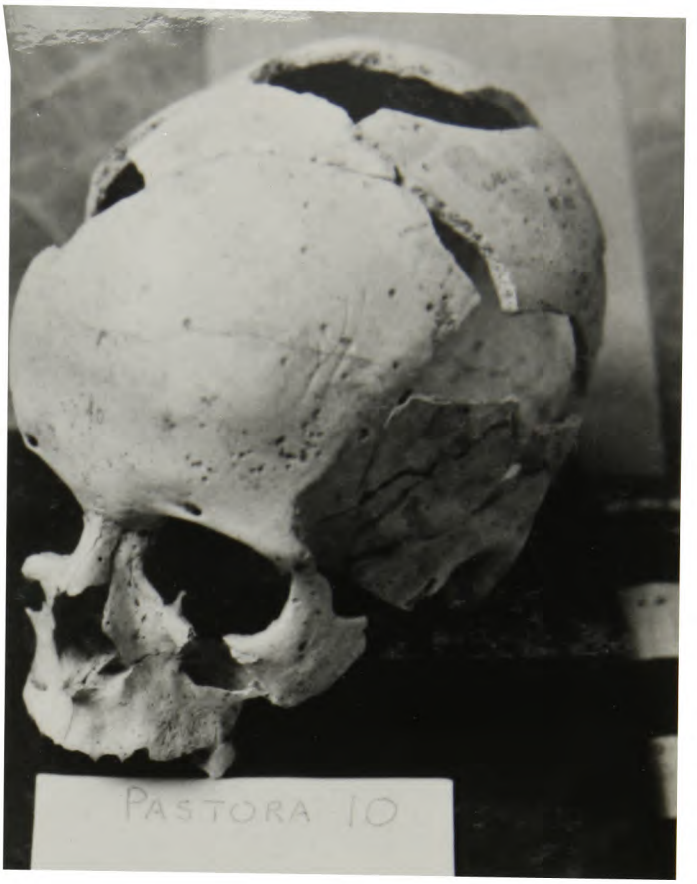


Pl CL x



Pl CL x1

Pl CLXII

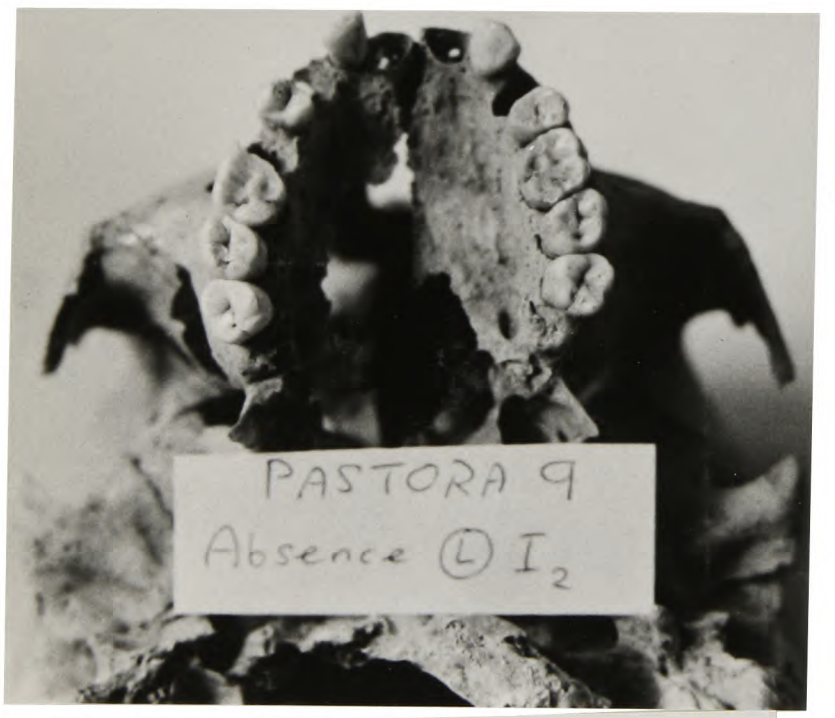


Pl CLXIII





Pl CLXIV



Pl CLXV



Pl CLXVI

Pl CLXVIII



Pl CLXVIII



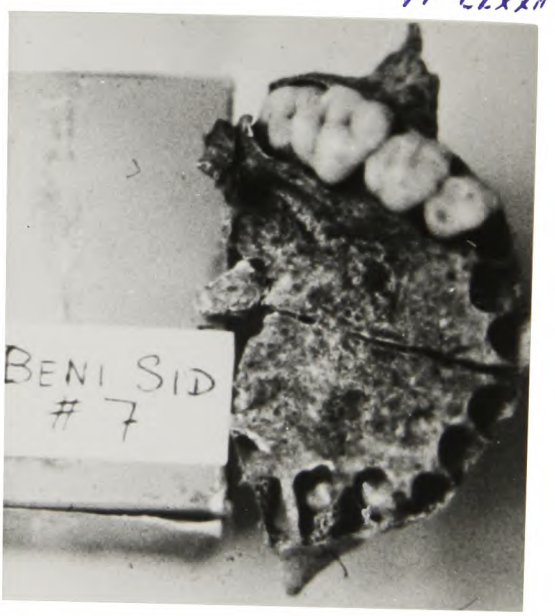
Pl CLXIX





Pl CLXX

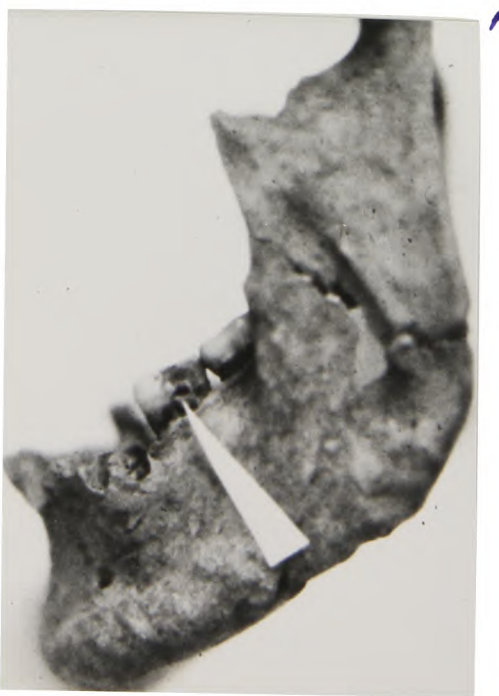
Pl CLXXII



Pl CLXXI



Pl CLXXIII



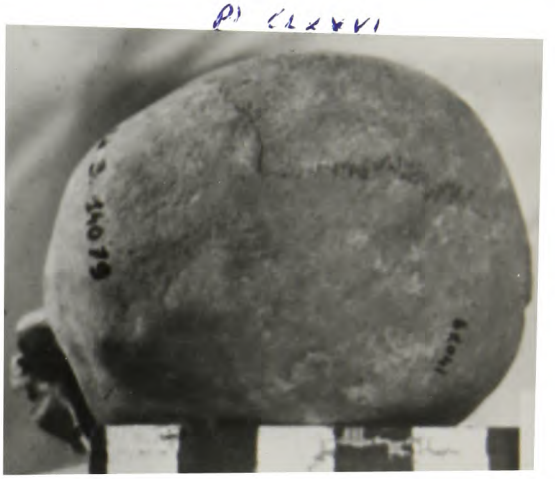


Pl CLXXIV



Pl CLXXV

Pl CLXXVI



Pl CLXXVII



Pl CLXXVII





Pl CLXXIX



Pl CLXXX



Pl CLXXXI

Pl CLXXXII



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THE NATURALISTIC ANIMAL ART OF EASTERN SPAIN:
I. NEW DISCOVERIES
II. DISCUSSION

by M. J. Walker, M.A., B.M., B.Ch.

Brig. Aubrey Glennie befriended the Oxford University Cave Club from its inception eleven years ago. His visits to Oxford are always events looked forward to by all. So too, as for cavers from all over Britain, used to be the visits we made to consult the C.R.G. Library when he housed it. His hospitality - and that of Miss Hazelton - not to mention his interest and advice in all and every matter spelaeological, are ever warmly remembered. He was an inspiration for much of our Expeditionary work in Spain these last eight years, and it is felt that the inclusion of this small contribution on rock shelter art and its fauna is particularly appropriate in view of his well-known zoological interests.

I. New Discoveries

In the Autumn of 1968 country folk near El Sabinar *(término municipal* of Moratalla, province of Murcia) found three painted rock shelters high in the side of a limestone canyon that bears a tributary of the R. Tailbilla, a branch of the R. Segura. The sites are just below 1,200 metres above sea-level at a place known as Escalar de Tapia near a hamlet called Arroyo Tejera. The shelters are all defined by the co-ordinate North 38°11'5" and lie between East 1°29'50" and 1°29'55". The paintings are in the colours shown in the accompanying figures, viz. dull red, bright red, black, and white. Shelter 1 shows anthropomorphic and zoomorphic naturalistic paintings of the so-called Levantine school. Shelters 2 and 3 show both naturalistic and schematic styles, the latter recalling other schematic paintings from Andalusia and south-central Spain. The occurrence of both types of art in the Sierra de Taibilla is significant on account of the position of the mountains between both major zones (v. Map).

The paintings were visited by myself in December 1968 and studied by scale paintings and colour photography. Neither method can pretend to give a definitive representation of the much-weathered and faint paintings, but taken together a fair rendering is believed to have been obtained. For illustration purposes the paintings give a more dramatic effect. They are based on scale drawings made at the rock shelters. The figures so obtained have the advantage of overcoming the effects of distortion given by photographic projections of uneven rock surfaces. Future work on the paintings will be carried out using infra-red and ultra-violet-flash photography in order to determine the outlines of the more weathered figures. Tracing directly over the paintings has not been employed, partly owing to windy weather, and partly through fear of damaging the paintings. Local people throw water over the paintings to make the colours stand out, a practice to be strongly condemned and avoided.

Weather conditions play a great part in deciding both the methods to be used for, and the outcome of the records. Cold, sunny, wintery weather was encountered. Thus whilst lighting was excellent, drawing boards and cameras could be held still only with difficulty and the drawing hand soon felt the effects of cold. A tripod both for a drawing board and a camera is unsuitable since the floor of the shelter rises in a smooth upward curve to form the more vertical painted panel of the rock shelter overhang. There is no soil cover on the shelter floors.

Shelter 1 shows 18 anthropomorphs of whom 9 can be tentatively identified as male either by their weapons (shields, bows) or external genitalia. Two female figures wear calf-length skirts. One strange hermaphrodite has a penis and yet appears to be pregnant (unless it is a man with a shield). The accompanying fauna represents at least 11 quadrupeds of varying sizes. One enormous fragmentary figure in solid colour appears to be so out of scale that one may pertinently wonder whether it is perhaps not contemporary with the rest. It has a curious feathered or fern-like object above it. At the far left a cervid head is clearly seen, and the delicate legs and body of what is probably another cervid. The only animal to be unmistakable, however, is a bovid at the bottom left of the middle group. The other beasts in the middle group are less clear, one may be a 'mythical' beast with three horns, the larger animal above it has traces of an obscure painting above its dorsum, but it would be most fanciful to see this as a 'domestication' scene of equid and rider, as the animal is not distinctively equid.

The weapons are of interest. Shields are both long (far left-hand figure) and round, and their use appears to have involved kneeling behind them (note the figure above the bovid). The bows are shown as single arcs, and are not of the re-entrant type sometimes seen in Levantine paintings (by no means always) that Burkitt (1925) has compared to pre-dynastic forms.

The curious tectiform below the large beast in solid colour is of a brighter red than the rest of the panel.

Shelters 2 and 3 are about half a kilometre East of shelter 1. Shelter 2 shows schematic motifs, two 'mythical' beasts in white, and an odd 'octopus-like' figure (c.p. a very similar one from Cueva de la Vieja, Alpera in Breuil, 1935 p.64), as well as dots and strokes. There is also a minutely painted scene of two caprids, three cervids, a "sun" symbol and two ? anthropomorphs, all highly schematic in style, and totally unlike the paintings of shelter 1.

Shelter 3 is close by shelter 2. Here are five cervids in naturalistic style, two being in outline only, the other three in solid colour. Two anthropomorphs are shown, one with a bow, the other with a strange appendage in close relation to an obscure beast with stumpy limbs terminating in three digits. Eight smaller

quadrupeds are shown also, and some schematic marks in both red and black lines.

A visit was also made to another site further up the Taibilla valley near the *cortijo* of Pedro Andrés in the *término municipal* of Nerpio, in the adjoining province of Albacete. This site has been published extensively by Sánchez Carrilero (1962), but new drawings are here offered and an interpretation of some features hitherto not remarked upon. The paintings are in a series of cave shelters called Solana de las Covachas an hour's walk to the south of the *cortijo.* (A key to enter the enclosure that has been built around the rock shelters has to be first obtained from the *alcalde* of Pedro Andrés.) I shall not here enumerate in detail the shelters and their contents, but in referring to the new colour figures here presented use the same enumeration of the shelters as Sánchez to whom reference must be made for a fuller account.

One reason for making the new drawings and paintings was as a check on the accuracy of the method, since the Sánchez publication had not at the time been seen by myself. Her method seems to have been black and white photography and the presentation of a pen and ink interpretation alongside each photographic plate. The fauna is broadly similar, although no bovids can be identified. *Cervus elaphus* and *Capra ibex pyrenaica* are common. One cervid has a curious shaggy undercoat (?) (between shelters 3 and 4), which Sánchez sees as continued at the other side of the solid coloured thorax as a sort of mane on the neck and back, though her interpretation of this as a rising vertically upwards is certainly queer, and it is not at all apparent from the accompanying photograph she publishes. I could see no sign of this part of the figure whatsoever. However, my visit was ill-favoured by grey skies and occasional gusty snow showers, so visibility was not optimal by any means. It is therefore not surprising that I could not make out the vertical line of minute archers she has seen in shelter 3. There are other slight differences between my interpretation and those of Sánchez, though comparison of my drawings with her drawings and photographs shows a remarkable coincidence in the main features, and as has been stated above, a combination of methods is in any case desirable when recording rock art as weathered as the 'Levantine'* paintings usually are.

Shelter 5 at Solana de las Covachas shows many caprids and cervids superimposed and three anthropomorphs with long skirts. Of outstanding interest is a figure in solid colour holding a wand (?bow) whom Sanchez shows as having a penis and both feet out-turned. Now this is remarkably similar to the two figures who dominate the panel at Cueva de la Vieja (Alpera, Albacete) associated with the "pseudo-cervids" there and which may be bulls given antlers either for cult purposes (or ? as decoys) (Maringer 1963). Whatever maybe the purpose of the Alpera "pseudo-cervids" there is no doubt that hunting magic is involved, and the recurrence of the associated male figure in the characteristic posture at Solana de las Covachas tells us that here, too, hunting magic was involved in the paintings. But this is not the only strange parallel with Alpera. At the Cueva del Queso, Alpera there is one of the more convincing paintings of either a giant deer *(Megaloceros)* or elk *(Alces alces)* as also at Minateda (v. Obermaier 1924). (Other rather less convincing sites are the Cueva Remigia, Obermaier 1937, and perhaps the Cueva de la Saltadora, Duran 1915-20 – my attribution). The best in shelter 5 at Solana de las Covachas whose antlers are seen in profile at one side, and in fore-shortened perspective at the other can surely be not less than such a species. The fore-shortened profile with diminutive tines would be exactly what one might expect to see due to the angulation of the palmate expansion of such an animal, and it is notably different from the normal representation of the antlers of other cervids, presumably *C. elaphus,* not only at this, but also at other Levantine sites. Admittedly there is a slight difference of the representations of the palmations between my drawing and that of Sánchez, although if anything her interpretation would bear out the suggested identification even better:-

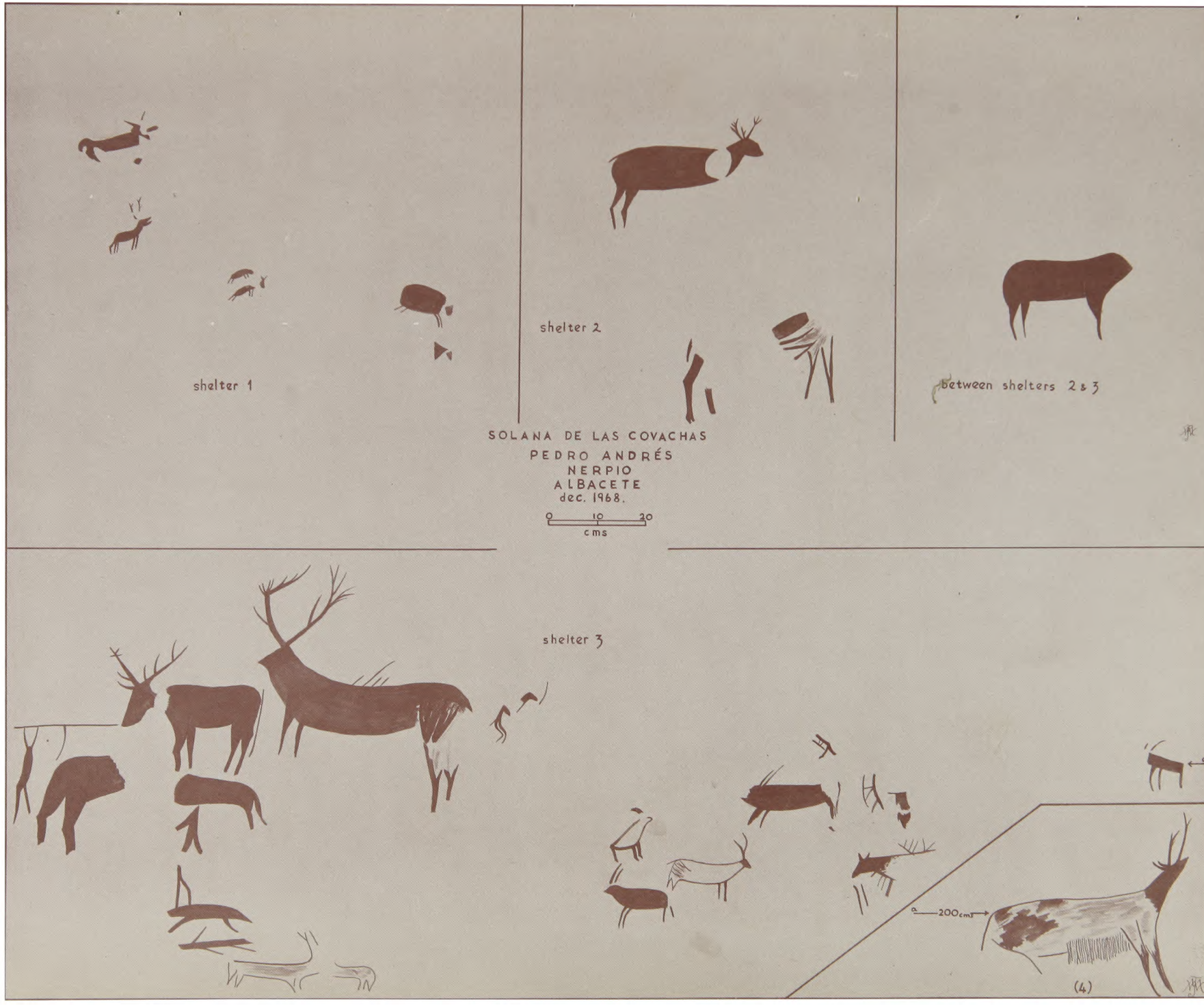


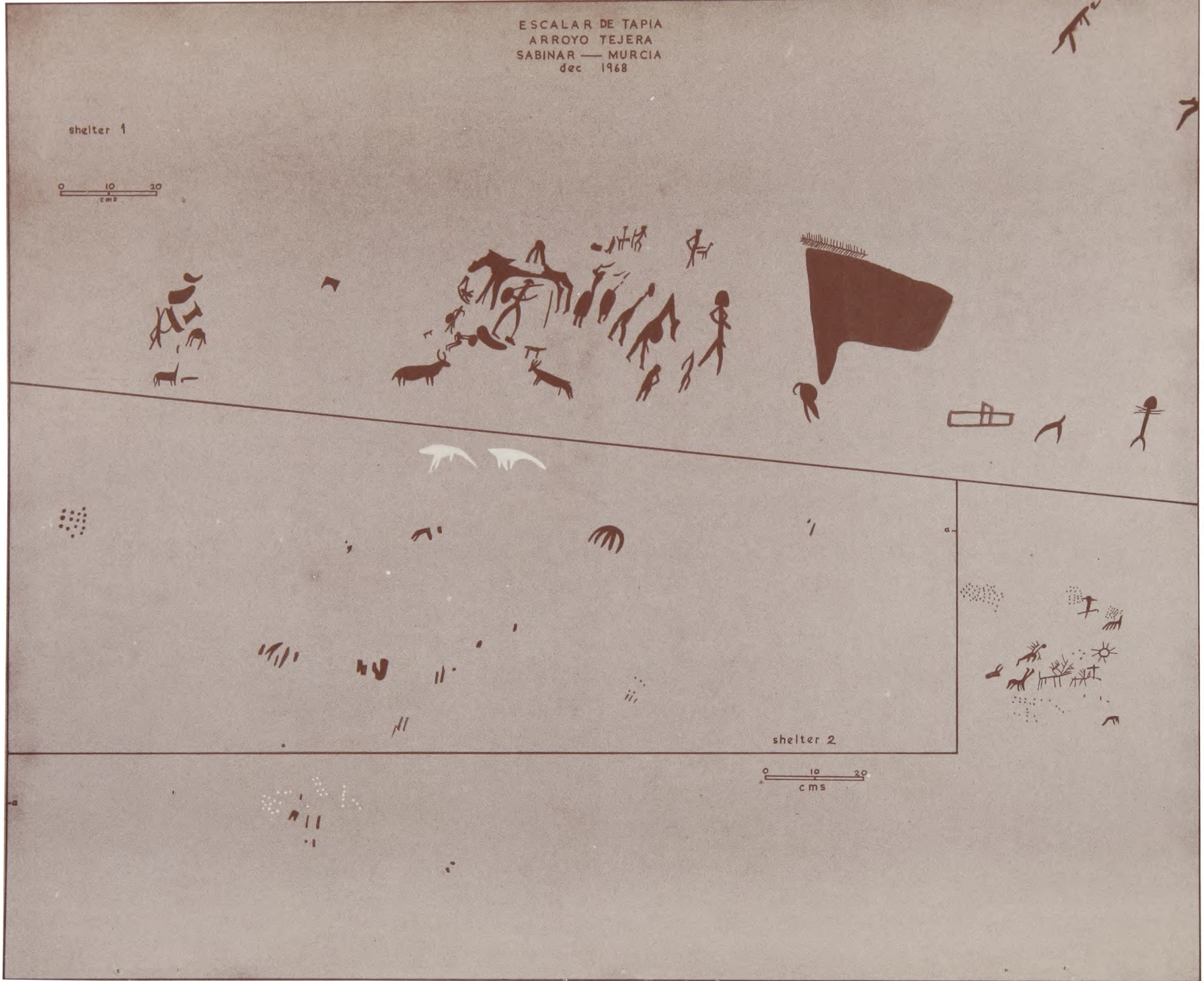
M.J.W.



After Plates XXVIII and XXX of Sánchez Carrilero

* Eastern Spain is called 'Levante' in Spanish. Adj. 'Levantino'.


shelter 1
shelter 2
between shelters 2 & 3
SOLANA DE LAS COVACHAS
PEDRO ANDRÉS
NERPIO
ALBACETE
dec. 1968.
0 10 20
cms
shelter 3
0 200cms
(4)


ESCALAR DE TAPIA
ARROYO TEJERA
SABINAR — MURCIA
dec 1968
shelter 1
0 10 20
cms
shelter 2
0 10 20
cms

ESCALAR DE TAPIA

0 10 20

cms



shelter 3



shelter 5

SOLANA DE LAS COVACHAS

0 10 20
cms



shelters 4-5



Escalar de Tapia lies 15 kms North-East of Solana de las Covachas. The latter site, found in 1954, was not, however, the first site of naturalistic animal art to have been recorded from the area of the Sierra de Taibilla, although the other adjacent sites seem for some unaccountable reason to have been omitted from recent distribution maps (Almagro 1954; Savory 1968). The first of these, Cueva de las Grajas near Almaciles (Granada) was published by Breuil and de Motos (1915) and is 15 kms South of Solana de las Covachas. Here there is just one figure, the head and horns of a goat-like animal. The other sites are over 30 kms south-east again from Almaciles in the province of Almería, near Vélez Blanco. The sites of Cueva Chiquita de los Trenta and Lavederos de Tello show cervids, caprids, and schematic anthropomorphs and were published by Breuil & Obermaier (1914), Breuil & de Motos (1915) and Breuil (1935). The final site, Estrecho de Santonje, also near Velez Blanco, shows cervids and was published by Breuil and de Motos (1915) and Breuil (1935).

This important cluster of sites extends southwards the area of 'Levantine' naturalistic art considerably and merits the drawing up of a new distribution map, given on page 126. Other unpublished sites in the Taibilla valley in Albacete are currently being studied and will render this area an important one for naturalistic art. The significance of this cluster of sites and its now considerable geographical overlap with the Andalusian schematic rock paintings will be discussed below.

II. Discussion

The suggestion repeatedly made by Breuil in his many papers on the sites of Levantine art that he recorded between 1909 and 1935, that the paintings should be attributed to the Upper Pleistocene and to a Gravettian-Epigravettian culture supposedly running parallel to the Aurignacian, Solutrean and Magdalenian artistic paintings of the Franco-Cantabrian tradition, which, it may be noted reached to the southernmost tip of Spain, was from time to time reinforced by his recognition of Upper Pleistocene fauna in the paintings. Although he did not go all the way with Breuil, Obermaier (1924) provides a succinct summary of the evidence. Spanish prehistorians with the exception of Bosch Gimpera (who has repeated his support quite recently; Bosch Gimpera 1964) have tended to reject an exclusively Quaternary attribution (Hernández-Pachecho 1924; Pericot 1942a; Martínez Santa Olalla 1946; and especially Almagro 1947a,b, 1952, 1954, 1956, 1964) and some (Martínez Santa Olalla 1946; Jorda 1964, 1967) seem to consider the paintings to be Neolithic or even later. As there are no cave deposits that contain fragments of painted rock fallen from the painted walls, there are few chances of proving the point directly, and indirect arguments must be based on content, local lithic industries, the attempt to define stylistic zones on distribution maps, and the different kinds of site chosen. This provides a never-ending academic parlour game with ample scope for intellectual one-up-manship.

As Jordá (1967) has stressed, we need to pay much more careful attention to the fauna than has been customary. The crux of the problem is that apart from the usual difficulty of distinguishing wild and domestic caprids, felids and canids, many species extinct elsewhere in western Europe linger on in Spain, which is after all one of the most mountainous lands of Europe. *Cervus elaphus* is common in the Sierra de Taibilla even today, as are many wild felids. *Felis pardina* is said to be found in Estremadura, and must have been once widespread as it was found at Cueva del Toll in Cataluña. *Ursus arctos* still is to be found in the western Cantabrian Mountains in northern Spain. *Rupicapra rupicapra* and *Capra ibex (pyrenaica)* occur in the Cantabrian, Pyrenees and Gredos ranges. Wolves and wild pigs were common until recent times in many areas. *Bos primigenius* seems to have been widespread in the Levante and is testified to by paintings in many places (Cogul; Albarracín area). Neolithic and Bronze Age sites have yielded *Equus caballus, Bos taurus, Cervus elaphus, Capreolus capreolus, Sus scrofa, Vulpes vulpes,* and domestic caprids, canids etc. (e.g. Siret 1887).

The occurrence of species found in the Franco-Cantabrian cave paintings, in the paintings of the Levantine type, was claimed by Breuil at selected sites, and included Merck's rhinoceros, the saiga antelope, lion and bison. None of these identifications have convinced Spanish workers, who have pointed to the absence of such fauna from such sites as have been examined by excavation. Nevertheless, Almagro (1956) has remarked on the proximity of the Quaternary painted caves of Guadalajara (Casares, La Hoz) to the Levantine art of the Sierra de Albarracín (Teruel) and the possibility of Quaternary fauna persisting in a montane habitat into Epipalaeolithic times. *(Gulo gulo* occurs at Los Casares, v. Ucko and Rosenfeld 1967). The presence of *Rangifer tarandus* in the same area at a somewhat earlier date is attested to by a Magdalenian representation of that animal on a piece of mobiliary sculpture reputedly from Alcañiz (Teruel) (Breuil 1964). There would be no improbability therefore in the persistence of an elk-like animal in the mountains of Murcia and Albacete until quite a late date in the Holocene, despite the lack of skeletal finds of such a species from the Levante.

Unfortunately the faunal argument cannot be used to date the paintings at all narrowly, not only because of possible atavisms, but also because the one site, Parpallo (Perinot 1942b), from which we have Solutrean and Magdalenian art (very largely Magdalenian II, III, IV, v. Armbruster 1959) in abundance within the Levante proper, fails to show the more exotic fauna associated with the glacial maxima. One must assume that coastal Mediterranean areas remained quite mild. However, only a hundred miles inland even today winters are severe.

Probably the strongest faunal argument against a largely Upper Pleistocene date for Levantine naturalistic art is the extreme scarcity of all of the supposed exotic fauna, even in the montane zones where it might be most anticipated.

However, the content of the paintings must also take account of the styles in which they were executed. The distinctiveness of the Levantine style has been recognised by all workers, and in view of the recent critique of the Franco-Cantabrian stylistic attributions by Leroi-Gourhan (1965) one is loath to attach much weight to stylistic analysis as a tool for dating Palaeolithic art of any type. Suffice to stress the essential difference between the Levantine art and that of say La Pileta or Parpalló.

The content of the paintings is different from the Franco-Cantabrian artistic world in their scale, some figures being only a few centimetres high, and in the prominence of human activities and the grouping of humans and animals into scenes. This is not to say superpositioning does not occur. Breuil recognised thirteen stages of superpositioning at Minateda (Breuil 1920) and at Solana de las Covachas there is the same phenomenon. However, Ucko and Rosenfeld (1967) arguing from ethnographic parallels, point out the danger in assuming that superpositioning indicates chronological stages. Analysis of the human activities shows some very carefully executed portraits, quite unlike the schematicised figures of the Franco-Cantabrian school. Armed figures are common, with shields,spears, bows and arrows, head-dresses. Men are often naked or wear 'shorts' and anklets (Beltrán 1954). Women often wear skirts of various types, (Jordá 1964). Ladders, baskets, hats and other accoutrements are sometimes shown (e.g. Jorda, Alcacer 1951) Some scenes purport to show domestication of animals (e.g. Ortego 1948), and that painting continued into the metal ages is indicated by swords at Calapatà (Breuil 1935) Iberian inscriptions, as at Cogul (Almagro 1952) indicate that the sites were at least known at later dates. Nevertheless, agricultural activities, as distinct from food gathering, are not shown. Bandi and Maringer (1952) have stressed the central role of hunting in the art. As Blanc (1964) has written, basketry might have been known in Palaeolithic times. To argue, however, as Bandi (1964), that the prevalent nakedness of the human figures indicates a milder climate than that of the Upper Pleistocene, is an argument which, apart from being only half true (the women are usually clothed), can easily backfire, since the anthropomorphs of Franco-Cantabrian art never seem to be heavily clad, v. Cabre (1940) for anthropomorphs at Casares.

A convenient tactic that puts an end to all rational argument is to claim that the content of Levantine naturalistic art differs from that of Franco-Cantabrian art because of purely imaginary attributes wished on to the local Epigravettians a more equable climatic habitat than that of the Magdalenians in the North, a different art style just because they were NOT Magdalenians, and so on While all this is perfectly possible, it is of itself neither more nor less a case for attributing the paintings to an 'Epigravettian' culture than it is for attributing it to any other post-Palaeolithic culture whose way of life and artistic impulses are obscure to us. This is an intellectual dead-end.

The occurrence of Levantine paintings in daylight sites rather than in the dark zones of caves (like the Franco-Cantabrian paintings) would seem indicative of the different cultural significance of painting to the artists. This could be due to any number of causes, which might or might not include: ethnic/cultural difference from the Franco-Cantabrian artists, either chronologically contemporary or not, or merely a cessation on the part of dark zone artists from creating dark zone sanctuaries. In either case, climatic amelioration could be invoked as a stimulus. By themselves, such occurrences prove little.

There is very little geographical overlap between the Franco-Cantabrian art zone and that of the Levantine school, so little, indeed, that what there is could be fortuitous, especially when its content (e.g. Parpalló) is contrasted against that of say Cogul or Alpera. Now this is not necessarily to argue that the geographical interdigitation indicates contemporaneity of two Palaeolithic cultures that kept their distance from one another on the whole. We are far too ignorant of the extent of Upper Pleistocene man's settlement in the rest of the Peninsula and of his art (Almagro 1960) for such an induction to be safely proposed.

It is legitimate to ask whether the eastern distribution throws light on cultural contacts that might indicate the origin of Levantine art. The answer must be, not really. The field is wide open for speculations. North Africa seems finally ruled out both on account of the Saharan and interior distribution of the art, lacking in the Maghreb by and large and in the Algerian coastal strip, and also, of course, along the Costa del Sol in Spain. Moreover, the consensus of opinion that disassociates the Spanish Epipalaeolithic lithic industries from the North African Capsian industries clinches the matter. As Almagro (1964) has pointed out, similarities could be due to convergence in a similar habitat. The same could equally be said of Jordá's (1967) literally far-fetched derivation from the paintings of Catal Huyuk in Anatolia. This last point is of interest as it reminds us that even at a civilised Neolithic town of ten thousand inhabitants it was not agricultural activities that were portrayed in the paintings, but hunting scenes, and that therefore the discovery of hunting scenes does not by itself mean the discovery of an exclusively hunter-gatherer community. Indeed, Jordá reinforces his Neolithic and Bronze Age attribution of Levantine art by saying that the only definitely Epipalaeolithic art we have, from La Cocina middle layer, is purely geometric and quite unlike the Levantine paintings, which ipso facto must be later. This really will not do, as one can show (in preparation, M. J. Walker) elsewhere in the Peninsula that geometric schematic tendencies were strong quite early in and throughout the Neolithic period too.

Nonetheless, the analogy with the Catal Huyuk Neolithic art is not to be disregarded, and some of the features of the dress (Jordá 1964) and weaponry - especially the large lance points sometimes explicitly painted - belong to an age of bifacial flint working at the end of the Neolithic or beginning of the Bronze Age.

The most interesting feature of the geographical distribution is its overlap with the schematic Andalusian art. I do not want to discuss the inconography of this style here, suffice it to say that there are strong parallels with Millaran forms, and that at La Pileta the schematic paintings were found in that

part of the cave with decorated Neolithic wares (although see Ripoll 1964 for an alternative view on the chronology of the Pileta schematic figures).

The overlap is much greater than most distribution maps usually allow. Indeed, the map here published is misleading in that reference to Appendix II must be made to get a full list of sites in the Levantine area with schematic figures (52 in all, of which 17 are sites with Levantine naturalistic art also). The sites are not so splendid as those further East, e.g. Despeñaperros, Cueva de las Figuras (Breuil 1933, 1935), but after all, the Levantine area had its own 'splendid' art anyhow. There are also many echoes of the naturalistic school in the schematic zone of south-central Spain, not just at Batuecas and Garcibuey, but also at Palomas I, Cochinos, etc. (see Breuil & Burkitt 1929). There can be little doubt here of an intimate relationship of art that was in large part contemporary and coterminous. The overlap is strongest in the Sierra de Taibilla, where we see schematic figures repeatedly mixed with naturalistic paintings (Cueva Chiquita de los Trenta, Escalar de Tapia, Cueva del Mediodía (Mte Arabí), Alpera and Minateda). The Vélez Blanco area of Almería is of course one of the richest areas of schematic rock paintings (Breuil 1935) with such famous sites as Los Letreros, Maimon, Gabal etc.

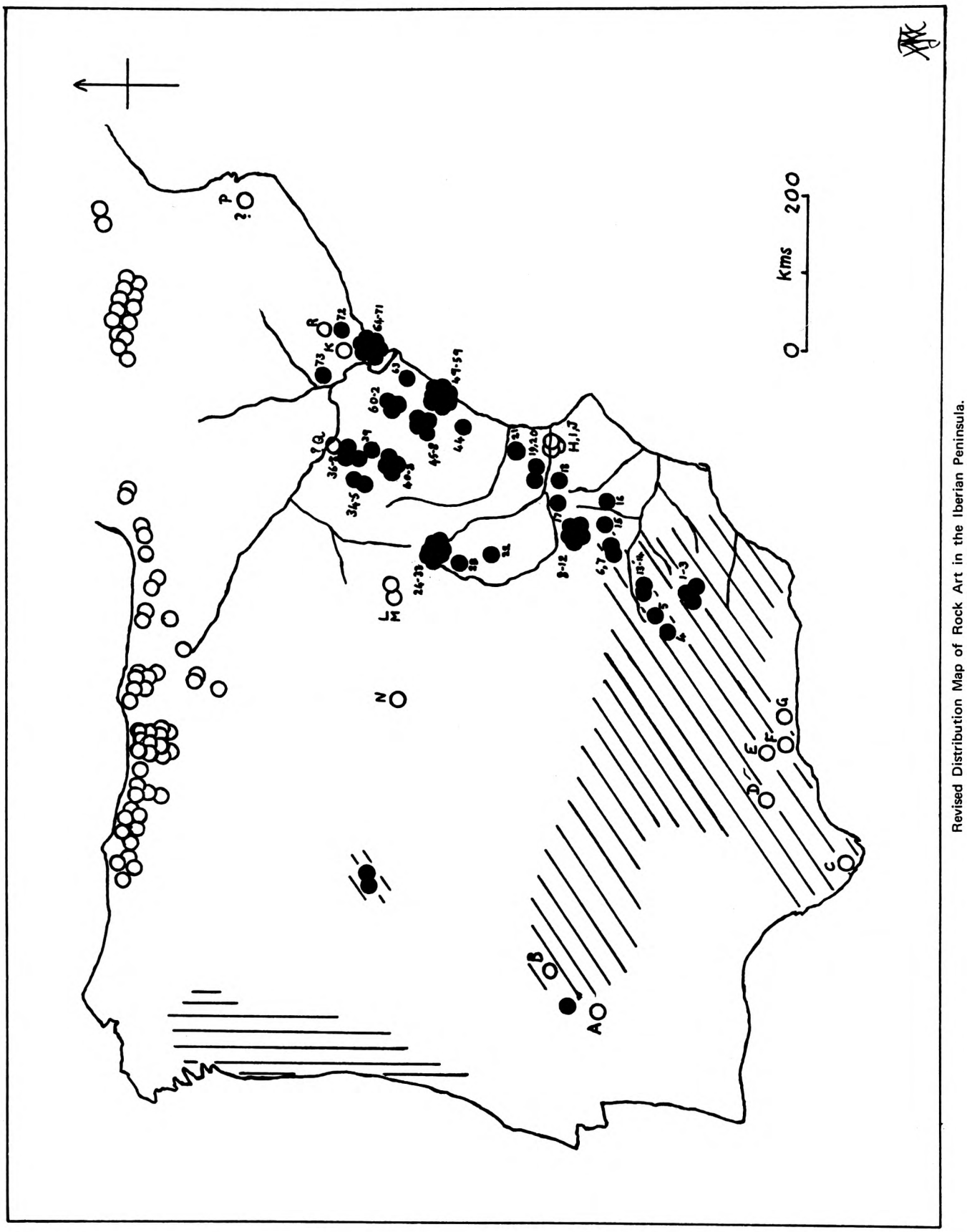
Finally one comes to the much discussed question of the nature of the lithic industries found close by some Levantine rock shelters with paintings. These are not characteristic of the Franco-Cantabrian Magdalenian, though they have an Upper Palaeolithic general appearance. It is commonly held that rather diminutive backed blades of Gravettian or Epigravettian type occur along with geometric microliths and nondescript blades. These relate well to the detailed descriptions of Epipalaeolithic or Mesolithic industries from closed sites (Pericot 1942, 1945; Almagro 1944; Jordá 1954b; Armbruster 1959). Of course, many painted shelters yield no lithic industries, but this, after all is found frequently in the Franco-Cantabrian painted sanctuaries, (Blanc 1964).

Tentative associations between Levantine art and nearby lithic industries have been attempted by Almagro (1944, 1947b, 1952 etc.) especially for the Sierra de Albarracín group of paintings. Pericot (1948) has suggested that the occupants of the upper layer at La Cocina (Dos Aguas, Valencia) might have been responsible for the nearby paintings at Cinto de la Ventana. Whether these Epipalaeolithic industries tell the whole story is open to question. The excavations of Pallares (1915-20) and the studies of Ortego (1946, 1948, 1950-1) has shown the close proximity of sites with Neolithic pottery and such typical objects as segment-headed pins of bone.

What can be said with certainty is that Levantine cave art sites do not yield industries like the Magdalenian levels of Parpalló. This is not sufficient to rebuff the point of view of those who see the Levantine artists as Gravettians and their descendants anyway, among whom the Solutrean and later Magdalenian redoubt of Parpalló was always a foreign interloper. The problem that concerns those Spanish prehistorians who see the Levantine paintings as post-Palaeolithic, is whether the stone industries of the Levante are a true Mesolithic in terms of the Sauveterrian and Tardenoisian industries of north-western Europe, or whether they are a continuing tradition from the Gravettian, the so-called Epigravettian. This is a matter beyond the scope of this paper. Suffice it that among the geometric Neolithic assemblages, the bifacial Neolithic assemblages, and even the early Bronze Age lithic assemblages, there are to be found in profusion rather crude blades, flakes, and sometimes even steep scrapers, and even some crude quartzite flake tools. These are all very reminiscent of nondescript Upper Palaeolithic and Epipalaeolithic assemblages, and the feeling of some cultural continuity haunts the archaeologist confronted with the material, (c.p., for example, Vallespi 1959).

The time gap nowadays is very small between the Upper Pleistocene art and the onset of the Neolithic. Between the date for the cave with Quaternary art of Levanzo on Sicily of 9,694 ± 910 years B.C. (Graziosi 1964) and those for the Neolithic with cardial impressed ware from Coveta de l'Or (Alicante) of 4,670 ± B.C. and 4,315 ± 75 B.C. (Schubart 1965; Schubart & Pascual 1966), the gap of five millennia is far shorter than the period imagined by Breuil that the Mesolithic would have endured. One may compare with these dates, those for the Portuguese Muge middens with their geometric industries of 5,080 ± 350 B.C. and 5,400 ± B.C. (Savory 1968), which come in where they might have been anticipated.

It would seem reasonable to picture the Levantine Epipalaeolithic cultures as evolving gradually into the Neolithic, from a hunting and gathering economy, to one in which those activities still played a most important, and perhaps even a dominant part despite the advent of agriculture. Domestication of equids, bovids, caprids, canids etc. might well have developed locally out of the following of herds, rather in the way that Lapps have followed and partly domesticated reindeer. Undoubtedly interest in rock painting went on for a very long time, possibly almost to the historical Iberians, but with the spread of agriculture, it is perhaps fair to envisage rock painting becoming more and more the field of an ever dwindling group of montane folk in the Peninsular hinterland who developed their schematic art out of the naturalistic Levantine art, absorbing new artistic tendencies in an eclectic manner. Now, the paintings alone remain, testimony to the innate aesthetic spirit of H. Sapiens, and still continuing to appeal to him.



Revised Distribution Map of Rock Art in the Iberian Peninsula.

Key to Map.

- ● Sites with 'Levantine' naturalistic rock art.
- ○ Sites with Quaternary 'Franco-Cantabrian' rock art.
- ▨ Andalusian schematic rock art.
- ▥ Galician and North Portuguese schematic and cup and ring art.

Appendix I. Key to Numbered Sites:

Numbered sites:

1 Lavadores de Tello (Almería) Breuil & Obermaier 1914; Breuil & de Motos 1915; Burkitt 1925; Breuil 1935.

2 Estrecho de Santonje (Almería) Breuil & de Motos 1915; Burkitt 1925; Breuil 1935.

3 Cueva Chiquita de los Trenta (Almería) Breuil & Obermaier 1914; Breuil & de Motos 1915, Burkitt 1925, Breuil 1935

4 Cueva de los Grajas, Almaciles (Granada) Breuil & de Motos 1915.

5 Solana de las Covachas (Albacete) Sánchez Carrilero 1962.

6 La Higuera I-IV, Minateda (Albacete).

7 Barranco de la Mortaja, Minateda (Albacete) Breuil 1920, 1928, 1935.

8 Cueva de la Vieja, Alpera (Albacete)

9 Cueva del Queso, Alpera (Albacete)

10 Cueva del Venado (or de los Ciervos), Alpera (Albacete)

11 Carasoles del Bosque, Alpera (Albacete).

12 Cueva Negra, Alpera (Albacete) Breuil, Serrano & Cabre 1912; Breuil & Obermaier 1912; Breuil 1915, Burkitt 1925.

13 Escalar de Tapia 1, Sabinar (Murcia)

14 Escalar de Tapia 2, Sabinar (Murcia).

15 Cantos de la Visera, Monte Arabí (Murcia) Cabré 1915; Breuil & Burkitt 1915; Burkitt 1925; Breuil 1935.

16 Cueva del Peliciego (Murcia) Fernández de Avilés (1939-40).

17 Cueva de la Tortosilla (Valencia) Breuil, Serrano & Cabre 1912; Cabré 1915.

18 Cuevas de la Araña (Valencia) Hernández-Pacheco 1924; Breuil 1935.

19 Cinto de la Ventana (Valencia) Jordá and Alcácer 1951, 1952.

20 Cinto de las Letras (Valencia) Jordá and Alcácer 1951, 1952).

21 Barranc dels Covarjos, Benasal (Valencia) La Labor del SIP 1935 a 1939 (1942).

22 Villar del Humo (Cuenca) Breuil 1935, Almagro 1947b.

23 Boniches de la Sierra (Cuenca) Breuil 1935; Almagro 1947b.

24 Huerto de las Tajadas de Bezas (Teruel).

25 Paridera de las Tajadas de Bezas (Teruel) Ortego 1950; Almagro 1952.

26 Barranco de las Olivanas, Tormón (Teruel)

27 Ceja de Piezarrodilla, Tormon (Teruel)

28 Cerrada del tío José, Tormon (Teruel)

29 Cocinilla del Obispo, Albarracín (Teruel)

30 Prado del Navazo, Albarracin (Teruel)

31 Abrigo del Arquero, Albarracin (Teruel)

32 Cueva de Doña Clotilde, Albarracin (Teruel)

33 Barranco del Cabrerizo, Albarracin (Teruel) Not all shelters referred to by all authors. Cabré 1915, Obermaier & Breuil 1927; Almagro 1944, 1947 a,b, 1951, 1952, 1959; Ortego 1950.

34 El Mortero (Teruel)

35 Cerro Felio (Teruel) Ortego 1948.

36 Val del Charco de Agua Amarga (Teruel) Cabré 1915; Breuil 1915.

37 Els Secans (Teruel) Vallespí 1952.

38 Las caídas del Salbime (Teruel) Pérez Temprado & Vallespí 1954.

39 El Pudial (Teruel) Ortego 1946.

40 Roca dels Moros, Calapatà (Teruel)

41 Mas del Abogat, Calapatà (Teruel)

42 Font de la Bernarda, Calapatà (Teruel)

43 Barranc dels Gascons, Calapatà (Teruel) Cabré 1909; Breuil & Cabré 1909; Bosch Gimpera 1924; Vallespí 1957 (43).

44 La Joquera (Castellón) Porcar 1932.

45 Cueva Remigia, Gasulla (Castellón) Porcar, Obermaier & Breuil 1934-5; Obermaier 1937.

46 Les Dogues, Gasulla (Castellón)

47 Mas Blanc, Gasulla (Castellón)

48 Cingle de la Mola Remigia, Gasulla (Castellón) Kuhn 1926, 1927; Obermaier 1937; Martínez Santa Olalla 1941-2; Porcar 1953.

49 Còva del Civil, Valltorta (Castellón)

50 Còva dels tolls Alts, Valltorta (Castellón)

51 Còva Rull, Valltorta (Castellón)

52 Còva dels Cavalls, Valltorta (Castellón)

53 Abrigo de Arco, Valltorta (Castellón)

54 Còva del Mas de'En Josep, Valltorta (Castellón)

55 Coveta alta de la roca del Lladoner, Valltorta (Castellón)

56 Còva de la Saltadora, Valltorta (Castellón)

57 Cas del Puntal, Valltorta (Castellón)

58 Coveta de Montegordo, Valltorta (Castellón)

59 Cingle de l'Ermita del Barranc Fondo, Valltorta (Castellón) Duran 1915-20.
60 Galería Alta de la Masía de Morella la Vella (Castellón)
61 Còva del Roble, (Castellón)
62 Covacho de la Viña, (Castellón) Hernández-Pacheco 1918.
63 Cueva del Polvorín (Castellón) Vilaseca 1948.
64 Còva de Cabra Feixet (Tarragona)
65 Còva del Escoda (Tarragona)
66 Còva del Recó de'En Perdigó (Tarragona)
67 Còva del Ramat (Tarragona)
68 Còva del Cingle (Tarragona)
69 Còva del Pí (Tarragona)
70 Còva de les Calobres (Tarragona)
71 Còva de Culla (Tarragona) Bosch Gimpera & Colominas 1921-6.
72 Llort (Tarragona) Vilaseca 1944 1950.
73 Roca dels Moros, Cogul (Lérida) Cabré 1909, 1915; Bosch Gimpera and Colominas 1921-6, Breuil 1935 Almagro 1952.

Related animal art at
Batuecas and Garcibuey (Salamanca) Breuil 1918-9, 1935.
Val de Junco, Nossa Senhora da Esperanca (Portalegre, Portugal) Burkitt 1925.

Lettered Sites with Quaternary parietal or mobiliary art.-
A Escoural (Évora, Portugal) dos Santos 1964, Glory, Vaultier & dos Santos 1965.
B Maltravieso (Cáceres) Almagro 1960
C Las Palomas (Cádiz) Breuil & Burkitt 1929.
D La Pileta (Málaga) Breuil, Obermaier & Verner 1915.
E Doña Trinidad de Ardales (Málaga) Breuil 1921; Giménez Reyna 1964.
F Cala (Málaga) Breuil 1921
G Nerja (Málaga) Giménez Reyna 1965, Ucko & Rosenfeld 1967.
H Parpalló (Valencia) Pericot 1942.
I Mallaetes (Valencia) Jorda 1954a.
J Rates Penaes (Valencia) Jordá 1954a.
K Sant Gregorì (Tarragona) Graziosi 1960.
L,M Casares and Hoz de Sta. María del Espino (Guadalajara) Cabré 1934, 1940.
N Reguerillo (Madrid) de Loriana 1942.
P ? a site presumably near Bañolas (Gerona) shown on Almagro's 1954 distribution map of Quaternary art sites but not named.
Q Alcañiz (Breuil 1964) Another uncertain site.
R Sierra de Monsía (Taggagona) Ripoll 1964b.

Appendix II
Sites in the Levantine Area with Schematic Figures

Murcia
(14) Escalar de Tapia 2
Cueva del Mediodía, Mte Arabí (Breuil & Obermaier 1914; Breuil 1935).
Cuevo del tío Labrador (Breuil 1935).
Cueva de los Paradores (Breuil 1935)

Alicante
Tarbena (Breuil 1935)

Albacete
(7) Barranco de la Mortaja, Minateda (Breuil 1920, 1928, 1935).
(8) Cueva de la Vieja, Alpera (Breuil & Serrano & Cabré 1912; Breuil & Obermaier 1912; Breuil 1935).
(11) Carasoles del Bosque, Alpera (Breuil 1915, 1935).
(12) Cueva Negra, Alpera (Breuil 1915, 1935).

Valencia
Cueva del Pernil (Breuil, 1928).
(18) Cuevas de la Araña (Hernández-Paceco 1918; Breuil 1935).
Beniatjar (La Labor del SIP...1933, 1933; Breuil 1935).
Bosquera del Escalona (La Labor del SIP...1935-9, 1942).
Abrigo del Ros, Benasal (La Labor del SIP...1935-9, 1942).
Còva Fosca, (La Labor del SIP...1935-9, 1942).
Roca del Senallo, Benasal (La Labor del SIP...1935-9, 1942).

Roca del Molinell, Culla (La Labor del SIP...1935-9, 1942).
Bobalar, Culla (La Labor del SIP...1935-9, 1942).
Covacha de Felix, Culla (La Labor del SIP...1935-9, 1942).

Cuenca

Orrea (García Sánchez & Spahni 1958).
(22) Villar del Humo (Breuil 1935).

Teruel

(32) Cueva de Doña Clotilde (Almagro 1947 a,b).
(36) Val del Charco de Agua Amarga (Breuil 1935).
(40) Roca dels Moros, Calapatà (Breuil 1935).
(41) Mas del Abogat, Calapatà (Breuil 1935).

Guadalajara

Miedes (Gárcia Sanchez & Spahni 1958).

Castellón

(49) Còva del Civil (Breuil 1935)
(50) Còva dels Tolls Alts (Breuil 1935)
(56) Còva de la Saltadora (Breuil 1935)

Tarragona

(72) Llort (Vilaseca 1943, 1944, 1950)
Pobla de Montornes (Vilaseca 1943)
Capafonts (Vilaseca 1943)
Lloa (Vilaseca 1943)
Coll de la Mola (Vilaseca 1943)
Alfarca (Vilaseca 1943)
(69) Còva del Pí (Breuil 1935)
Brugent (Breuil 1935)
Còva de les Creus (García Sánchez & Spahni 1958)
Abrigo de Mas de Carles (García Sánchez & Spahni 1958)
Roca de Rogeralls (García Sánchez & Spahni 1958 – cup marks only)

Lérida

(73) Roca dels Moros, Cogul (Breuil 1935)
Coins (García Sánchez & Spahni 1958)

Soria

Valdecaballos (Ortego 1964)
Cañada del Nido del Cuervo (Ortego 1952) (7 sites)
Cañada Honda (Ortego 1952) (8 sites)
Covachas de Castro (García Sánchez & Spahni 1958)
Retortillo (García Sánchez & Spahni 1958)
Sites with cup marks only in Soria: Canos; Castro; Conquezela; and Duruelo de la Sierra (García Sánchez & Spahni 1958).

Gerona

Campmany (Bosch Gimpera & Colomina 1921-6).
Barranc d'Espolla (Bosch Gimpera & Colominas 1921-6)
Vinya d'En Berta (García Sánchez & Spahni 1958).

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CAVE DWELLERS AND ARTISTS OF THE NEOTHERMAL PERIOD IN SOUTHEASTERN SPAIN

Michael Walker

Abstract

The significance is discussed of two adjacent rock shelters in the Segura river basin, one containing naturalistic Levantine rock paintings and the other human occupation deposits. The latter represent a transition from a phase without pottery to one with pottery of an occupation whose stone tools were homogeneous in both phases. Functional, chronological and cultural relationships are discussed in the context of other cave occupation and cave art sites in the region. Contemporaneity of cave art sites and many occupation sites in the Neothermal Period is proposed. It is further proposed that there is an underlying cultural unity in the diverse functional components of pre- and early Neolithic stone tool complexes of southeastern Spanish cave sites. It is suggested that at those sites transition to Neolithic assemblages occurred without disrupting the way of life of the inhabitants.

Resumen

Se presenta una discusión sobre la importancia de dos abrigos vecinos en la cuenca del Segura. El primer abrigo manifiesta arte rupestre naturalista levantino, y el otro contiene restos de ocupación humana que indican la transición desde una fase cultural sin cerámica hacia una fase con cerámica, mientras que el conjunto lítico parace ser homogéneo en ambas fases. Discutimos las relaciónes funcionales, cronológicas y culturales con los demás yacimientos de ocupación y arte en otros abrigos de la región. Se propone una contemporaneidad de los abrigos con arte rupestre y la mayoría de los abrigos con huellas de ocupación durate el período neotermal. Además proponemos una unidad cultural subyacente entre los diversos elementos que contribuyen a los complejos de utensilios líticos de la época pre-neolítica y la del neolítico temprano que proceden de abrigos del sudeste español. Sugerimos que en tales yacimientos hubo una transicion gradual hacia conjuntos neolíticos sin ninguna interrupción fundamental del modo de vivir. Posiblemente una vida a base de transhumancia pastoral fué bastante fuerte en términos económicos para sostener la adquisición de una tecnología neolítica.

Introduction

The River Segura rises in 6,000-foot high mountains of the Sub-Baetic Cordillera and waters rich agricultural land in the valleys of Murcia province (Fig. 1). It provides routes from coast to Meseta hinterland, and southwards via southern tributaries to Andalusia also. The region has the highest average temperatures and lowest rainfall in Spain, and there is stark contrast between lush valleys with market-garden farms and irrigation canals and barren mountains with *garrigue* vegetation relieved only by scattered olive groves, vineyards and flocks of sheep and goat. The high mountains support red deer, wild boar, wild cat, and in protected enclaves Spanish ibex and mouflon, the latter introduced for the chase from Corsica and Sardinia in recent times. The other species together with wild cattle and horse were widespread in mediaeval and prehistoric times (Boessneck, 1969) and are frequent subjects of naturalistic Levantine cave art (Walker, 1969, 1971). Despite rare representations of species locally extinct (chamoix, bear, giant deer) this art has nothing in common with the much older cave art of France and northern Spain with its profusion of extinct Ice Age fauna. Rather, the animals attest to a warmer climate capable of supporting large herds in the upland zone where the painted rock shelters occur (Fig. 1) and thus preceding the onset around 2,000 BC of the present arid conditions subsequently exacerbated by deforestation. The art may date to the Neothermal Period, perhaps 6,000–2,000 BC (Walker, 1971). Who the artists were is uncertain. Maybe they were nomadic huntsmen living in 'symbiotic' interdependence on herds, guiding them to pastures and keeping their numbers in ecological equilibrium by slaughter. Partial domestication of cattle, dog, and *Caprinae* may have been accomplished, perhaps by cross-breeding with domestic species from Central Europe (see Walker, 1971 for discussion). Hitherto, the relationship has been unclear between the art and the various different stone tool assemblages believed to be contemporary with the Neothermal Period.

II Recent Discoveries

Ten years ago a school-teacher and spelaeologist of Cieza (Murcia), don Eduardo López Pascual, found Levantine anthropomorphic and zoomorphic red monochrome paintings at the Principal Painted Rock Shelter of the Barranco de los Grajos canyon near his home (López, 1968; Beltrán, 1968a, 1969). The anthropomorphs are skirted or kilted individuals in various postures (dancing?). One wears a possible hafted axe from the waist and another either wears a head-dress or holds a bow or wand over the head (Fig. 2*). Zoomorphs include red deer (*Cervus elaphus*), Spanish ibex (*Capra ibex (pyrenaica)*) and four striped quadrupeds which may be sheep (*Ovis aries*). Another panel portrays two anthropomorphs catching a goat (Fig. 3*). Fifty metres away in a larger rock shelter, the Abrigo Grande, there is a single red sinuous anthropomorph (Fig. 4B**) and some queer schematic paintings in black and red (Fig. 4A**) which may be mediaeval. A third shelter has a black anthropomorph (Fig. 4C**).

* By courtesy of Mrs. R. de Méric.

** By courtesy of E. López Pascual & M.J. Walker

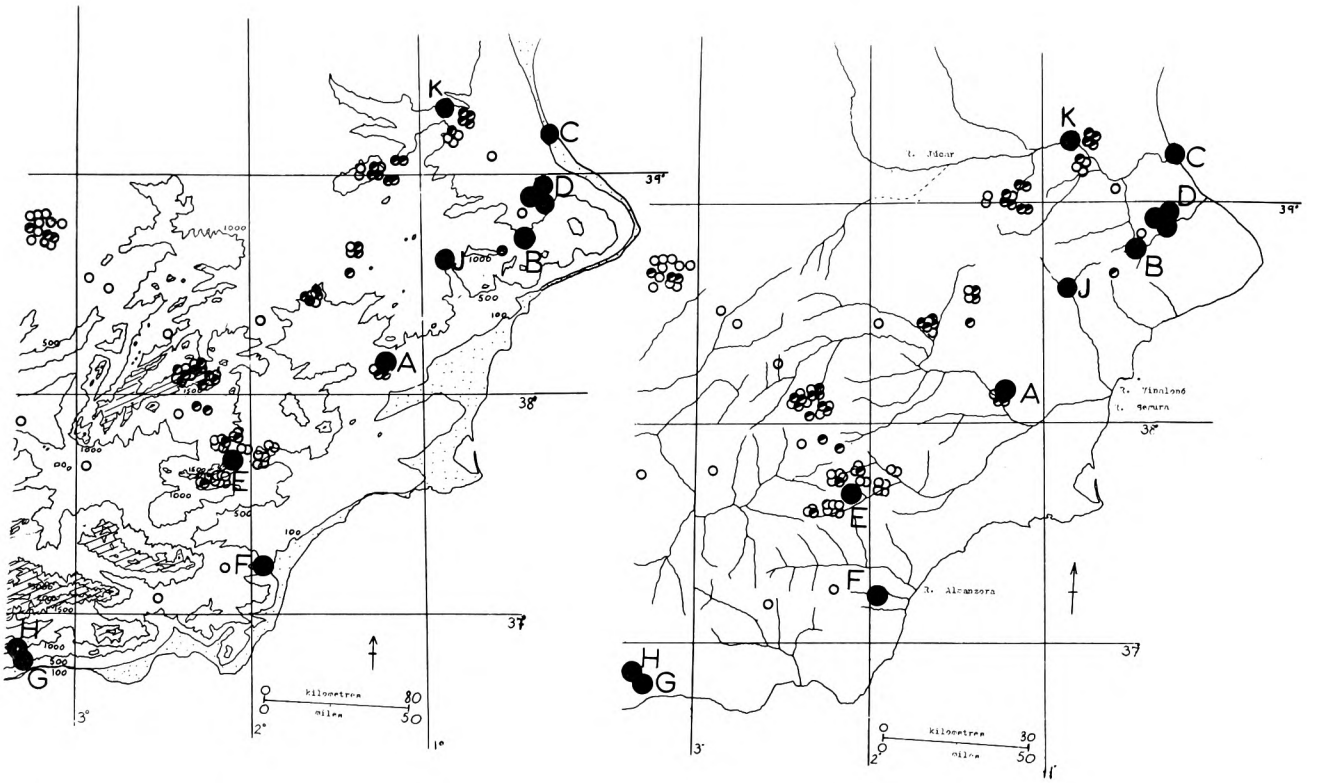

FIG. 1 Later Palaeolithic and early Neolithic Cave sites in South-East Spain

◔ = caves and rock shelters with 'Levantine' naturalistic paintings 6,000 - 3,000 BC

○ = caves and rock shelters with schematic paintings 3,000 - 1,500 BC

● Excavated sites:-

A = Abrigo Grande, Barranco de los Grajos Cieza (Murcia) - microlith tools of pre- and early Neolithic age (? 5,000 BC)

B = Coveta de l'Or (Alicante) - earliest dated Neolithic cave site (5,000 - 4,500 BC)

C = Cueva del Volcán del Faro, Cullera (Valencia) - later Upper Palaeolithic cave site with Magdalenian and backed blade tools

D = Upper Palaeolithic cave sites near Gandiaa (Valencia): Cueva de Parpalló, Cueva de les Mallaetes, Cueva de les Rates Penaes - Solutrean, Magdalenian, Gravettian, and later Upper Palaeolithic backed blade and geometric flint tools

E = Cueva Ambrosio, Vélez Blanco (Almeria) - Upper Palaeolithic (Solutrean) and early Neolithic tools

F = Surface site of El Gárcel, Antas (Almeria) - reputedly early Neolithic geometric tools

G = Cueva de Nerja (Málaga) - Upper Palaeolithic and early Neolithic tools

H = Caverna de Hoyo de la Mina (Málaga) - a typical later Upper Palaeolithic tools, pre- and early Neolithic backed blade and awl industry

J = Cueva Grande and Cueva Pequena, Villena (Alicante) - pre-Neolithic microlithic tools

K = Cueva de la Cocina, Dos Aguas (Valencia) - pre-Neolithic geometric tools



FIG. 2

Rock Painting of anthropomorphs and zoomorphs on right-hand wall of Principal Painted Rock Shelter of the Barranco de los Grajos, Cieza (Murcia)
Scale: centimetres Courtesy of Mrs. R. de Méric.

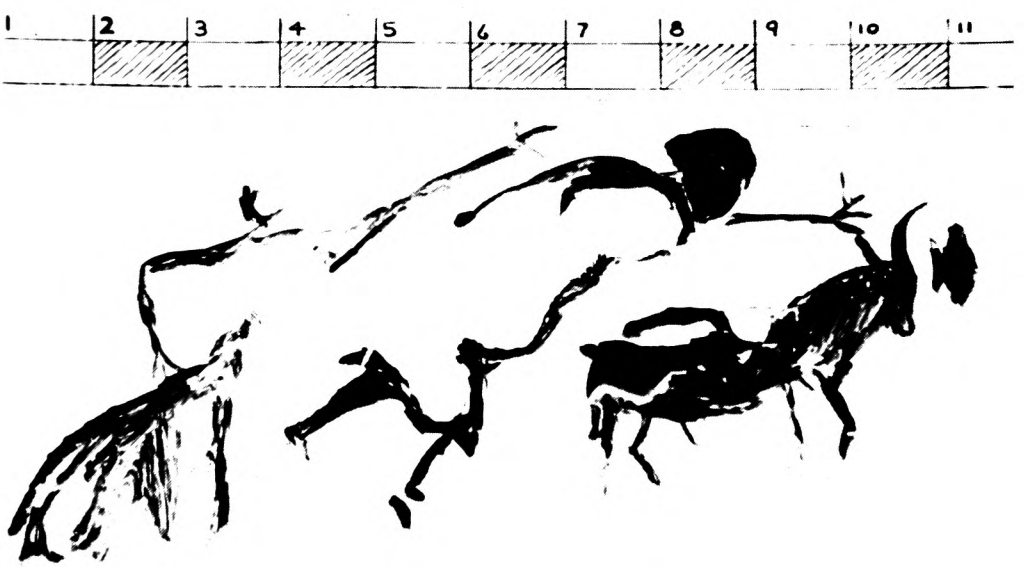

FIG. 3

Rock painting of women and caprid on left-hand wall of Principal Painted Rock Shelter, Barranco de los Grajos, Cieza (Murcia)
Scale: centimetres Courtesy of Mrs. R. de Méric.

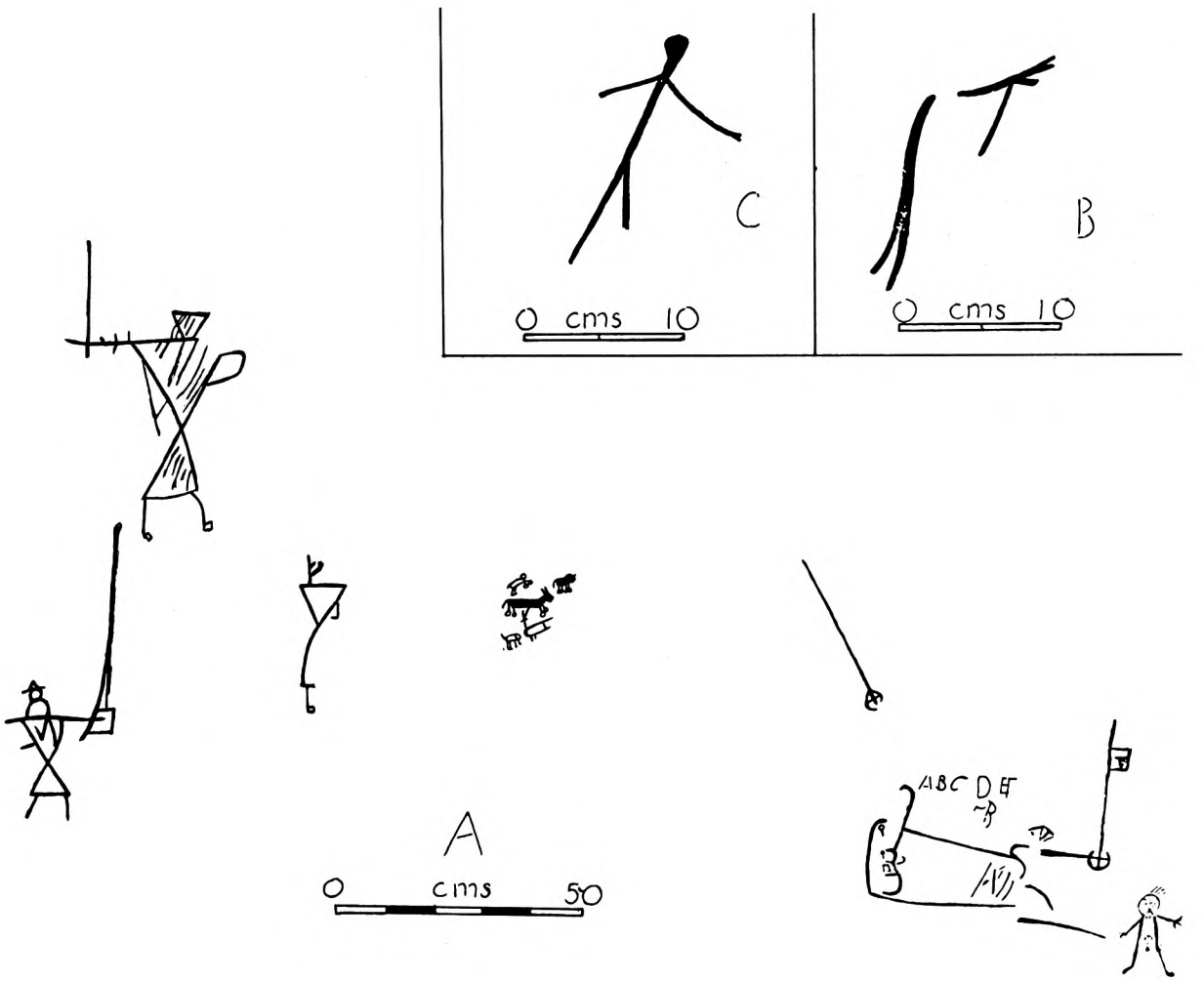

FIG. 4 Rock Paintings

A Rock paintings at Abrigo Grande at △ in Fig. 5.
B Rock painting at Abrigo Grande at ▲ in Fig. 5.
C Rock painting in a third rock shelter further up the canyon.

Sr. López observed a flint industry at the Abrigo Grande and permission to excavate was given by the Spanish National Commissariat for Archaeological Excavations in September 1970*. The site is at 500 metres above sea-level in the Sierra de Azcoy at N 38° 16' 00", E 2° 18' 33" (Sheet 861 of Spanish 1:50,000 maps – Spanish, not Greenwich, meridian). The deposits lacked structural features or hearths, but the stratigraphic sections suggest soil was brought in to level the floor, especially the sandy layer 3 (Figs. 5, 6, 7, 8). Recent pits disturbed the upper layers and gave lead shot and metal cuff-links, and charcoal from the superficial layer gave a modern date (Birm-200 : Shotton & Williams 1971). A second charcoal sample from a sealed position in layer 4 has been submitted to the Radiocarbon Laboratory of the Scottish Reactor Research Centre, as have samples of unidentifiable broken animal bones.

The finds will not be described in detail. The distribution of finds by layer is shown graphically (Figs. 9, 10). There were only 71 worked flints out of some 6,000 pieces. Pottery was confined to upper layers comprising two handles, plain, impressed and relief-decorated sherds. A sherd of cardial impressed ware was found on the surface (Fig. 11, plate 1). A baggy vessel with a handle is represented by plain sherds from a sealed position in layer 2 surrounded by backed bladelets and *débitage.* A worked bone fragment came from layer 1, red ochre from layers 1, 3, 4, and sea-shells from layers 1, 2, 3, 4, two of which were perforated (from layers 1, 3). The faunal remains are shown in Table 1. The flint industry mainly comprises backed bladelets and scrapers (Figs. 11-17), and also one crescentic microlith, two awls, and various notched and serrated pieces. Among the wastes was one so-called microburin spall and two unworked trapeziform blade fragments. Perhaps trapeziform arrow-points were made and taken away for use in the hunt. The backed bladelets may be analogues of pen-knives – a sharp blade for cutting and a rough area for application of pressure by the index finger. No convincing burins were found, although some waste chips and spalls had possible burin tips. In no case did the spall have its own bulb of percussion so that it is impossible to say categorically that the seeming burin blow was no more than the result of accidental knapping on the core before the chip was detached.

III Upper Palaeolithic Cave Sites in Southeastern Spain

Breuil held that Levantine naturalistic cave paintings in eastern Spain were Upper Palaeolithic, contemporary with the last stage of the Würm glaciation (25,000-10,000 BC). This view is rejected by the author of this article and by most Spanish archaeologists on the grounds of differences from the Upper Palaeolithic cave art of France and northern Spain in terms of faunal content, anthropormorphic content, artistic organisation, scale, colouring, and location of the art (Hernández-Pacheco 1924, 1959; Almagro 1947; Beltrán 1968b, 1968c; Walker 1969, 1971). Nevertheless, some prehistorians claim that Levantine art originated in the Upper Palaeolithic, supporting this by reference to two supposedly Upper Palaeolithic Solutrean flint points** from sites with Levantine paintings at Cantos de la Visera (Murcia) and Cueva Chiquita (Almería) (thus Pericot 1950, 1961). If that were so, then the absence of Solutrean flintwork at other Levantine art sites requires explanation. But the artefacts in question may not be Solutrean. Breuil himself found them sixty years ago, and whilst it is true that at the time he erroneously disbelieved in a Spanish Solutrean culture (Breuil 1913, p.192), nonetheless there are good reasons for accepting his own guarded view of the artefacts in question. At Cantos de la Visera the industry is described not as Solutrean but merely as "un certain nombre de silex de caractère paléolithique" (Breuil & Burkitt 1915) which included "un fragment de lamelle un peu plus forte (la blade) retouchée à la manière d'une feuille de saule solutréenne" *(ibid.)* and notwithstanding the whole assemblage was compared with one from Burgos province (Aceña) which Breuil had elsewhere classed as Gravettian (Breuil & Obermaier 1913). At the Cueva Chiquita there was a single arrow-point, "une jolie flèche de taille probablement solutréenne; elle pourrait être néolithique" (Breuil & Obermaier 1914). Just so. Breuil was clearly as aware as later generations of archaeologists of the extreme difficulty of distinguishing between Spanish bifacial arrow-points of Solutrean workmanship (15,000 BC) and far later Neolithic and Copper Age ones (5,000-1,500 BC) when divorced from unambiguously Solutrean or Neolithic/Copper Age assemblages, (op. Almagro 1947, p.316; Martínez Santa-Olalla *et al.* 1947, pp. 18-19).

* Only a brief summary of the principal observations will be given here as a full report has been sent to *Noticiario Arqueológico Hispánico XV* entitled: 'Excavaciones preliminares en el Abrigo Grande del Barranco de los Grajos, término de Cieza, Murcia 1970: Contribución al estudio del período neotermal en la península'.

** In terms of uncorrected radiocarbon dates (short half-life) the French Solutrean probably spans 19,000-13,000 BC (cp. Movius 1960) At the Cueva del Reclau Viver (Gerona) the Solutrean gives a late date of 11,000 BC (Crane & Griffin 1965) – later than the Magdalenian of Altamira. The late date must be suspect, and a somewhat earlier median date is assumed here of around 15,000 BC for the Spanish Solutrean of the Reclau and Parpalló caves with evolved barbed and tanged bifacial points.

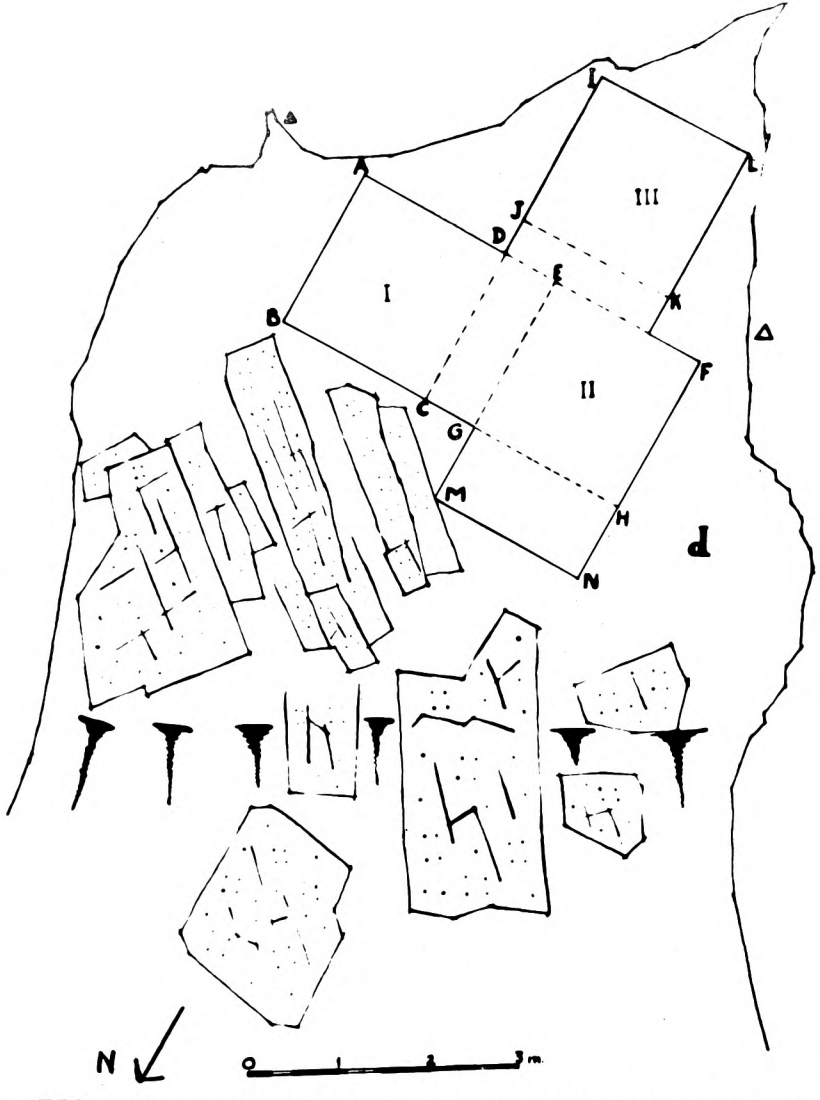

FIG. 5 Ground plan of site at Abrigo Grande

Roman numerals: squares excavated
Capital letters refer to sections (Figs. 6,7 & 8)

d = disturbed area

△ = painting A Fig. 4.

▲ = painting B Fig. 4.

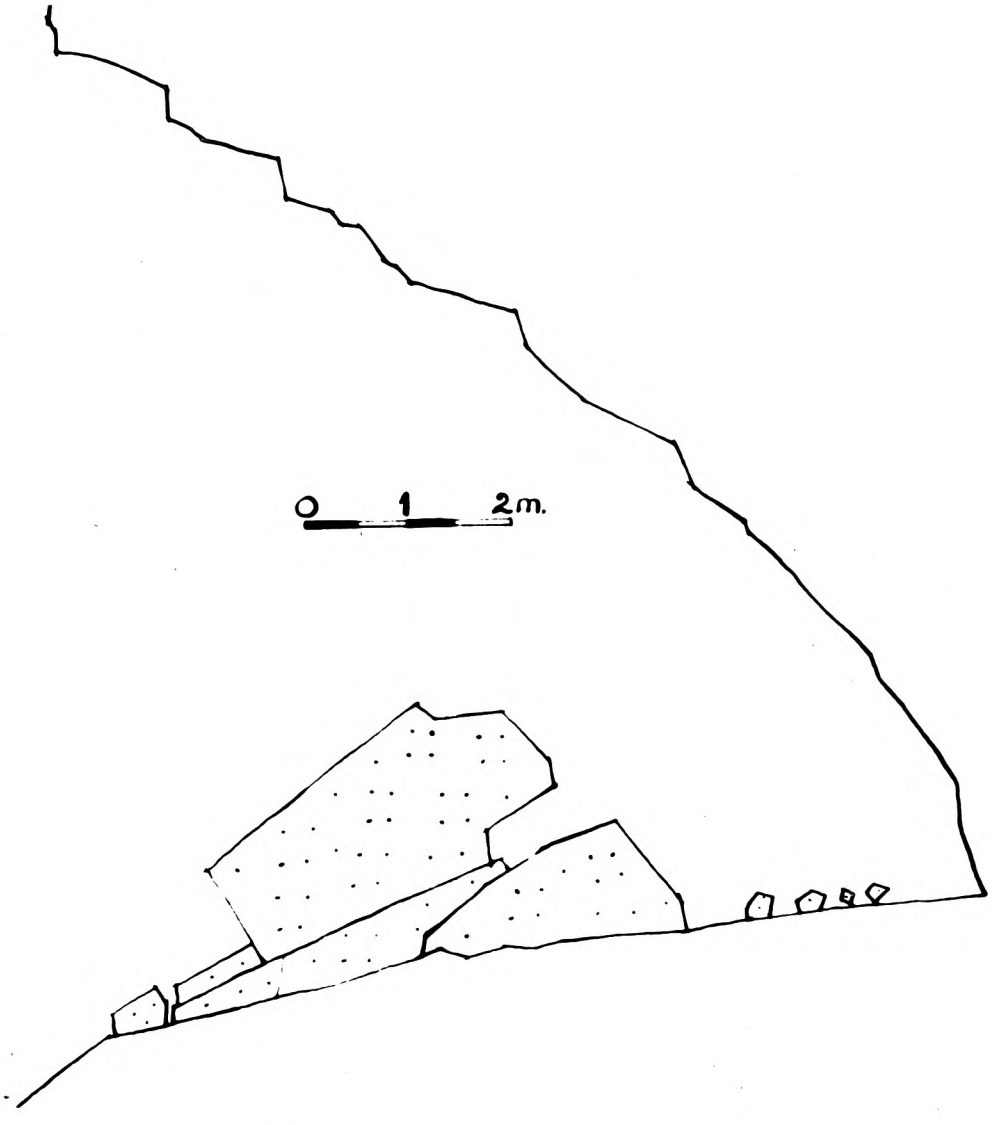

fig.6 Elevation of Abrigo Grande before excavation

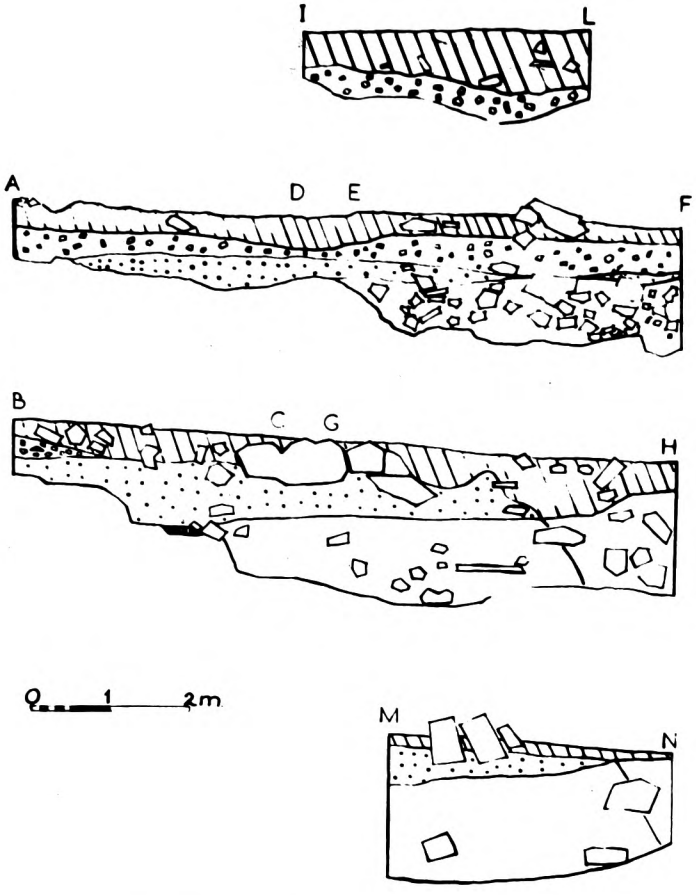

FIG. 7 Abrigo Grande
Stratigraphic sections.

1 black powdery soil

2 trampled grey soil with small stones

3 yellow sand

4 grey soil and large stones

5 red decomposed limestone soil

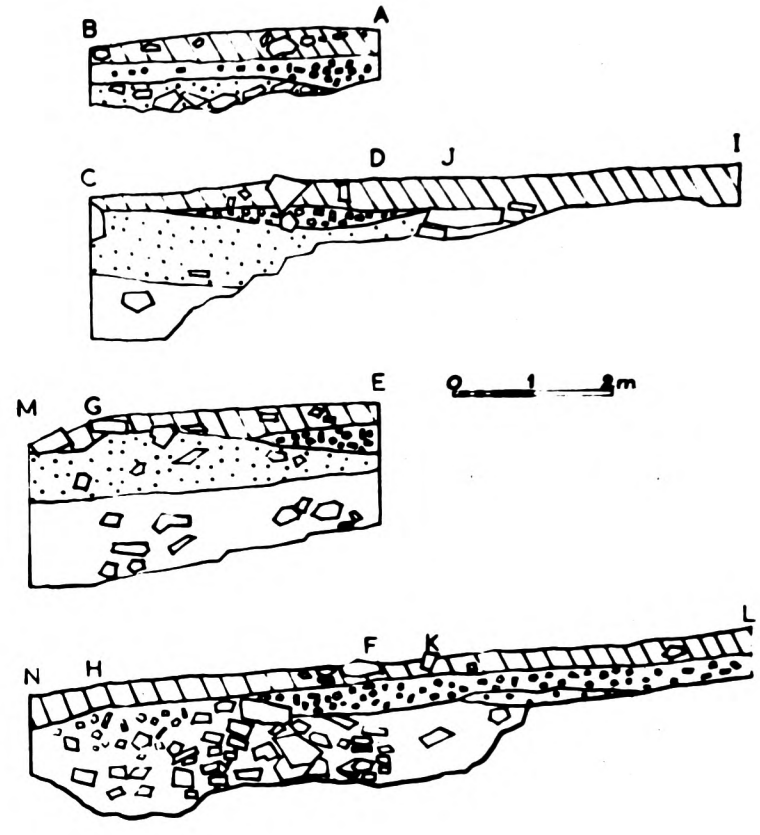

FIG. 8 Stratigraphic sections.

1 black powdery soil

2 trampled grey soil with small stones

3 yellow sand

4 grey soil and large stones

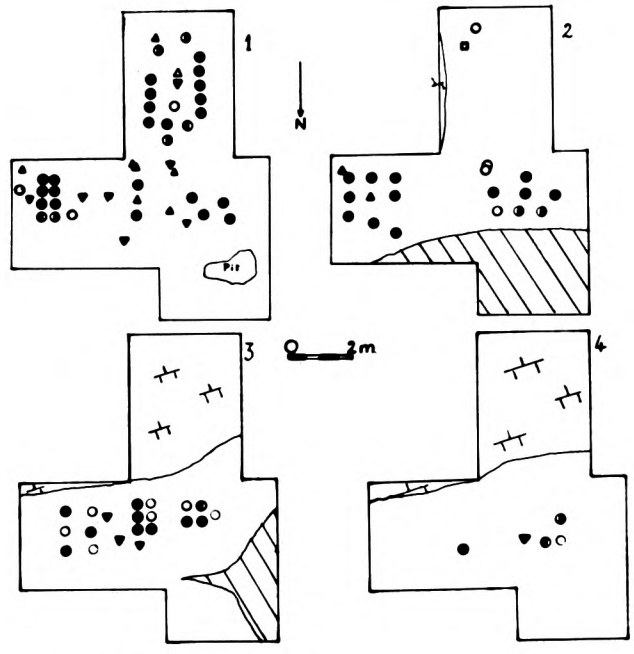

FIG. 9

Distribution of artefacts by situation in each layer.

White = area occupied by deposit

= deeper deposits not covered by deposit of layer under examination

= bed-rock

1,2,3,4 = layers 1,2,3,4

- pyramidal flint artefacts (cores, scrapers)
- backed baldelets
- flint end scrapers
- other flint
- worked bone
- pottery
- pierced shells
- ochre
- rock crystal

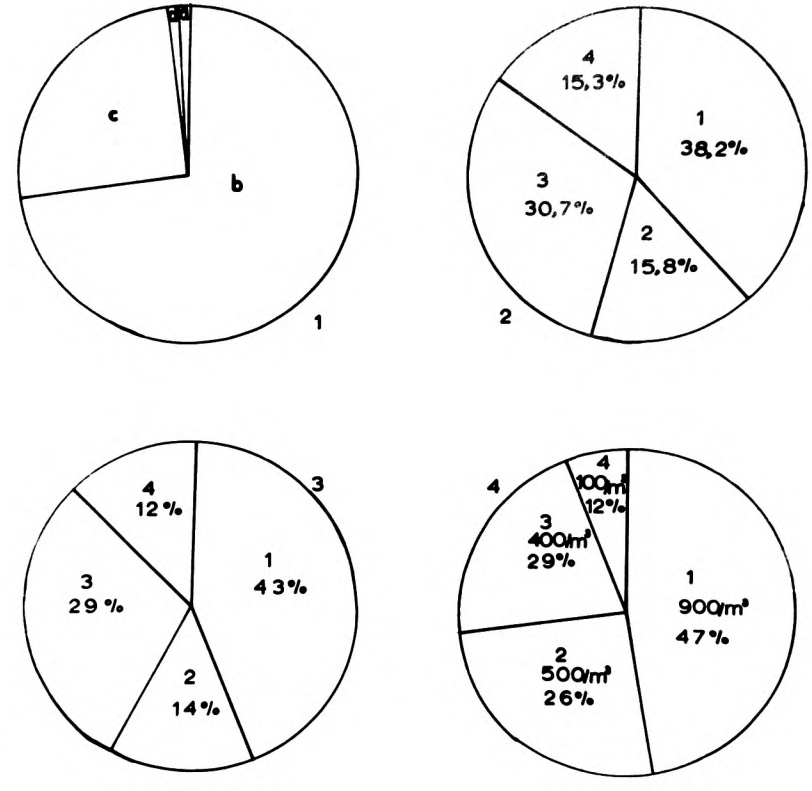

FIG. 10 Breakdown of lithic assemblage

Graph 1 As proportion of total number of flints (5,915).

a = worked pieces (71)
b = unworked flakes
c = unworked blades
d = unworked lumps and cores

Graph 2 As proportion of total weight (10,410 g), excluding pyramidal cores, from each layer 1,2,3,4.

Graph 3 As proportion of total numbers (5,915) from each layer 1,2,3,4.

Graph 4 As Graph 3 but with correction for volume of soil in each layer giving approximate artefact densities per layer in absolute figures and as percentage of summed absolute densities. These absolute densities are notional figures extrapolated for a representative cubic metre from the observed finds.

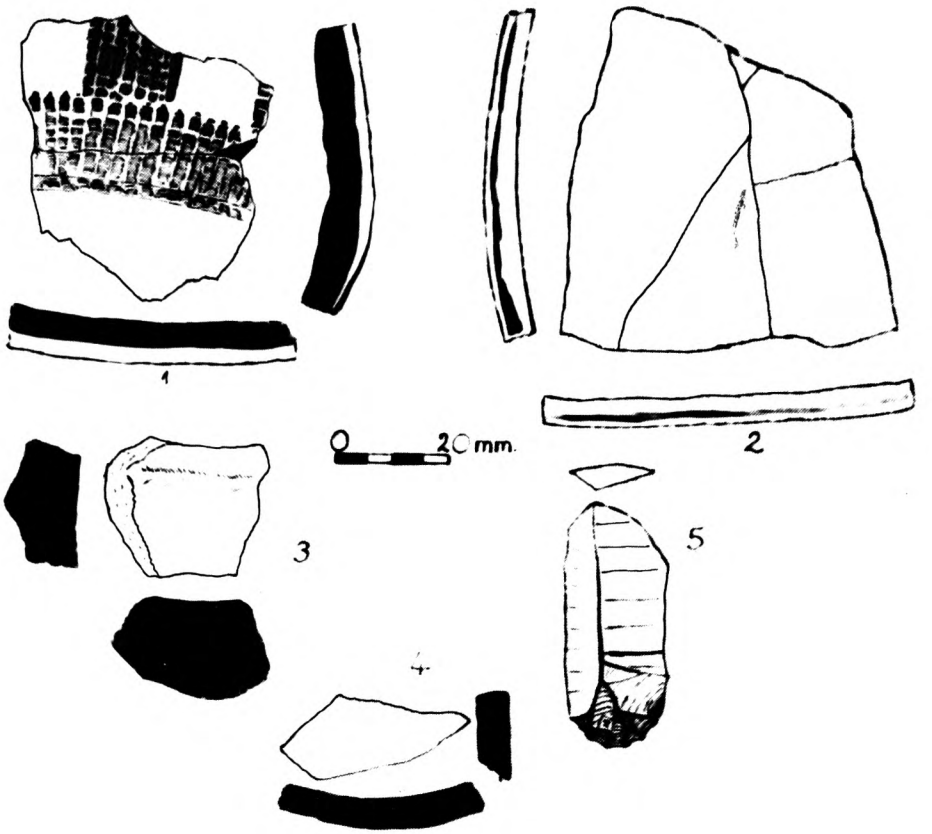

FIG. 11 Artefacts found on the surface

1 sherd of cardial impressed ware
2,4 sherds of plain ware
3 sherd of cordon decorated ware
5 end scraper

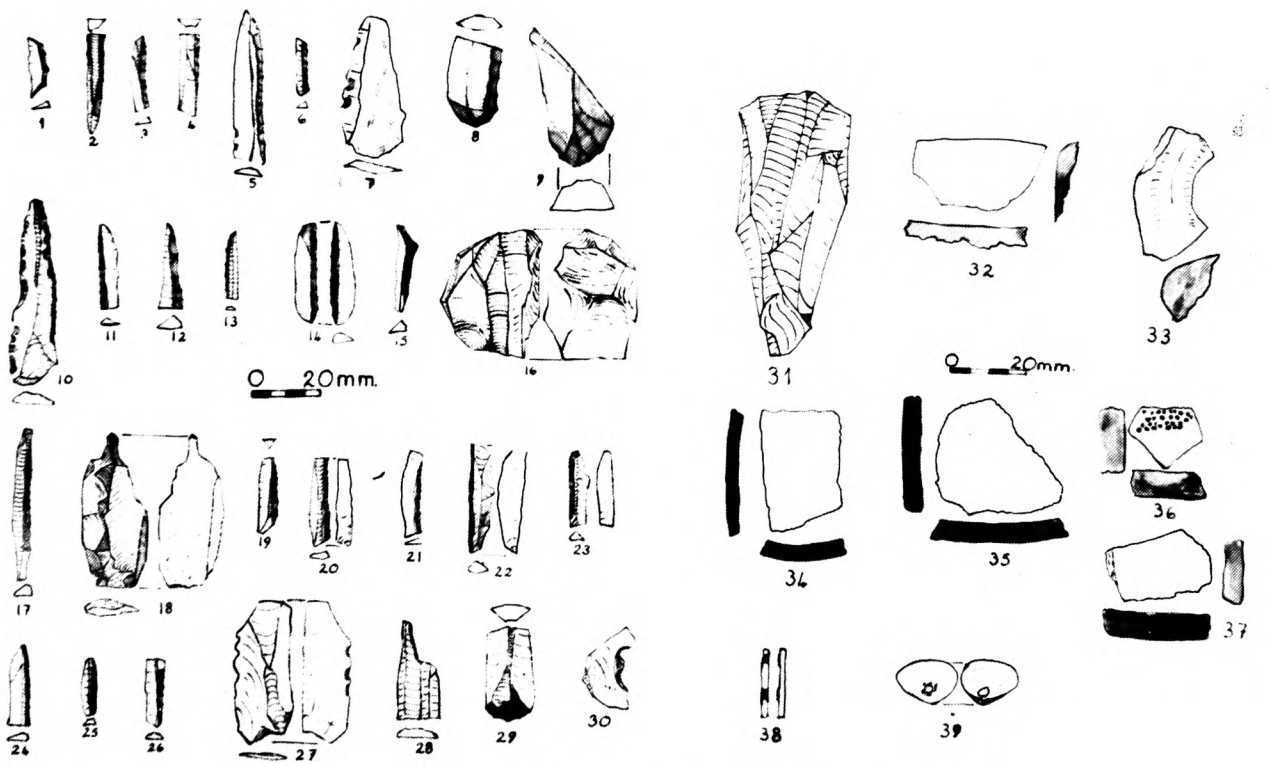

FIG. 12 Artefacts from layer 1 (ceramic layer)

1 crescentic microlith
2,3,4,5,6,10,11,12,13,14,15,17,19, 20,21,22,23,24,25,26 backed bladelets
7,27 serrated pieces
8 end scraper
9 pyramidal scraper
31, 16 pyramidal cores
18, 28 awls
30 notched piece
32,34,35,37 plain sherds
33 pot handle
36 impressed sherd
38 worked bone
39 pierced shell

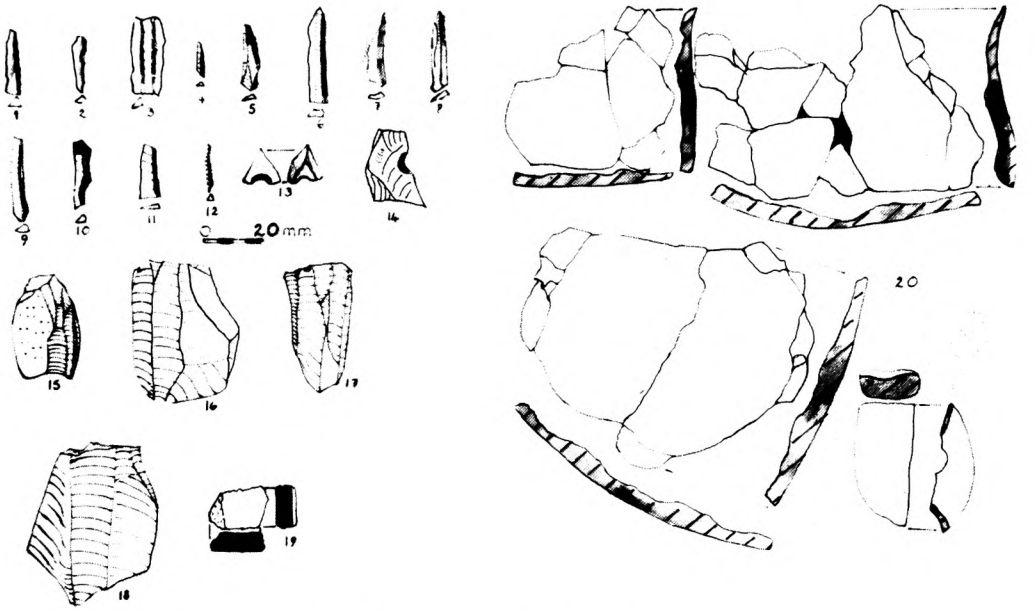

FIG. 13 Artefacts from layer 2 (ceramic layer)

1,2,3,4,5,6,7,8,9,10,11,12 backed bladelets
13,14 notched pieces
15,16,17,18 pyramidal cores
19 plain sherd
20 fragments of a bag-shaped plain vessel with a handle

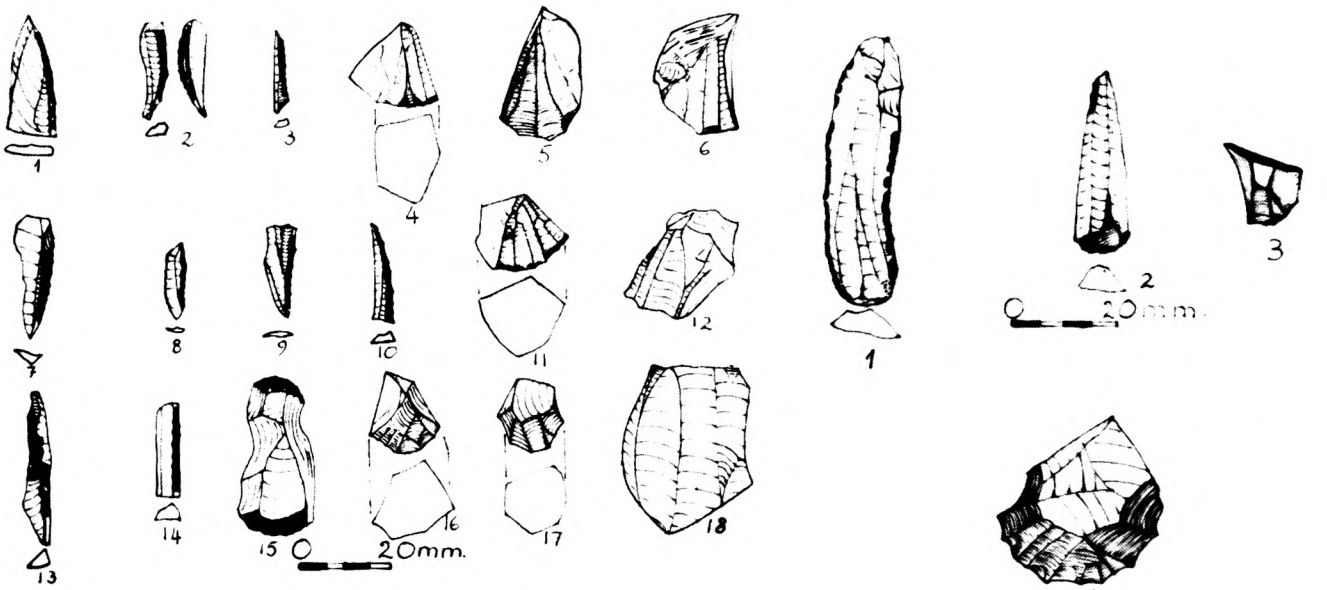

FIG. 14 Artefacts from layer 3 (aceramic layer)

1,2,3,7,8,9,10,13,14 backed bladelets
11,17 pyramidal scrapers
15 end scraper, notched
5,6,12,18 pyramidal cores

FIG. 15 Artefacts from layer 4 (aceramic layer)

1 backed blade
2 end scraper
3 pyramidal scraper
4 semi-discoidal scraper

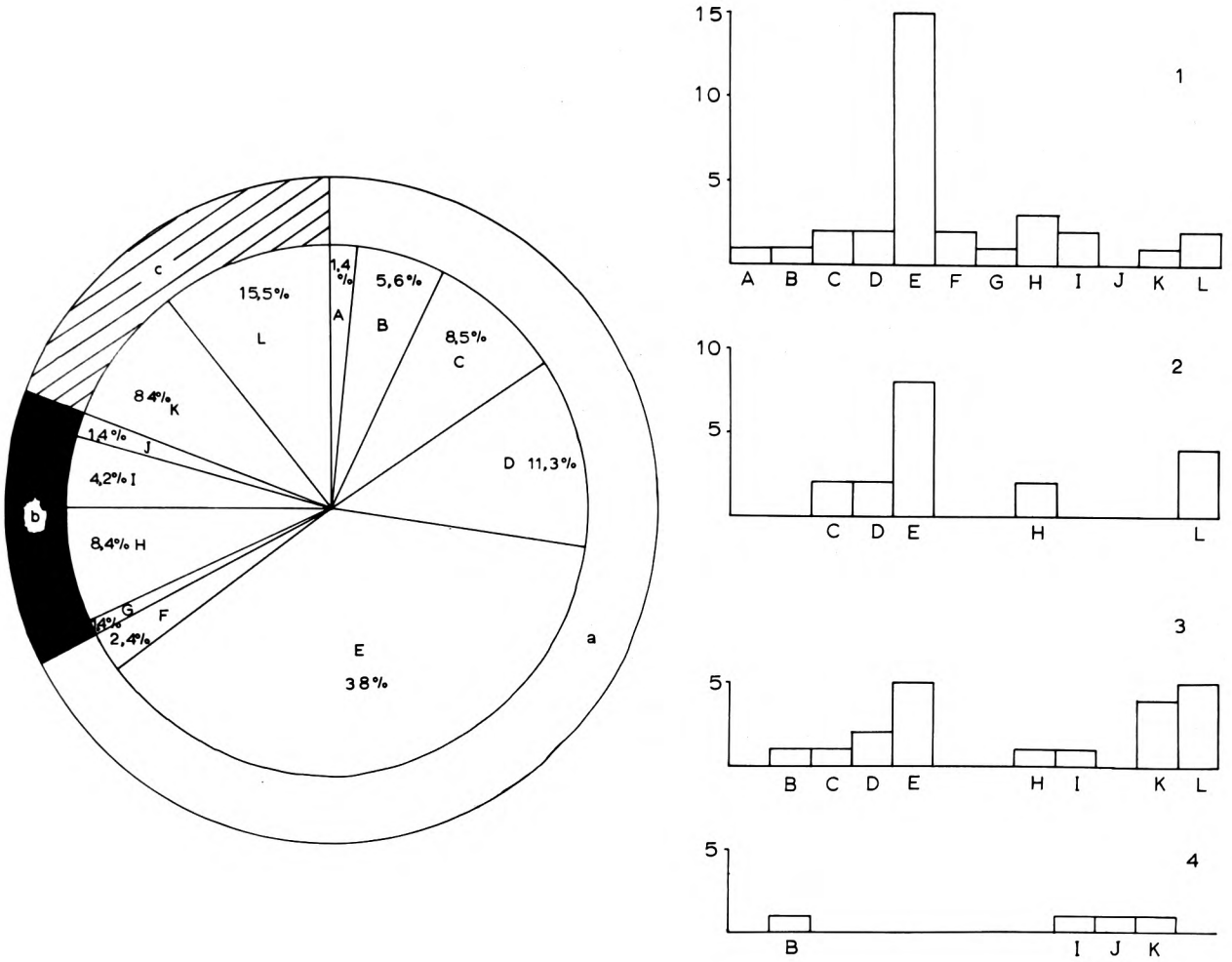

FIG. 16

Assortment of artefacts by type: right-hand graph - as percentages of tool-types
left-hand graphs - absolute numbers of type per layer

a backed bladelet tools
b other tools
c pyramidal scrapers and cores

1 = layer 1
2 = layer 2
3 = layer 3
4 = layer 4

A crescents
B bladelets with retouch on two margins
C backed bladelets with two rows of retouch, but with flaking in same direction
D backed bladelets with two rows of retouch, but with flaking in opposing directions
E backed bladelets with but one row of retouch facets
F awls
G serrated pieces
H notched pieces
I end scrapers
J discoidal scrapers
K pyramidal scrapers
L pyramidal cores

Comment: (a) some pieces with, say, a notch and end scraper facets appear twice, i.e. under both H and I, so that percentage totals sum to over 100%, and artefact totals to more than the actual number of artefacts (71).

(b) the inverse relationship between backed bladelet pieces and pyramidal pieces from layer 1 to layer 4 is interesting, although the exceeding few objects from layer 4 could mean that the results are due to sampling error and not significant.

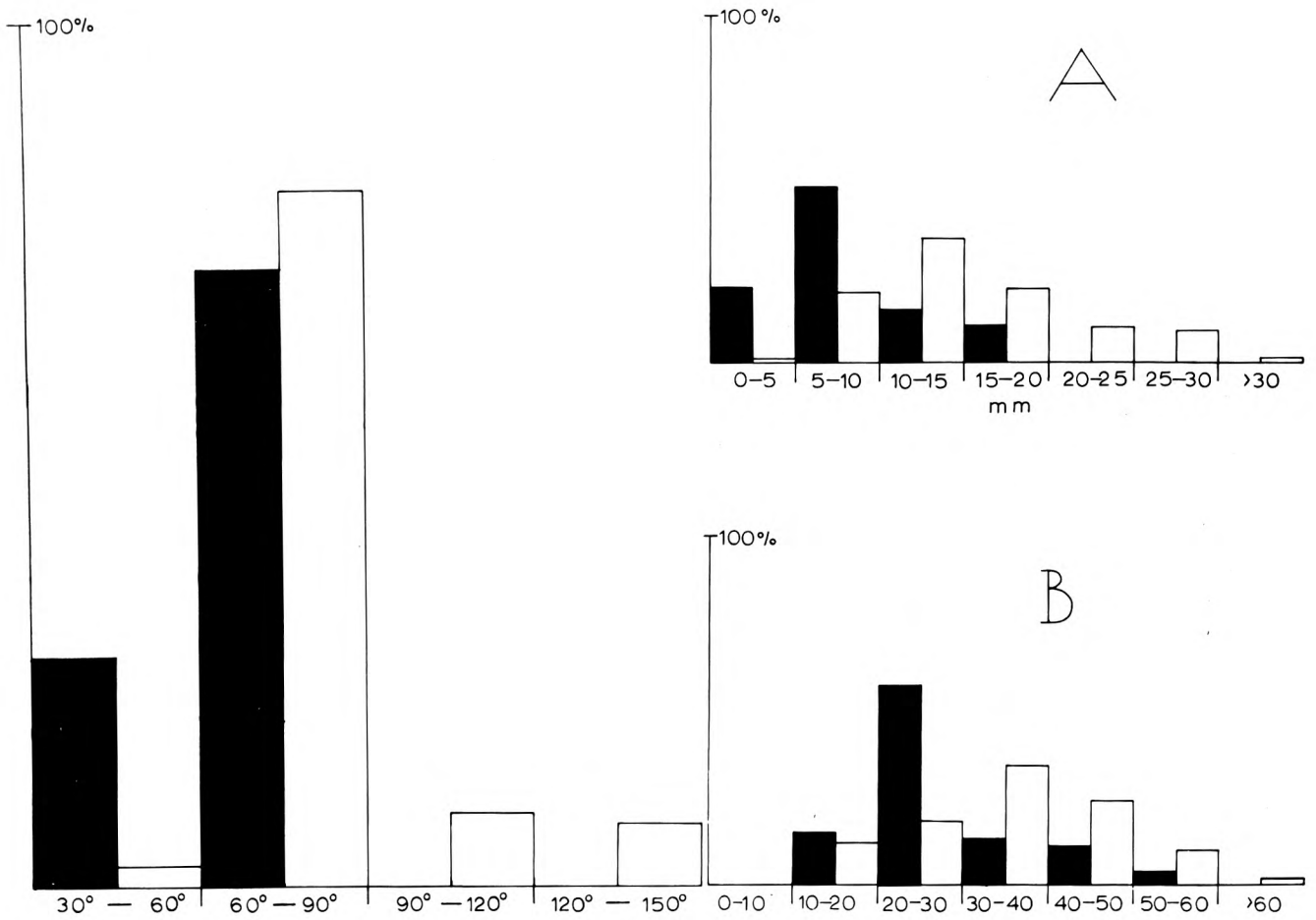

FIG. 17

Left-hand graph: Partitioning of angles between retouch facets and bulbar surface of worked blades, flakes and pyramidal implements.
Black = flakes and pyramidal pieces worked into scrapers
White = backed bladelets

Note the lower values of the scrapers contrasting with the backed bladelets. The latter have a subsidiary high value of about 120° in addition, because of the inclusion of pieces with two rows of retouch.

Right-hand graph: Partitioning of breadth (graph A) and length (graph B) between 50 backed bladelets and 50 unworked bladelets from the débitage.
Black = backed bladelets
White = débitage

Note the lower values for the worked pieces in each case. This could be due to positive selection for shorter and thinner pieces for tool-making, or to a combination of accidental truncation of longer retouched pieces combined with the thinner nature of the latter as a direct result of the backing retouch. .

Levantine rock art might have originated in other Upper Palaeolithic cultures. Burkitt (1925) suggested the Magdalenian, and the Gravettian has often been proposed (Beltrán 1968b, 1968c). Neither at the Abrigo Grande nor at any other Levantine artistic site have Magdalenian artefacts been found. But then until recently the only Magdalenian site in southeastern Spain was the Cueva de Parpalló in Valencia (Pericot 1942). Magdalenian artefacts have been reported at other Valencian caves, *viz.* Cueva de les Rates Penaes (*La Labor ... 1951* 1952), Covacha del Barranc Blanc (*La Labor ... 1953* 1954), Cueva de les Mallaetes (Fletcher 1956a), Cueva del Volcán del Faro (Fletcher & Aparicio 1969, 1970; Aparicio & Fletcher 1970), and Cueva del Barranc del Llop (A. Sancho Santomaría, personal communication). The Cueva del Volcán has provided the only *bâton de commandement* in southeastern Spain. Nearly six thousand engraved or painted stone plaques from Parpalló Magdalenian layers (with a few also from Gravettian and Solutrean layers: Armbruster 1959) have skeuomorphic motifs and zoomorphic ones attesting to wild goat, deer, cattle and horse – a fauna similar to that of Levantine rock shelter paintings. Rock engravings on the wall of Cueva de les Rates Penaes (Gurrea & Peñalba 1952) however are unlike Levantine parietal paintings. Painted plaques also occurred at Les Mallaetes (see below) occurring with backed bladelet implements.

Although the final Magdalenian stage, Magdalenian VI, is found in Catalonia, it is absent from southeastern Spain, unless perhaps the lowest layer at the cave of Hoyo de la Mina (Málaga) (Such 1920), which had parrot-beak burins (diagnostic of the French Magdalenian VI), shouldered points, backed blades, points and awls, represents it. Shouldered points and backed blades do occur occasionally in the evolved French Magdalenian (de Sonneville Bordes 1960). Absolute dates for the eastern Spanish Magdalenian are later than for the Cantabrian caves (Altamira; Juyo). At the Cueva de Bora Gran d'En Carreres (Gerona) it dates to 11470 ± 500 BP or 9,520 BC (M-1023: Crane & Griffin 1965). This may be compared to a date from the Cueva de Santamamiñe (Vizcaya) of 9470 ± 400 BP or 7,520 BC (Gif-130: Delibrias *et al.* 1966). The northern Spanish dates are around 14,000-13,000 BC. The French Magdalenian spans 14,000-9,000 BC with low dates from La Garenne and Grotte de la Vache (Movius 1960). So-called Epigravettian industries in Italy are dated ar around 9,000 BC (Alessio *et al.* 1970). The absence of Magdalenian VI at Parpalló makes it unlikely that the cave was occupied after 10,000-9,000 BC.

Those other Valencian caves with sporadic Magdalenian bone points have flint industries that are basically backed bladelet, 'Gravettoid' or 'Epigravettian', not Magdalenian. Backed bladelets occur at Parpalló too, some almost geometric and triangular in shape. Microburin spalls are found there, but these are not specific to any particular culture; indeed, they occur in Solutrean deposits at the Reclau cave as well as at many Neothermal Period microlithic sites. Small 'Gravette points' are found at many Valencian caves. These are backed bladelets with a straight backed margin and a curving sharp blade which meets it at a point. Other southeastern sites may have curving backed margins and straight blades (e.g. Abrigo Grande), or both edges may be straight (Abrigo Grande, Hoyo de la Mina), or there may be backed points and awls (Abrigo Grande, Hoyo de la Mina). In Catalonia microlithic Gravette points occur at the Reclau cave in pre-Solutrean deposits of the Gravettian culture proper. Complex synchronic schemes relating 'Epigravettian' stages to the Parpalló Magdalenian ones and extending beyond into the Neothermal Period have been proposed (Pericot 1953; Jordá 1954). It is hard to believe in two cultural groups occupying the very localised Valencian caves near Gandía, yet retaining separate lithic traditions. Backed bladelets hardly warrant elevation as a separate cultural entity, since they are mixed up with true Gravettian, Solutrean and Magdalenian, and seem to continue right through to the Neolithic (Abrigo Grande, Hoyo de la Mina).

Pre-Neolithic Backed Bladelet, Crescent and Geometric Assemblages from Southeastern Spanish Caves

If backed bladelets are non-specific for identifying in cultural terms the assemblages wherein they occur, so also are geometric and crescentic microliths. They are known from pre- and early Neolithic contexts, and geometric forms continue down to the end of the Copper Age at 1,500 BC. To refer particular assemblages (e.g. the Abrigo Grande backed bladelets) to known archaeological cultures on the basis of typological analogy of flint-work is not easy. One's sanguine expectations are amply confirmed by surveying the possibly contemporary sites. Despite somewhat complex technical arguments these must now be looked at.

In a massif devoid of Levantine paintings near Gandía (Valencia) and near the Cueva de Parpalló (Fig. 1) there are several caves where Magdalenian, Solutrean or Gravettian assemblages are succeeded by 'Epigravettian' backed bladelet assemblages which can be plausibly related to the backed blade and bladelet element predominating in the preceding Upper Palaeolithic deposits, *viz.* Cueva de les Mallaetes, Cueva de les Rates Penaes, Cueva de les Meravelles, Covacha del Barranc Blanc (Fletcher 1956a, 1956b). At Mallaetes there were fifteen stone plaques with paintings or engravings and one with a clear bovid design (Fletcher 1956a) from backed bladelet layers. Common to many of these sites, too, is an overlying layer of later occupation material, Neolithic and/or Copper Age in type. This layer at Mallaetes contained cardial impressed and incised sherds, trapeze and backed bladelet flints; at Meravelles cardial impressed and beaker (Copper Age) pottery; and at Rates Penaes there was also pottery. The backed bladelet assemblages are reported as lacking geometric flints. It seems reasonable to relate the backed bladelet assemblages to the Upper Palaeolithic layers at these sites, and not to the Neolithic, i.e. to a period

around 10,000-9,000 BC, or perhaps slightly later. An alternative view (Jordá 1953, 1954) sees these backed bladelets as contributing an important element to that aspect of the early Neolithic characterised by cardial impressed sherds in the region, whilst another aspect of the early Neolithic is said to be characterised by absence of cardial impressed sherds and presence of geometric flints. We shall have more to say about this later.

Layer 4 at Hoyo de la Mina (Málaga) has already been mentioned. Above it are two thin layers. Backed bladelets and awls continued, but the parrot-beak burins and larger flints disappeared. There was no pottery, but the fauna – boar, ibex, rabbit, cattle, dog – suggests incipient domestication of canids. Above this occurred a layer with backed bladelets, points and awls, and plain pottery. Finally there was a rich Neolithic deposit with plain, incised, punctate impressed, and relief-ornamented sherds polished stone tools, and crescentic and trapeziform arrow-points (Such 1919). The layers 2 and 3 were thin, and yet the backed bladelet and backed point flint-work continues, so it seems likely that the lowest layer relates to these and not to the Upper Palaeolithic. Alternative interpretations of this site and of the Valencian cave sites are perfectly possible, of course.

A backed bladelet assemblage overlying Middle and Upper Palaeolithic artefacts but apparently unrelated to them, was found at the Balma de Sant Gregori (Tarragona) (Vilaseca 1939). There was a surface layer with incised pottery and a barbed and tanged arrow-point above it. The backed bladelets, pyramidal scrapers, and discoidal scraper, and the proportions of worked to unworked flints (Vilaseca 1949) recall the Abrigo Grande assemblage, but there was also a burin. The lower layers contained rabbit, deer, goat or ibex, and sheep, though this last is doubtful (I. Davidson, personal communication). The stratigraphy overall did not exceed 1.1 metres. From a deep situation there was a stone plaque engraved with a deer. The length of time over which the deposits accumulated is unknown both relatively and absolutely. Both Mallaetes and the Abrigo Grande offer parallels. At the former sheep has recently been identified from pre-Neolithic layers (I. Davidson, personal communication) and at the latter it may have been depicted in nearby rock paintings. The possibility of wild sheep in Spain in Palaeolithic times is mentioned by Murray (1971).

Backed bladelets were found throughout a deep (2.5 metres) stratigraphy of seven layers at the Cueva del Filador (Tarragona) (Vilaseca 1949). Layer 5 contained also triangular geometric points and layer 3 a crescent, microburins and a plaque engraved with a skeuomorph. Neither Palaeolithic nor Neolithic layers occurred. The presence of geometric flints from low down in the backed bladelet sequence renders less likely the view of Jordá mentioned earlier that the two flint types belong to separate categories other than of technique.

The Covacha de Llatas (Valencia) had three layers, the uppermost containing plain, incised and relief-ornamented sherds, and one Bronze Age sherd (Jordá & Alcácer 1949). All layers contained crescents and geometric flints, and burins, scrapers and unretouched blades were also found. Crescents with two rows of backing retouch were said to be 'evolved' and those with but one row 'primitive'. It is unclear whether they were distinguished stratigraphically. (At the Abrigo Grande two-row and one-row backing retouch of bladelets occurs from layers 1, 2 and 3, although the only crescent, from the top layer, has single row retouch. This casts doubt on correlating 'primitive-ness' or 'evolved-ness' with the number of rows of backing retouch). At Llatas there was no underlying Upper Palaeolithic.

A key site for geometric flints is the Cueva de la Cocina (Valencia) (Pericot 1946; Jordá 1949; Fletcher 1956a, 1956b). Here again there were three layers with no underlying Upper Palaeolithic. The lowest layer contained geometric forms and a few backed bladelets. Above this were more geometric forms, including elegant triangles with 'spurs' and 38 skeuomorphic stone plaques. The topmost layer had geometric flints, pottery and polished stone tools. Jordá held that the Cocina sequence began before but overlapped with the Llatas sequence. He also held (Jordá 1953) that Cocina represents the other aspect of pre- and early Neolithic traditions, namely a geometric industry with cardial impressed pottery absent. However, backed bladelets occur in the lowest layer (albeit only a few) and a sherd of cardial impressed ware from the site is displayed in the Valencia Prehistory Museum, as is a sherd incised with two deer motifs and a barbed and tanged arrow-point. The latter sherd seems to have come from quite a deep position. The overlap of Llatas and Cocina in the ceramic phase can hardly have been inconsiderable. One-row retouch typifies the Cocina crescents mainly, but two-row retouch occurs on crescents from the ceramic layer. Jordá (1955, 1967) has compared the skeuomorphic engraved plaques with Azilian painted stones from northern Spain, but if one must place the site at an early time on the basis of the plaques, then the Parpalló skeuomorphic plaques are surely better parallels. However there are other parallels on the basis of the flint-work which suggest a relatively late date for the entire Cocina sequence.

From the middle layer rather special 'spurred' triangular geometric points occured, whereas the lowest layer had scalene triangles. Clark (1958) proposed that the latter might be likened to similar triangles from the Portuguese midden site at Cabeço da Arruda near Muge, and the former at the Cabeço da Amoreira and Moita do Sebastião middens. At the last site there are small numbers of backed bladelets also (Roche 1960). The sites give radiocarbon dates from pre-pottery and ceramic phases as follows:–

Sa-16	Moita do Sebastião pre-pottery	7350 ± 350 BP or 5,400 BC (Delibrias *et al.* 1964)

Sa-195	Cabeço da Amoreira pre-pottery	7030 ± 350 BP or 5,080 BC
Sa-197	Cabeço da Amoreira pre-pottery	6430 ± 300 BP or 4,480 BC
Sa-194	Cabeço da Amoreira pottery	6050 ± 300 BP or 4,100 BC
Sa-196	Cabeço da Amoreira	5150 ± 300 BP or 3,200 BC (Delibrias *et al.* 1965).

To these may be compared the date from a Breton geometric aceramic site, Hoëdic, 6575 ± 300 BP or 4,625 BC (Gif-227: Delibrias *et al.* 1966). Now the earliest dated Neolithic site in Spain, a cave site with cardial impressed pottery, cereal grains, trapeze and barbed and tanged flints, Coveta de l'Or (Alicante) is comparable with the ceramic phase of the Portugues middens:—

KN-51	6510 ± 160 BP or 4,560 BC	
H-1754/1208	6265 ± 75 BP or 4,315 BC	
		(Schwabedissen & Freundlich 1966)*.

It seems likely that the transition to pottery using occurred about 4,500 BC and that the middens were occupied between 5,500-4,000 BC. In absolute terms, these dates may be too low, as also may the Upper Palaeolithic dates cited earlier. Relative to each other they may be acceptable.

It seems possible also that the transition to pottery using at the Abrigo Grande, Hoyo de la Mina, and Cocina occurred at a similar time, and in the absence of underlying and convincing Upper Palaeolithic industries at those sites there is no good reason to presuppose their occupation over a time-span longer than that of the middens. The emphasis is on the transition to pottery using in general, rather than to cardial impressed pottery, since the latter can occur in late contexts in Spain and is not specific for the *early* Neolithic. However, sites such as the Cueva de la Sarsa (Valencia) with a rich cardial impressed ware assemblage, trapeze flints and barbed and tanged points, may start at an early date. Unfortunately the number of *definitely early* Neolithic sites in the region is small. Many sites have been described as Neolithic, but the continuation of varied flint points and decorated pottery into the Copper Age is well attested in southeastern Spain, and several sites could be Copper Age sites from which metal-work has not been retrieved. It is dangerous to assign sites to the Neolithic by default in the absence of good stratigraphical or radiocarbon evidence for their prior age, though this has often happened.

There seems no good reason to deny the possible contemporaneity within a harmonised pre-Neolithic way of life of flint tool types comprising backed bladelets, crescents and geometric forms. Such diversity should not cause surprise, for in the Neolithic and Copper Age we see co-existing together trapeze points with hollow-based, rhomboidal, barbed and tanged, lanceolate, mitriform, stellate and foliate flint points. There seems no good reason to divide up the early Neolithic on the basis of presence or absence of cardial impressed pottery. Such pottery occurs right down to the beginning of the Copper Age, yet it has not been proposed that the later Neolithic or Copper Age should be subdivided on this basis. Only preconceived ideas about possible localised origins — whether in specific Upper Palaeolithic cultures or in specific exotic geographical areas — underlie such arbitrary subdivisions. The evidence for the former is far from secure, and for the latter almost non-existent. The diffusionist model with its presupposition of the necessity for 'advanced' Neolithic agriculturalist colonisers offering pottery to 'primitive' pre-Neolithic survivors of a hunter-gatherer economy also underlies such lines of thought. This is only one of several possible models and cannot be clearly demonstrated as applicable to south-eastern Spain — what little evidence there is suggests a nomadic pastoralist base for the establishment of a Neolithic way of life there.

If we assume that the pre-Neolithic flint types at sites lacking Upper Palaeolithic occupations are all part and parcel of a harmonised pre-Neolithic way of life around 6,000-4,500 BC, and if we are not to conjure up a bizarre picture of rival groups, culturally distinct, moving in turn from site to site, keeping out of each other's way in some mysterious and elaborate geographical dance, yet all capable of painting Levantine art that is more or less alike, then it seems likely that the various flint assemblages represent *functional* differentiation and not cultural. Perhaps geometric points are arrow-points, whilst backed blades may be the analogues of pen-knives. Microscopic studies of tool utilisation, as well as factorial analyses of assemblages and locational geographical analyses of the relationship between assemblages and ecology will all be necessary to establish whether this assumption is correct or requires modification. Of course, the same site may have been utilised in different ways at different times — domestic food-preparation or tool manufacturing activities with one tool-kit one year, hunting lodge with arrow-points the next, etc.

* All dates given according to the *Radiocarbon* conventions with no attempt at correction by the author.

Two pointers to such a model may be mentioned. Near Villena (Alicante) two very small caves only a few metres apart had very different assemblages. The Cueva Grande de Huesa Tacaña contained a backed bladelet assemblage, and the Cueva Pequeña a geometric one (Soler 1968-1969). We have no way of telling whether they are chronologically separated or contemporary apart from typological inferences. They might be culturally different (whatever that means for backed bladelets and geometric tools in southeastern Spain), or they might be different tool-kits belonging to the same occupation group, much as tool-kits in kitchen and garage of a modern home differ from each other both functionally and typologically, as well as geographically within the occupation area. However, at the Abrigo Grande there are other factors pointing to a functional specialisation of the lithic assemblage. First, all the rock shelters face north, which is highly unusual for Levantine art sites, which almost always face south. Thus instead of receiving the full blast of the sun throughout the day, the sites are cool and shaded except for an hour in the early evening. Secondly, the art depicts not huntsmen, but anthropomorphs in non-hunting dress and engaged in non-hunting activities. Thirdly, the occupation may be related to the art via the ochre (not necessarily). Fourthly, the occupation *débris* includes cores and wasters suggestive of a flint workshop as well as backed bladelets and scrapers which may have been made for food preparation rather than food acquisition (women's work? domestic site?). Were arrow-points manufactured and carried away for use elsewhere (to male hunting lodges?)? Unless there was more surface water to feed the canyon than today, water must have been fetched from some distance. Was the site occupied for only a few short occasions with the occupants migrating (to the coast?) seasonally, or were there frequent visitors (bringing sea-shells) to a more or less permanent occupation group?

IV Levantine Art and Pre-Neolithic Artefacts

We have no secure way of relating the art to the occupation at this site nor at any other painted rock shelter. Other shelters have yielded small assemblages. The Upper Palaeolithic (Solutreo-Gravettian and Gravettoid?) collection at Cantos de la Visera (Murcia) has been mentioned. Crude geometric and crescentic microliths were found at the Cocinilla del Obispo painted shelter (Teruel), end-scrapers and discoidal scrapers at the El Navazo painted shelter (Teruel), and end-scrapers, backed bladelets and double-row retouched crescents at the Doña Clotilde painted shelter (Almagro 1944, 1947). No pottery was found at these sites. Rock shelters of the Valltorta canyon (Castellón), where there are other shelters with Levantine paintings, have provided assemblages that seem Neolithic – trapeze, barbed and tanged, lanceolate and rhomboidal flints, scrapers of various kinds, pottery, bone punches and a segmented bone pinhead (Pallares 1923). There is nothing to associate these collections with the other shelters with the paintings, however. Crescents were found near the Roco dels Moros painted shelter (Lérida) (Almagro 1947; Hernández-Pacheco 1959), and somewhat nondescript scrapers were found at a number of other sites in northern Teruel (Cabré 1915; Cabré & Pérez 1921). A trapeze was found near the La Joquera painted cave (Castellón) (Porcar Roig 1932).

It is possible that the Valltorta and Gasulla canyon paintings in Castellón province, and the Alpera ones in Albacete do belong to the early Neolithic, since some of the archers have bows with barbed and tanged arrow-points, although others have what must be trapeze points (Walker 1971). Some of the huntsmen have recurved bows. These were known in the Sahara by the Tassili artists from the fourth millennium BC (Walker 1971) and were doubtless made by steam-treating of self-bows of a kind known from the Egyptian Middle Kingdom and preceding the introduction of the recurved composite bow (Walker 1971) which has been taken as the weapon used in the Levantine paintings by Jordá (1967). Clothing, domestication of animals, and agricultural activities are only identifiable in an ambiguous way in the art. Hunting is a common subject, but so it is too at Çatal Hüyük, a Turkish Neolithic township of the seventh millennium BC – to hang 'The Stag At Bay' in one's house doesn't make one into a huntsman! However, it seems likely nonetheless that some of the art belongs to a pre-Neolithic stage, although there is no good evidence for putting it outwith the range for the occupation of the pre-Neolithic/Neolithic transitional sites mentioned above, and since it lasts into the Neolithic, its time range must be at most 6,000-2,000 BC.

V The Beginning of the Neolithic and the Southeastern Spanish Caves

The only early Neolithic site, let alone cave site, from which agriculture is known is Coveta de l'Or (Hopf & Schubart 1965; Hopf 1966). The similarity between the cereal profile and that of the Palestinian Neolithic has been remarked upon, but similar edaphic conditions or the admixture of different crops were admitted by the investigators as alternative explanations to one involving cross-Mediterranean contacts. It is inconceivable that large domestic animals could have been brought by sea from so far away, and it surely is most likely that partial domestication of herds combined with cross-breeding with domestic mammals imported via a land route from France took place locally. Dog, sheep and cattle may have been domesticated, as may have goat (see Walker 1971), in such a manner. The paintings attest to the importance of large mammals in the life of the artists, and the hunt must have continued to play a large part in meat acquisition even after domestication. Indeed, it continued to do so throughout Europe until late mediaeval times. As Neolithic material artefacts became common around the western Mediterranean, they would have spread by trade to southeastern Spain and been copied as new techniques were learned. There is no reason to suppose that cereal crops were not learned in this way,

nor, on the other hand, that they played an important part in the early Neolithic economy of the area. It is interesting that the earliest sites, especially those of pre-/early Neolithic transition, do not occur in coastal districts in southeastern Spain. There are limestone mountains of nearly 1,000 metres in height near the Murcian coast with caves, yet these have neither Levantine art nor human occupation material. It seems that the early Neolithic way of life was developed in relation to the herds of large mammals in the uplands around the middle reaches of the Segura and Júcar basins, not by coastal immigrants bringing agriculture. (There may have been such people, but they have left no trace.) The picture painted by Whitehouse (1968) for southern Italy of Neolithic colonists and indigenous hunters receiving Neolithic artefacts by acculturation cannot be substantiated in southeastern Spain.

The open site of El Gárcel (Almería) has often been cast in the rôle of the type site of the earliest southeastern Spanish Neolithic (Blance 1960; Savory 1968). It is not a good contender for this rôle, although it is fairly near to the sea. The deposits were shallow and the trapezes, small unworked blades, awls, polished stone axes, and 'costrel' jars were mixed with Bronze Age material from which they were separated typologically and not stratigraphically (Siret & Siret 1887; Siret 1893). It may be an early Neolithic site, but it does not demonstrate a pre-/early Neolithic transition, and therefore there are no good grounds for according it chronological primacy over the cave sites discussed above, except for the theoretical one that assumes 'primary' sea-borne Neolithic colonists and 'secondary' hunter-gatherer Neolithic hangers-on. Archaeologically the site could belong to any period of the Neolithic or Copper Age. There are a number of possibly early Neolithic cave sites in Andalusia. Most of these have Neolithic layers overlying Upper or Middle Palaeolithic ones, but without the intervening backed bladelet or geometric pre-Neolithic industries we have been considering – Cueva Ambrosio (Almería) (Jiménez 1962); Cueva de la Carigüela (Granada) (Pellicer 1964); Cueva de Nerja (Pellicer 1961). As in many other Andalusian caves (e.g. Hoyo de la Mina) cardial impressed ware is either absent or only rarely (Carigüela) present. Unfortunately the flint-work is not a distinctive feature of the earliest Neolithic levels at these sites, but backed bladelets and discoidal scrapers occur at Ambrosio, and the blade *débitage* of that site resembles that of the Abrigo Grande and El Gárcel, for what it is worth.

It is around the headwaters of the Segura at the border of Andalusia that there are found many sites with Levantine and later schematic rock shelter paintings (Walker 1971) close together. These latter seem to have been painted during the later Neolithic and Copper Age and continue westwards, beyond the area of Levantine art towards Extremadura across northern Andalusia. The overlap underlines the importance of the pastoralist dependence on the large mammals in the upland area at quite late times. Certainly, the middle and upper reaches of the Vinalopó and Segura basins seem to have been important during the later Neolithic as the large open sites of Casa de Lara, near Villena (Alicante) (Soler 1961) or of El Prado, near Jumilla (Murcia) demonstrate. Only in areas accessible from the Almería coast do we see new forms appearing in the Copper Age defended settlements and tells of Los Millares, Almizaraque, etc. Perhaps some memory of the former importance of caves as habitation sites influenced the widespread use of caves as burial places in Murcia, Alicante and Valencia provinces in the later Neolithic and Copper Age.

VI Conclusion

It is postulated that in southeastern Spain the earliest Neolithic arose indigenously out of pre-Neolithic occupation during the Neothermal Period. It is proposed that there was continuity of tool-kits and of rock art during this transition. The economy of the period seems to have been based on large herds of mammals and a nomadic existence. Interdependence of Man and animals may have led to partial domestication and of cross-breeding of wild with domestic species. It is proposed that agriculture played only a minor part in the establishment of the early Neolithic in the region, and that the inland and upland distribution of most of the sites indicates the prime importance of the hunting and/or pastoralist nomadic way of life. It is felt that this could provide a strong enough economic basis for acquisition of Neolithic artefacts and techniques without necessarily implicating outside colonists.

Table 1

Vertebrate Fauna

	Layer 1	2	3	4
Oryctolagus cuniculus	+ (42)*	+ (16)	+ (23)	+ (2)
Sus scrofa	+ (2)	+ (1)	+ (1)	+ (1)
Cervus elaphus		+ (1)	+ (1)	+ (1)
Equus caballus		? + (1)	+ (1)	+ (1)
Caprinae	+ (1)	+ (1)		
Bos sp.	+ (1)	? + (1)		

Invertebrate Fauna — Shells

	Layer 1	2	3	4
Rumina decollata	+ (126)	+ (31)		
Otala alonensis and *Sphincterochila candidissima***	+ (235)	+ (102)	+ (41)	+ (100)
Pecten jacobaeus		+ (1)		+ (1)
Littorina littoralis			+ (8)	+ (7)
Donacilla cornea	+ (1)		+ (1)	

* Bracketed numbers refer to minimum number of individuals encountered.

** These species were not differentiated for most of the excavation, but a sample area 66 cm square suggested that *O. alonensis* was commoner in layer 1 (80% : 20%), whereas in the lower layers the two species were present in roughly equal proportions (*Otala : Sphincterochila* 55% : 45%).

Comments

Note absence of deer and horse from the topmost layer, and of caprines and bovines from the lower layers. Both rabbit and the land shells might have invaded the site subsequent to occupation by Man. Rabbit is indigenous in Spain, however, and could have been hunted by the occupants. The land snails, too, might have been collected for food. Fresh shells of *R. decollata* were, however, found on the surface of the site, and it is possible that these and the other snails burrowed into the deposits at a later date. The other three species of shells are marine types and it is interesting that contact with the coast (60-70 km distant) occurred throughout the occupation period. It is not possible on the basis of such small absolute numbers of larger Mammalia to determine whether any of the caprines or bovines were domesticated or not, nor, owing to the small size of the fragments, their biological age at death. It is, however, possible that sheep are portrayed in the painting of a nearby rock shelter (Fig. 4).

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Dates following an author entry in text correspond to those in Bibliography and indicate year of publication. Dates in brackets in Bibliography refer to year of reference of journal or work, which for some Spanish works antedate the year of actual publication.

Linnaean and Vernacular Names of Mammals used in Walker's and Davidson's articles.

Ovicaprines		
	Ovis aries	sheep (modern, domesticated)
	Ovis musimon	mouflon (wild – believed to be ancestor of O.aries, still found in Near East, Corsica, Sardinia, and recently imported into Spain)
	Capra hircus	goat (modern, domesticated)
	Capra hircus (aegagrus)	
	Capra aegagrus	bezoar (wild, Near East, Balkens, – believed to be ancestor of domestic goat of Europe)
	Capra ibex	ibex (European wild caprine)
	Capra ibex (pyrenaica)	
	Capra pyrenaica	Spanish ibex (wild caprine of high mountain ranges in Spain – possibly a variety of C.ibex)
	Rupicapra rupicapra	chamoix (wild – Alps, Pyrenees, Sierra Nevada, Cantabrians)
Lagomorphs		
	Oryctolagus cuniculus	rabbit (wild, indigenous in Spain)
	Lepus cuniculus	hare
Cervines		
	Cervus elaphus	red deer (wild)
	Dama dama	fallow deer (wild)
	Capreolus capreolus	roe deer (wild)
	Rangifer tarandus	reindeer (extinct in Spain – possibly absent from SE Spain in Quaternary)
Bovines		
	Bos primigenius	wild cattle (extinct ancestor of domestic cattle)
	Bison	bison (extinct in Spain)
Equines		
	Equus caballus	horse (modern, domesticated; wild forms extinct in Spain)
	Equus hydruntinus	wild asses – extinct in Western Europe.
Suines		
	Sus scrofa	pig (modern, domesticated), and boar (wild, still present in SE Spain)
Other		
	Erinaceus sp.	hedgehog (wild)

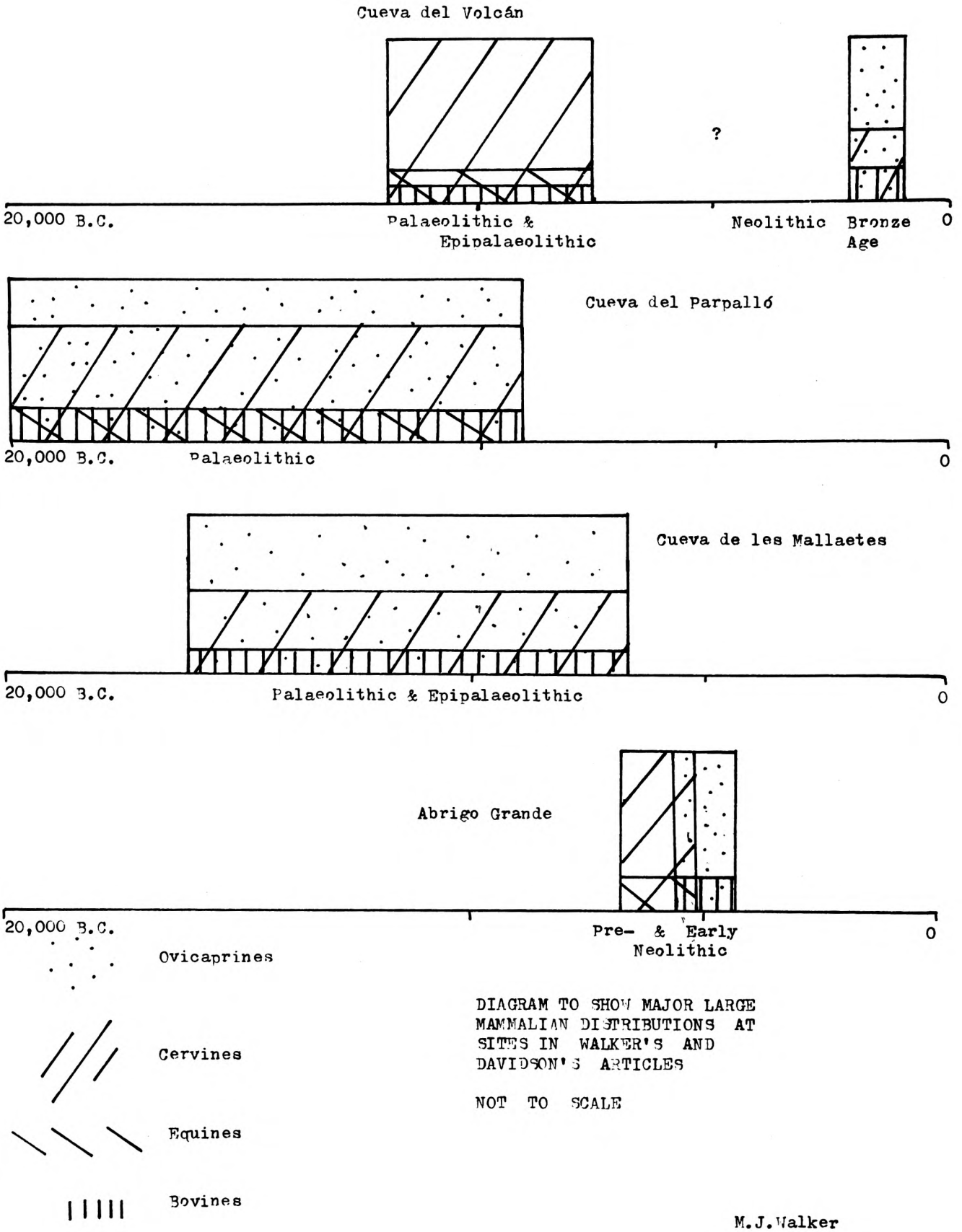

DIAGRAM TO SHOW MAJOR LARGE MAMMALIAN DISTRIBUTIONS AT SITES IN WALKER'S AND DAVIDSON'S ARTICLES

NOT TO SCALE

M.J.Walker

Michael Walker

Spanish Levantine rock art

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SPANISH LEVANTINE ROCK ART

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In recent years, some new sites of naturalistic anthropomorphic and zoomorphic rock paintings and also of schematic rock paintings have been found in south-east Spain. The discoveries extend the area previously known of the naturalistic rock paintings of eastern or 'Levantine' Spain, see fig. 1, and demonstrate their geographical overlap with the zone of Andalusian schematic rock paintings. This article describes some of the sites, and comments upon the archaeological significance of the 'Levantine' art and its age.

Many years ago, don Sebastián Chanes of the village of El Sabinar, in the *término municipal* of Moratalla (Murcia), observed some rock paintings at rock shelters on his land, high in the side of a limestone canyon in the Sierra de Taibilla, near the point at which the four provinces of Murcia, Albacete, Almería, and Granada meet around the headwaters of the Río Taibilla, a tributary of the Río Segura. It was not until 1968, however, that the attention of archaeologists was

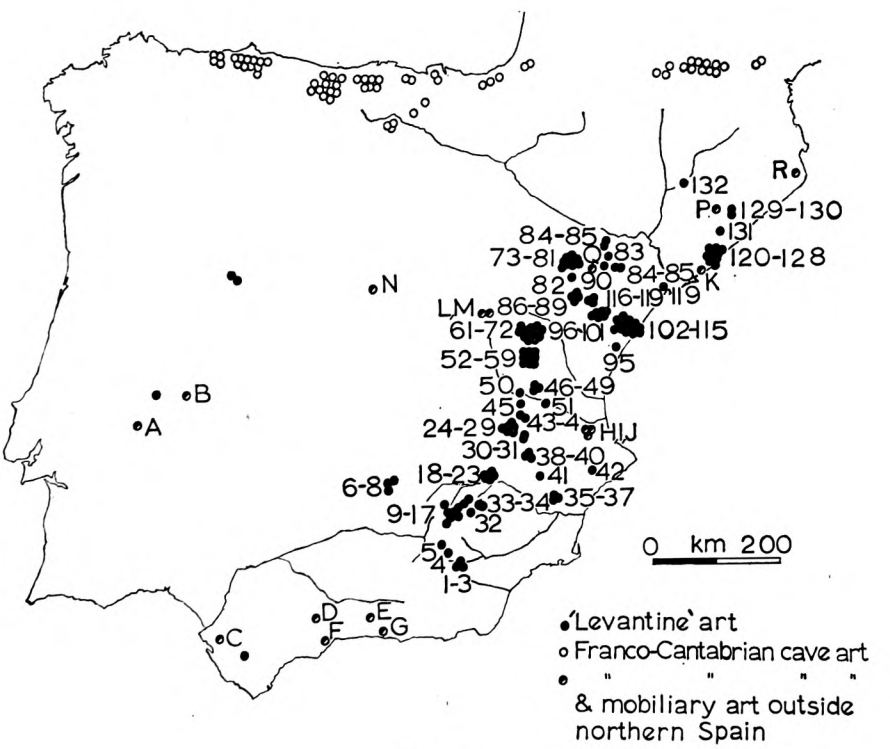


FIGURE 1.

drawn to the paintings, and the writer, among others, visited them. The rock shelters lie on the north side of a valley which runs from east to west, and bears a stream feeding the Río Taibilla. It is common for sites of naturalistic 'Levantine' art to be situated on the north slopes of canyons and valleys, where they are known in Spanish as *solanas* because they are exposed to the full force of the sun for most of the day. The shelters are to be found between the hamlet of Calar de la Santa in the east (at approx. N. 38° 10′ 45″, E. 1° 31′ 00″, see Sheet 889 of the 1:50,000 of the Instituto Geográfico y Castastral map series),[1] and in the west, the hamlet of Royo Tejera, also known variously as Arroyo Tejera and Arroyo Tercero (at approx. N. 38° 11′ 12″, E. 1° 29′ 15″ on Sheet 888).

Several rock shelters bear traces of paint, of which only four have recognisable motifs, since the others are much obscured by smoke from fires lit in the past by shepherds. The adjacent piece of land to the north of the painted shelters is called Calar de Tapia or Escalar de Tapia, after which the sites have been numbered in a preliminary note (Walker 1969). It seems preferable, however, to refer to the sites using the names proposed by the first two students of the paintings (Martínez Sánchez 1969; Carbonell Escobar 1970) in ignorance of whose work my earlier note was published, and who named the first two rock shelters after the canyon itself, the Cañaíca del Calar, and a third after a freshwater spring in the canyon, the Fuente del Sabuco. However, there is another rock shelter in the canyon with a single, schematic anthropomorphic representation, although this has not been illustrated here, as it lies in the shade and is hard to photograph. The first three shelters have also received mention in Beltrán Martínez (1968*a*).

The Fuente del Sabuco site (plate 1, fig. 2) is at approx. N. 38° 11′ 10″, E. 1° 30′ 00″. The paintings are on the curving rock wall of the shelter, which has a smooth floor that rises to merge with the rear wall. They consist of two groups of anthropomorphs painted at very different scales; one group averaging between ten and twenty centimetres in height, the other only four or five centimetres and more schematically drawn. Some of the figures carry bows and curved staves. One



FIGURE 2. Fuente del Sabuco. Scale: cms.

anthropomorph wears a knee-length, one-piece garment, another holds an arrow aloft. An obscure human figure is on the back of a large quadruped (equid?). The fauna includes another, more convincing equid towards the right-hand side of the panel. A caprid may be seen in figure 2, as also a canid (wolf?), an indistinct animal that has been interpreted as an ursid (Beltrán 1968*a*), and a small, indistinct quadruped with horns. Other animals are portrayed outside the area reproduced in figure 2, including a horned animal (bovid?) and a cervid (see Walker 1969, whose illustrations are not reproduced here on account of their inferior quality and inaccuracy). Below the large equid on the right is a skeuomorphic motif in a pale shade of red (see Walker 1969). A number of other anthropomorphs can be distinguished beyond the area reproduced. All the paintings are executed in a dull red, except for a few in a lighter, pale red.[2]

Some 500 m to the east of the Fuente del Sabuco rock shelter, and about half that distance from the spring itself, lies the first of the Cañaíca del Calar rock shelters (plate 2, fig. 3), at approx. N 38° 11′ 07″, E. 1° 30′ 14″ and about 1,160 metres above sea-level. Only a small part of the painted area is reproduced in the accompanying illustrations (for a comprehensive drawing, see Walker 1969). Outside the area here reproduced, there are two very strange animals with long tails painted in white, and also white dots. The schematic anthropomorphs, cervids, dots, and rayed 'sun' motif shown here are painted in red. The style is utterly different from that of Fuente del Sabuco, resembling that of the Andalusian schematic rock art school rather than the 'Levantine' naturalistic school. About



FIGURE 3. Cañaíca del Calar, El Sabinar, Moratalla (Murcia).

five hundred metres to the east yet again, there is the second rock shelter of the Cañaíca del Calar (plate 3, fig. 4). The figures here are in the naturalistic style, and most elegantly painted. The animals are clearly cervids and caprids, and an archer and a crouching (stalking?) anthropomorph are painted. The third rock shelter lies a little to the east of the second, and has a single, schematic, anthropomorphic representation on a shaded wall of a rocky cleft, which is rather inaccessible.

Further up the Taibilla valley, in the *pedanía* of Río Moral and opposite the *cortijo* of Pedro Andrés, in the *término municipal* of Nerpio (Albacete), are the well-known paintings at Solana de las Covachas, which have been the subject of a study by doña Julia Sánchez and don Samuel de los Santos (Sánchez Carrilero 1956–61). The paintings are situated at approx. N. 38° 06′ 55″, E. 1° 19′ 32″, and some 1,500 metres above sea-level (see map Sheet 909). I have attempted some not very successful drawings of the paintings (Walker 1969) that failed to bring out some of the detail of Sánchez's photographic plates. Some photographs are shown here, taken from colour reversal film, and reproductions of details by Mrs de Meric (plates 4*a*, 4*b*, 5*a*, 5*b*, figs. 5*a*, 5*b*, 5*c*). Once again, *Cervus elaphus* and *Capra ibex* (*pyrenaica*) dominate the fauna. The anthropomorph painted in solid colour with out-turned lower limbs, and carrying a bow or wand dominates shelter 5 (plate 4*a*) and has what may be a penile projection. It is comparable with a painting at the Cueva de la Vieja, Alpera (Albacete) (Breuil *et al.* 1912), where a similar large figure is associated with bulls which have been overpainted with antlers, so-called 'pseudo-cervids' (Maringer 1963) that may have been either hunting decoys or may have had unknown and esoteric significance. Archers may be seen in plate 4*a*, and skirted anthropomorphs (and see also plate 4*b*, for details from plate 4*a*). Plate 4*a* also shows superpositioning of animal figures on the left-hand side.

There is another interesting parallel between Solana de las Covachas and Alpera. At each site there is a cervid with palmate antlers, portrayed in a very different manner from the antlers of *Cervus elaphus* at these sites, or, for that matter, at other Levantine sites. Breuil claimed that the cervid at the Cueva del Queso, Alpera, was an elk, an attribution disclaimed, however, by Cabré Aguiló (1915). The elk was

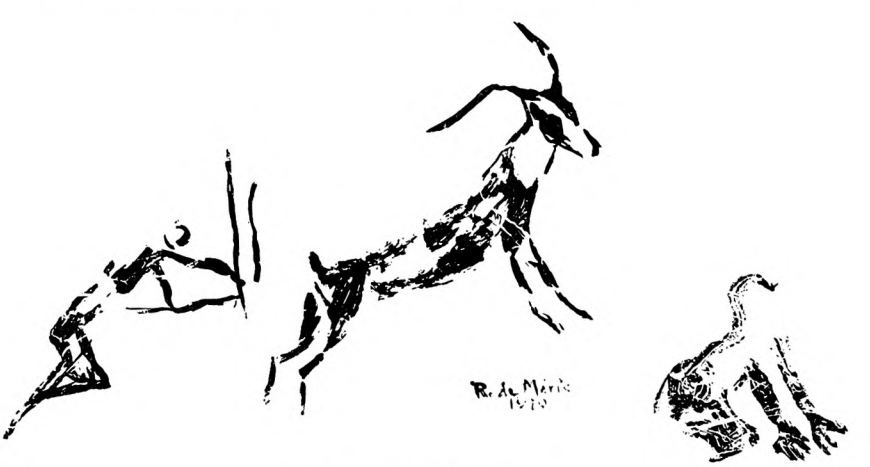


FIGURE 4. Cañaíca del Calar.

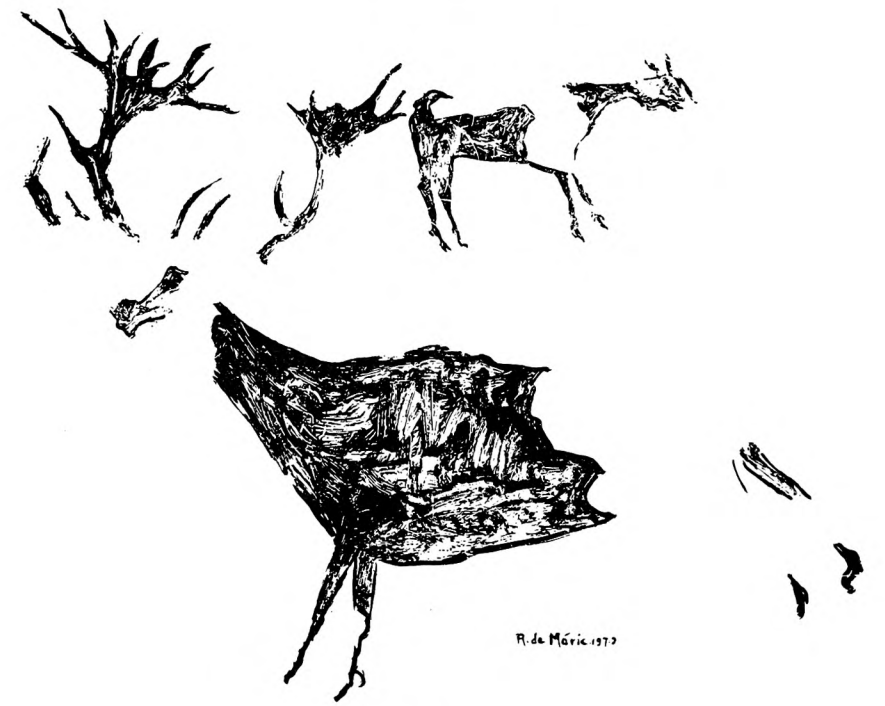
also held to be present at Minateda (Albacete) by Obermaier (1924) and also at the Còva Remigia (Castellón) (Obermaier 1937). Despite the absence of giant cervids from eastern Spain in prehistoric times, as far as excavations are concerned, the form of the Solana de las Covachas antlers might be interpreted as representing *Megaceros* or even *Alces*, although *C. elaphus* may be the probable species intended. However, it should be pointed out that the identification of the animal as a giant cervid species does not demand the acceptance of Breuil's contention that such species are cold-adapted, periglacial ones, nor that the Levantine art should therefore be interpreted as a periglacial phenomenon and thus contemporary with Upper Palaeolithic Franco-Cantabrian cave art. Far from it: Kurtén (1968) holds that giant cervid species require 'parkland or savannah', and it is just such an open 'non-sylvan' profile that is demonstrated by layer *b* at the Cueva del Toll (Barcelona), and where the 'non-sylvan' fauna contains species such as *Capra ibex*, that common subject of Levantine art, and not the cold-adapted and extinct fauna of the lower layers that correspond to the last glaciation (Donner & Kurtén 1958).[3] The drier climatic conditions indicated by layer *b* probably occurred around the time of the post-glacial climatic optimum, perhaps roughly equivalent to the Atlantic climatic phase recognised in north-western Europe in the fifth and fourth millennia B.C., although perhaps having a rather wider range in the Mediterranean zone, say 6,000–2,000 B.C. as extreme limits. As will be seen below, the internal evidence of the paintings has never convinced Spanish archaeologists of an Upper Palaeolithic date for the Levantine paintings. The extinct, cold-adapted fauna of the Upper Palaeolithic Franco-Cantabrian painted caves is not a characteristic element of the eastern Spanish painted rock shelters, and one must therefore doubt their contemporaneity with the Franco-Cantabrian art, which dates roughly from the period 30,000–9,000 B.C.

* * * * *

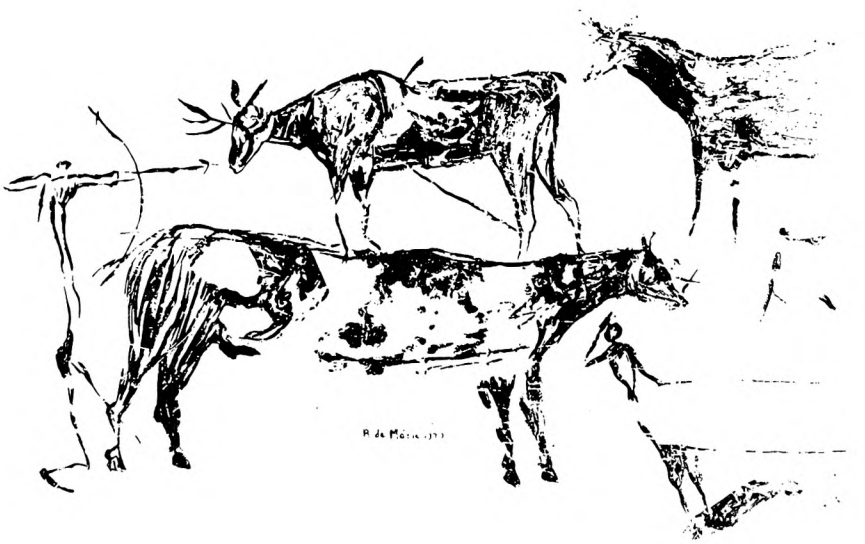
Wild caprids are, like *Cervus elaphus*, a recurrent feature of Levantine rock shelter art. The chamoix, *Rupicapra rupicapra*, is portrayed in the Taibilla valley near Nerpio at the Prado del Tornero rock shelter. Nowadays the chamoix is confined to the Cantabrian and Pyrenean mountain ranges of northern Spain, and



FIGURE 4. Cañaíca del Calar.



5a



5b



5c

FIGURE 5. Solana de las Covachas, Nerpio (Albacete).

is not found in the south-east. Other wild goats are found, on the other hand, notably the Spanish ibex, or *cabra montés*. Some authorities divide the ibexes into two separate species, *Capra ibex*, the Steinbock, and *Capra pyrenaica*, the Spanish ibex, and subdivide these again into five and four subspecies respectively (Miller 1912; Ellerman & Scott 1951; Harris 1960–1; Huerta y Ramírez & Palaus 1967). However, there seems to be some interfertility between all wild goats (Zeuner 1963: 140, but see Payne 1968: 379–80 for qualification), so that the taxonomic specific and subspecific categories are biologically suspect. Perhaps the groups are better referred to as subspecies of *C. ibex* or even varieties (personal communication from Dr Michael Ryder of the Animal Breeding Research Organisation). The differences are based on details of the horns. In the domestic goat the horns are very labile in form, but the differences may have taxonomic validity for some wild goat groups. The ibex has a scimitar-shaped horn which is flattened antero-posteriorly and has circumferential ribs. The modern Alpine domestic variety of goat has similarly shaped horns except that they are keeled anteriorly as in the bezoar, from which it is believed to be derived. The bezoar is the wild species *Capra hircus* (*aegagrus*), a species never found west of the Aegean archipelago. Nevertheless, and despite the superficial similarities between some wild and domestic goats, there is a curious feature that distinguishes all wild from all domestic goat populations. The latter have horns that are homonymous (the right horn curls in a clockwise spiral, the left anticlockwise), whereas wild goats show the opposite phenomenon of heteronymity (Harris 1960–1). *Capra ibex* (*pyrenaica*), sometimes qualified as (*hispanica*), is still found in the Levante, including the Sierra de Cazorla and the Sierra de Segura. *Cervus elaphus* is also found in this region. The mouflon, *Ovis musimon*, is also found in the Sierra de Cazorla (Huerta y Ramírez & Palaus 1967), but seems to have been introduced in recent times from Corsica or Sardinia, doubtless for purposes of the chase. It has no relevance to possible interpretations of sheep in Levantine rock paintings as at the site of El Mortero, Alacón (Teruel). Some Levantine rock paintings, however, show what may be domesticated goats. At El Polvorín (Castellón), there is what seems to be a man with bow and arrows leading or pulling a goat by a rope. An anthropomorph depicted at the Barranco de los Grajos also seems to be shown as grasping a caprid by a horn (see fig. 6*b*). Certainly, much more comparative caprid osteology needs to be undertaken



6a



6b

FIGURE 6. Barranco de los Grajos, Cieza (Murcia).

before we can exclude the wild caprids of the peninsula from the ancestry of the prehistoric domestic caprids there.

Apart from a possible representation of a bovid at the Fuente del Sabuco shelter (Walker 1969), bovids are not portrayed at the Taibilla valley rock shelters. At other sites near the boundaries of the provinces of Murcia, Albacete, and Alicante, however, they are portrayed. At the shelters at Cantos de la Visera, Monte Arabí, near Yecla (Murcia), there are both bovids and a finely drawn equid (fig. 7),



FIGURE 7. Cantos de la Visera, Yecla (Murcia).

and also a large bird. Bovids are not uncommon at Levantine art sites. The role played by wild *Bos primigenius* and *Equus caballus* in the ancestry of prehistoric domestic cattle and horses in the Peninsula is likewise unknown.

Solana de las Covachas lies twenty kilometres south-east of the El Sabinar rock paintings, but between them in the Taibilla valley are several sites of rock paintings of both naturalistic and schematic art, largely discovered by the investigations of Dr García Guinea. The naturalistic sites are: Abrigo del Prado del Tornero 1; Hornacina de la Pareja; Abrigo de las Cabritas; Covacho de la Llagosa; Abrigo de Sautuloa; Abrigo del Cazador; and Abrigo primero de las casas de los ingenieros de la Presa del Taibilla (García Guinea & Krapovickas 1958–9; García Guinea 1961–2; 1962), to which list may be added a new site near Casa del Sapo (personal communication from don Jaime Carbonell 1970). As at the Cañaíca del Calar, there are also sites with schematic motifs, namely: Abrigo del Prado del Tornero 2; Abrigo del Ídolo; Abrigo de los Ídolos; Abrigo del Castillo de Taibona; and Abrigo segundo de las casas de los ingenieros de la Presa del Taibilla.

Another group of recently discovered naturalistic paintings from the province of Murcia is in the *término municipal* of Cieza, eighty kilometres east of the sites in the Taibilla valley. The finds were made in 1962 by don Eduardo López Pascual of Cieza (López Pascual 1968) and the paintings have been studied by Beltrán Martínez (1968*a*; 1968*c*; 1968*d*) whose photographs and drawings may be compared with the illustrations presented here. There are five painted panels in three rock shelters which face north-west, a rather unusual situation for Levantine art sites, in the side of a limestone canyon called the Barranco de los Grajos in the Sierra de Azcoy at approx. N. 38° 16′ 00″, E. 2° 18′ 33″ and at about 500 metres above sea-level (see map Sheet 861). The principal panel comprises a group of anthropomorphs many of which wear knee-length garments. The anthropomorphs do not show obvious secondary sexual characteristics, with the possible exception of one very elongated anthropomorph with what have been interpreted as pendulous breasts. One figure has a kind of head-dress, and another is carrying an object from his waist which could be interpreted as a hafted axe. Of the ten quadrupeds illustrated, at least two are cervids; one is an ibex; one a possible bovid; and four are strange-looking headless beasts with large bodies filled in with skeuomorphic lines. They also have tails and spindly legs, and may perhaps be sheep, although they cannot be accurately identified[4]. The figures are painted in two shades of red, perhaps indicating execution at different times. In the same shelter on the opposite wall is a small painting (fig. 6*b*) of two skirted anthropomorphs with outstretched arms, one figure apparently grasping a caprid by its horns.

Fifty metres further up the canyon is a large rock shelter containing many fallen blocks. The side wall of this shelter bears a series of strange figures which includes bitriangular anthropomorphs carrying staves painted in black and partly covered by a layer of calcite, indicating at least some antiquity. There are also two small quadrupeds in black whose limbs terminate in circles, a small anthropomorph whose arms terminate in circles also, and another small quadruped with a tail. Farther over, there is also a larger anthropomorph in red and what appear to be letters in red. These figures are likely to be medieval, and are certainly quite unlike other examples of Spanish schematic or naturalistic rock art. However,

further back in the rock shelter in a niche there is a sinuous red anthropomorph that is probably prehistoric. About three hundred metres farther up the canyon again there is another small rock shelter in which a single, black anthropomorph is painted.

The Barranco de los Grajos anthropomorphs are rather more stylised than those from some Levantine rock art sites, and the execution demonstrates less attention to detail. The scale of the figures is larger than in the paintings of the schematic type. A site with schematic paintings has recently been found near the headwaters of the Río Segura on a mountain called the Collado del Guijarral which, whilst being in the province of Jaén, lies behind the *cortijo* of Parolís in the *término* of Yeste (Albacete). About 50 metres below the summit of the 1,217 metre-high mountain there is a rock shelter at approx. N. 38° 16′ 25″, E. 1° 13′ 55″ (map Sheet 888) containing schematic rock paintings (pl. 6). My attention was drawn to the paintings by don Samuel de los Santos of the Albacete Museum, and a visit to them was made in the company of don Jaime Carbonell Escobar in 1970. The paintings seem to have been known to the villagers of Parolís for many years. A prominent feature of the site are the oculus signs, which are also found at rock shelters in the Taibilla valley near Nerpio, and at many schematic art sites, as well as painted and engraved on bone phalanges found at many sites of the Almerian and Valencian Copper Age. Two nondescript quadrupeds are portrayed, and two archers, one of whom is wearing some kind of knee-length garment. There are a number of large butterfly-like figures interspersed among the other figures, perhaps birds. The strangest figures of all, however, are the large centipede-like paintings, which defy interpretation.

Relationships of Levantine paintings

Naturalistic rock paintings typical of the Levantine style of rock art are found at some Andalusian sites on the other side of the Segura watershed. These are: Peñón de la Tabla de Pochico and Cueva del Prado del Azogue, Aldeaquemada (Jaén); Cueva del Santo, Santa Elena (Jaén); Cueva de las Grajas, Almaciles (Granada); Cueva del Coto de la Zarza, Topares (Almería); Cueva Chiquita at the *cortijo* of Los Treinta, Estrecho de Santonge,[5] and Desfiladero de Leira (also known as Lavaderos de Tello), all three of which are near Vélez Blanco (Almería). There is also an unpublished site near Nerpio, actually in the *término* of Moratalla (Murcia), called Abrigo de la Mujer and studied by García Guinea. This is presumably that shown near Nerpio on a distribution map in the Murcia Museum drawn by don Manuel Jorge Aragoneses. The Abrigo de la Mujer is mentioned in Beltrán Martínez (1968*a*: 247) although Beltrán also refers to another site in the *término* of Moratalla (1968*a*: 226) reported by sr. Jorge which is apparently not the same one.

New discoveries in the provinces of Cuenca and Valencia, along with the paintings of the Segura basin, have resulted in a southward shift of the centre of gravity of the Levantine paintings away from the Tarragona-Teruel-Castellón area to the north. The interest in this lies in the westward extension of rock art from Almería, Granada, and Jaén across Andalusia to Estremadura. The rock art of this type is of the schematic kind which has been well studied by Breuil & Burkitt (1929), Breuil (1933; 1935) and Acosta (1968). As has been seen, paintings of schematic and naturalistic types are found in the rock shelters of the Segura basin close together.

Indeed, schematic art occurs at many places in the Levantine zone, as a cursory glance at Breuil's study indicates (and see Appendix 2). The schematic art is overshadowed by that of Andalusia, but nonetheless is present, emphasising that there is geographical overlap between the two types. Moreover, there are echoes of the naturalistic style further west, at the Cueva de la Pretina (Cádiz), and at Las Batuecas and Garcibuey (Salamanca) (Breuil 1918–19; Hernández Pacheco 1922).

It is not only with the schematic art that the naturalistic art shows geographical overlap. A glance at the distribution map (fig. 1) shows that there are a few sites in eastern and south-east Spain of Upper Palaeolithic Franco-Cantabrian art, both rock paintings and mobiliary art. Breuil repeatedly suggested that the Levantine art was contemporary with Franco-Cantabrian art (Breuil 1912, etc.), representing stylistically the Perigordian art of the Franco-Cantabrian series in eastern Spain. However, even if the artists possessed a backed-blade tool-kit (so-called 'Epigravettian'), neither on stylistic grounds nor on the basis of typical Perigordian lithic and bone industries, can the Spanish painted rock shelters be compared meaningfully with the Franco-Cantabrian Perigordian I–V stages, much less with the late East European Perigordian derivatives therefrom. The faunal evidence, which Breuil and Obermaier claimed indicated a period contemporary with the Franco-Cantabrian Upper Palaeolithic cultures, seems to point in a quite different direction towards a much later chronological period, as has been argued above. Indeed, apart from Bosch-Gimpera (1964), the faunal evidence has never convinced Spanish archaeologists of an exclusively Upper Palaeolithic attribution for the paintings (thus Cabré Aguiló 1915; Hernández Pacheco 1924; 1959; Pericot 1942*a*; 1942*b*; 1952; Martínez Santa Olalla 1946; Almagro 1947*a*; 1947*b*; 1951; 1952*a*; 1952*b*; 1954; 1956; Beltrán Martínez 1968*a*; 1968*b*). Some authorities suggest that the paintings are chiefly Neolithic or later (Martínez Santa Olalla 1946; Jordá 1964; 1967).

Jordá (1967) has stressed the need to pay more attention to the fauna than has been customary. There is a difficulty here in that we must try to distinguish between the wild and domesticated species of an animal genus in a zone, the Peninsula, where faunal atavisms have lingered late. *Cervus elaphus*, *Capra ibex* (*pyrenaica*), and *Sus scrofa* roam the mountains of south-east Spain even today, especially in the Sierra de Cazorla, Sierra de Segura, and Sierra Nevada, and in Valencia in the Sierra Martés. *Bos primigenius*, *Equus caballus*, *Rupicapra rupicapra*, and perhaps even *Ursus arctos* and *Canis lupus*, were also available wild as subjects for the Levantine artists. Bears today are not found in the south-east, nor are the chamoix, but both species occur in the Pyrenees and Asturias. Various Neolithic and Bronze Age sites have yielded bones identified as *Bos taurus*, *Cervus elaphus*, *Capra hircus*, *Sus scrofa*, *Meles meles*, *Vulpes vulpes*, *Ursus arctos*, and various canids and felids (Siret & Siret 1887; Blance 1960; Boessneck 1969).

On the other hand, portrayals claimed by Breuil of Merck's rhinoceros, the saiga antelope, lion, and bison at Levantine shelters, have failed to convince most workers, who, from Cabré (1915) onwards, have stressed the absence of such fauna from Levantine excavations (Jordá 1967). Nevertheless, Almagro (1956) has remarked on the proximity of the Upper Palaeolithic painted caves of Los Casares and La Hoz (Guadalajara), to the Levantine rock paintings of the Sierra de Albarracín (Teruel), and the possibility may exist that cold-adapted fauna survived into

post-Palaeolithic times in the mountains of the Levante. Among the animals portrayed at Los Casares is *Gulo gulo*, the glutton (Ucko & Rosenfeld 1967), otherwise unknown, and a mobiliary carving of Magdalenian style reputedly from Alcañiz (Teruel), shows the reindeer, *Rangifer tarandus* (Breuil 1964), a species which Breuil also believed he could identify at Minateda (Albacete), although reindeer bones are likewise unknown from eastern Spain. As has been mentioned earlier, Breuil also claimed to identify the elk, but as has been argued, neither giant deer nor elk are necessarily indicators of glacial or periglacial conditions, and cannot be used to give an Upper Palaeolithic date to Levantine art even if the identifications are correct.

At the Cueva de Parpalló (Valencia), the engraved stone plaques of Solutrean and Magdalenian age in any case point not to a cold-adapted fauna replete with the extinct forms so often portrayed in the caves of the Dordogne or the Cantabrian Mountains, but rather to a fauna similar to that of the Levantine rock shelters (see Pericot 1942*b*). The presence of elegant, perspective drawings, on the one hand, and of stiff, awkward drawings, on the other hand, recalls a similar mixture from many sites of Levantine art. Indeed, the origins of Levantine art were sought plausibly in the Magdalenian by Burkitt (1925). The paintings from the Upper Palaeolithic site at the Sierra de Montsía (Tarragona), have also been compared with Levantine art (Ripoll Perello 1964*b*). The Barcelona school of prehistorians has always preferred to relate the first phases of Levantine paintings to the late Upper Palaeolithic (thus Pericot 1950*a*; 1952). Upper Palaeolithic art is known from other Valencian caves, Les Mallaetes and Rates Penaes (Gurrea Crespo & Peñalba Faus 1952; Jordá 1954*a*), and a Catalan cave, San Gregorí de Falset (Vilaseca 1939). A new plaque with animal art is known from Can Butinyà near Barcelona (Vicente i Castells 1968). A few Levantine sites have been regarded as 'archaic' by Spanish prehistorians, especially the bovids of Cogul (Lérida), and Cocinilla del Obispo (Teruel) (Almagro 1944; 1947*b*). Various workers have proposed stylistic sequences that would derive Levantine art from the Upper Palaeolithic to a greater or lesser extent, the latest scheme being that of Beltrán (1968*a*; 1968*b*). In the last analysis, the significance of stylistic differences between different sites, or between different figures at the same site, is a matter of personal taste and opinion. The differences are of an order comparable with that in the Franco-Cantabrian series, and within many other series of primitive rock paintings.

Whether such differences signify artistic individuality on the part of the painters, or whether they signify different contemporaneous, perhaps regional, artistic 'schools', or alternatively different successive artistic 'styles', are matters for speculation. And these, alas, archaeological investigation cannot resolve. The most we can say about Levantine artistic origins from the internal, painted evidence, is that the cold fauna, that is so prominent a feature of Franco-Cantabrian cave paintings, occurs so rarely in the Levante that, when it does, some exceptional explanation seems more likely than one which sees such fauna as a 'link'. Nowhere is that fauna portrayed in sufficient quantity to suggest a chronological overlap. On the other hand, it is possible that the Valencian caves, with Magdalenian engraved plaques showing a fauna similar to that of the Levantine paintings, represent a phenomenon that may have lasted late in time when contrasted against the French and northern Spanish Upper Palaeolithic cave art, and that may just have been late

enough to influence the earliest Levantine artists. However, as will be argued later, there may still be a gap between the end of the Magdalenian in the western Mediterranean and the beginnings of Levantine art of some two or three thousand years, for which we have no concrete evidence of cultural continuity as yet.

Indeed, the caves with Upper Palaeolithic art in eastern Spain, whether wall paintings or mobiliary engravings, are conspicuous within the region by their very difference from the Levantine rock shelters, and if some connexion were to be postulated, it would have to be on the basis of the existence of many intermediate types of site demonstrating continuity of lithic assemblages, and traditions of naturalistic engraved plaques coexisting with Levantine paintings. Such intermediate sites are yet to be discovered. Arguments based on the internal evidence of Upper Palaeolithic and of Levantine art alone will not do. Indeed, the various approaches towards Upper Palaeolithic cave art of Leroi-Gourhan (1968) and of Ucko & Rosenfeld (1967), when contrasted against the sequential and 'cyclical' stylistic hypotheses of Breuil, should caution modern archaeologists against basing speculations about the archaeological attribution of prehistoric art merely on arguments derived from examination of its internal details. For instance, superpositioning of figures, such as we have noted at Solana de las Covachas, was held by Breuil to indicate that different layers of motifs belonged to different evolutionary stages of the art. More economical hypotheses can be proposed based on ethnographic parallels drawn from modern, primitive, rock artists in Australia and elsewhere, who sometimes 'superpose' figures at very short time intervals for a wide variety of reasons. Supposedly stylistic variation between the different layers of the 'palimpsest' may represent no more than the varying skill of the draughtsmen who participated at the site. The invocation of different 'schools' or 'styles' is not a necessary assumption. At Minateda (Albacete), Breuil thought that there were thirteen layers of painted figures representing six major stylistic periods. Until a cave with such a series is found in which there is a good parallel series of lithic assemblages, preferably with fallen pieces of painted rock wall embedded conveniently in some of the layers, the proposal that the painted layers demonstrate a chronological sequence spread over long periods of time and associated with known material assemblages from other, different sites, does not represent the most economical hypothesis available for the explanation of superpositioning.

Moreover, the Franco-Cantabrian cave art is found in the dark zones of caves, which may even have been chosen to allow an orderly arrangement of artistic motifs (Leroi-Gourhan 1968). It would be very hard to reconstruct such 'sanctuary' organisation at Levantine rock shelters. In any case, these are not only not hidden from the light of day, but, on the contrary, are often located on those hillslopes that receive the maximal sunlight available, as has been earlier pointed out. This is a most important functional difference between the two types of site. It cannot be explained on the grounds that in the Levante the warmth of the climate did not necessitate recourse to the deeper parts of caves for various reasons. For in the first place, the Levantine rock shelters are unpleasant, cold places in the winter, swept by fierce winds, and secondly, in the summer they are equally unpleasant, scorched places, where the rock is too hot to touch with comfort. Moreover, the Parpalló fauna indicates a temperate climate, and yet the Magdalenian artists *did* take to the caves in the manner of the Franco-Cantabrian artists. Certainly, both in

summer and in winter the deeper parts of caves provide a more constant and more equable climate. The difference between the situation of Franco-Cantabrian and Levantine painted sites must be a functional one related to different, unknown, characteristics of the cultural groups responsible for them. It renders unlikely any cultural affinity between the two groups of artists.

There is yet another major difference between Levantine and Franco-Cantabrian art. In the latter, anthropomorphic representations are few and most obscure. In the Levantine paintings, in contrast, human beings are plentiful, and clearly depicted in recognisable activities (hunting, dancing), sometimes in relation to each other or to animals. The anthropomorphs of Upper Palaeolithic age close to the Levantine region at the cave of Los Casares (Guadalajara), are poorly conceived, if not perversely indistinct (see Cabré 1940–1*b*; Beltrán & Barandiaran 1968). The Levantine anthropomorphs are very differently executed in an 'expressionist' manner (Porcar Ripollés 1943*a*; 1953) with clearly recognisable accoutrements and weapons. Furthermore, there is an important scaling factor. The Levantine figures may be as small as 4 or 5 cm in height, whereas Franco-Cantabrian representations can be very large and impressive. Again, most Levantine figures are painted in monochrome, whereas polychromy is a feature of some Franco-Cantabrian sites. The lively scenes vibrating with human interest of the Levantine paintings cannot be paralleled from any Franco-Cantabrian, Upper Palaeolithic painted cave.

The archaeological attribution of Levantine art

Although it must be remembered that only a small number of caves with Franco-Cantabrian paintings have yielded material assemblages (Blanc 1964), nevertheless they are far more numerous than the number of Levantine art rock shelters which have provided archaeological remains. The caves of San Gregorí de Falset and Les Mallaetes, from which Upper Palaeolithic engravings are known, have given lithic assemblages that include Perigordian, Solutrean, and post-Palaeolithic ('Epigravettian') backed-blade tool types, and Parpalló has both Solutrean and Magdalenian assemblages. Except for isolated finds of possibly Solutrean points from the Cueva Chiquita (Almería), and Cantos de la Visera (Murcia), Upper Palaeolithic tools are unknown at Levantine art sites (Pericot 1950*b*; 1961). The industries that have been described are of a post-Palaeolithic facies: backed-blades of small size, scrapers on the ends of blades, thumb-nail scrapers, awls, denticulate and serrated pieces, and geometric forms. The industries are all rather nondescript and lack characteristic bonework. Epipalaeolithic industries have been described from Cogul and the Sierra de Albarracín sites (Almagro 1944; 1947*b*; 1952*b*, etc.). At Cocinilla del Obispo, a site with so-called 'archaic' bovid paintings, the assemblage contained trapeze and crescentic geometric elements compared with the Valencian cave, the Cueva de la Cocina (see below), whilst at the Doña Clotilde site, which has more schematic art, a fully trapeze industry was found. Recently, a backed-blade industry has been found at a site close to a rock shelter with Levantine art at the Barranco de los Grajos (Murcia), from the upper layers of which there is pottery, including cardial-impressed ware, and a single crescentic geometric flint. The site also yielded red ochre, perhaps used for execution of the art (Walker, in preparation). A microlithic trapeze was found near the La Joquera Levantine art site (Porcar Roig 1932). Sometimes artefacts of Neolithic and even Bronze Age

type have been found at Levantine rock shelters with art, including polished stone tools, pottery, and even a segmented bone pinhead (Pallarés 1915–20; del Arco 1917; Ortego 1946; 1948; 1950–1).

In addition to the backed-blade element in the post-Palaeolithic of eastern Spain, there is also a strong geometric element (cf. 'Sauveterrian' and 'Tardenoisian' in north-western Europe). It has been suggested that the backed-blade element derives from the Perigordian, and that both backed-blade and geometric forms continue side-by-side, each contributing towards the Peninsular Neolithic (Jordá 1949; 1953; 1954*b*). Perhaps the geometric forms can be derived from the small proportion of such implements found among the Magdalenian assemblage at Parpalló where trapezes, notched blades, and microburins occurred in addition to the more typical Magdalenian (see Pericot 1942*b*). One may note that even in the Périgord the Magdalenian VI assemblages acquire backed-blades (not unlike Gravette points), shouldered points, and geometric crescentic forms, in addition to the usual Magdalenian tool-kit. These are capable of comparison with an assemblage from layer 4 at the Málaga cave of Hoyo de la Mina (Such 1919; 1920). Immediately above this layer was a layer with backed-blades of microlithic size, small awls on blades, burins, and other atypical forms. Above this, in turn, was a layer with symmetrical trapeze points, crescents, awls on small backed-blades, end-scrapers on large blades, and unretouched large blades, as well as coarse, plain pottery. This lay below more typically Neolithic deposits. Whilst it is possible that geometric forms arrived in coastal areas of Spain from further east and north in the Mediterranean basin in the early Neolithic, it is perhaps as likely that the Peninsular examples derive via post-Palaeolithic trapezes from Upper Palaeolithic ones in the Peninsula.

At the Cueva de la Cocina (Valencia), there were found three layers that yielded symmetrical trapeze points and scalene forms (Pericot 1945; Jordá 1949). However, the uppermost layer contained coarse pottery, and the lowest layer also contained backed-blades. The pottery includes an example of cardial-impressed ware, and also a sherd with two incised animals depicted schematically. From the middle layer there were a number of stone plaques engraved with skeuomorphic motifs, likened by Jordá (1967) to Azilian painted motifs on pebbles. It would be equally reasonable, however, to compare these with skeuomorphic plaques found in Magdalenian contexts at Parpalló (Pericot 1942*b*) and the Cueva de la Paloma (Asturias) (Hernández Pacheco 1923). Skeuomorphs also occur alongside naturalistic figures in Levantine paintings, as at Fuente del Sabuco (Walker 1969). It is unnecessary to invoke Azilian parallels. Pericot (1948) suggested that the inhabitants of the upper layer at the Cueva de la Cocina might have painted the naturalistic figures of Levantine style at the nearby art site of Cinto de la Ventana. The la Cocina assemblage may be compared with a prolific industry from the Covacha de Llatas (Valencia), where a layer of predominantly crescentic geometric forms overlay a series of predominantly trapeze forms, and both plain and incised sherds occurred (Jordá & Alcácer 1949). This stratigraphy makes it hard to argue, as is sometimes done, that trapeze forms are somehow more 'Neolithic' whereas crescents are somehow more 'Mesolithic', and should caution against the view that crescents are intermediate chronologically between backed-blades and trapezes. (There is no intermediate layer at la Cocina, anyway, of that sort.) As Hugot (1963)

and many other prehistorians have demonstrated, geometric forms and microburins represent blade-tool derivatives quite different in kind and manufacture from backed-blades. Trapeze forms are arrow-points, whereas backed-blades are knives strengthened by abrupt retouch to provide a working surface for the finger-tip which can exert pressure in the same way as with a modern pen-knife. Possibly crescents represent backed-blades made on the by-products of the microburin-trapeze manufacturing technique. Nevertheless, differentiation of the different tool-types in archaeological deposits is only to be expected from time to time if the various tool-types are functionally separable, even among contemporaneous forms.

Geometric industries in Portugal have been dated by radiocarbon to the fifth millennium B.C., and it is interesting in view of such dates and the presence of cardial-impressed ware at both the Barranco de los Grajos and the Cueva de la Cocina, to note that a fifth millennium date has been obtained for a site with cardial-impressed pottery, the Coveta de l'Or (Alicante), in keeping with similar dates for sites with cardial-impressed pottery in France, Italy and elsewhere. At the Coveta de l'Or, the pottery occurred with polished stone axes and a geometric industry, and at higher levels there were found bifacially worked barbed and tanged arrow-points, and pottery which was plain and decorated both with incised and relief cordon ornament. At the Cueva de la Sarsa, as at some other Levantine sites, cardial-impressed pottery was found associated with bifacial arrow-points. This has led some workers to see two components in the Levantine Neolithic, one consisting of cardial ware lacking a strong geometric industry, the other consisting of plain ware and geometric flints. The evidence for such a view is open to criticism. It should be noted, however, that cardial-impressed pottery has been found at some Spanish sites that are probably as late as 2,000 B.C., and that presence of such pottery at a site cannot be taken as proof of an *early* Neolithic date by itself. Moreover, pottery with incised animal ornament like the la Cocina sherd has a late date of around 2,000 B.C. at other sites where it occurs in the Peninsula (see below).

Two small caves have recently been discovered near Villena (Alicante), which are very close together, but which have yielded a geometric and a backed-blade industry respectively (Soler García 1968–9). Backed-blade assemblages occur stratified above Solutrean layers at the Valencian cave of Les Mallaetes, but they also contain a few shouldered points and geometric forms. At the Cueva Volcán del Faro near Cullera (Valencia), a backed-blade assemblage that has been compared with some tools from Parpalló by the excavators, lay stratified above a layer that yielded the only known Magdalenian spear-thrower or *bâton de commandement* known from eastern Spain (Fletcher Valls & Aparicio Pérez 1969). Both at Les Mallaetes and the Cueva Volcán, the backed-blade layers yielded plaques bearing traces of paint.

It seems reasonable to conclude that both backed-blade and geometric flint working traditions derive from the Upper Palaeolithic of the Levante itself, and it is with the fauna portrayed in the Magdalenian engraved plaques of that region that the Levantine rock shelter art has its nearest parallel. The flint types are probably *functionally* distinct, rather than distinguishable as the type-fossils of two, separate, cultural groups, and both tool-types can be associated both with the Levantine paintings and with the earliest pottery-using communities in the Levante.

It is not necessary to look beyond the Peninsula for the origins of these tool types. It is, however, relevant to dispel suggestions that they and the Levantine rock paintings have north African associations (e.g. Obermaier 1924; Pericot 1952). Balout (1955) has emphasised that the Capsian of north Africa cannot be compared with the Peninsular post-Palaeolithic. The Capsian has transverse points on blades, a tool type unknown in Spain (Clark 1958), and large backed-blades that are not really comparable with those of the Peninsular 'Epigravettian' (see McBurney 1960; Tixier 1963), as well as some very curious limestone carvings of human faces and other elements foreign to Spain and Portugal. Moreover, the distribution of the Capsian sites is an inland one in Tunisia (Tixier 1963), and they are absent from those coastal areas through which the culture would have had to pass before embarking for the Peninsula. On the other hand, it is only fair to point out that the microlithic nature of the Peninsular, post-Palaeolithic, flint industries can be over-emphasised. However, the larger scrapers and blades can be derived quite satisfactorily from the Upper Palaeolithic, without any need to invoke the Capsian. On the other hand, in the Neolithic of Spain and Portugal, and especially in the south-west, there is a common type of bifacially worked, flint arrow-point which has a concave base (see Savory 1968), and which ultimately derives from the Egyptian Neolithic, spreading from the latter to the north African 'Neolithic of Capsian tradition'. Indeed, many north African sites (e.g. the fourth millennium site of Méniet, see Hugot 1963) have yielded artefacts that can be recognised in the Peninsular Neolithic, but this is most likely due to the uniformity and generalised nature of primitive Neolithic assemblages adapted to similar circum-Mediterranean ecological conditions, rather than to direct contact. At Jaatcha in Tunis, a site dated to around 3,000 B.C., there is even animal art on stone (Balout 1955). However, maritime contact between Spain and Algeria-Tunisia under sail is difficult (Jáuregui 1949) and must have presented insuperable problems for post-Palaeolithic and early Neolithic peoples.

The matter of north African contacts in the Iberian Neolithic is further complicated by the occurrence in the Peninsula of a type of bifacial flint point foreign both to Egypt and to the Algeria-Tunisia region of north Africa, but which is especially well-developed in eastern Spain, although also found in Andalusia and Portugal. This is a bifacially worked arrow-point that is essentially barbed and tanged, but which undergoes a wide range of variation through stellate and rhomboidal forms to leaf-shaped ones. It is interesting to speculate on the ecological conditions that led to the great diversity of Neolithic arrow-points in some regions of Spain and Portugal, and the functional differences implied by the variations in shape. However, in north Africa such arrow-points are also found, though not, as has been stated, in the area most accessible by sea for maritime contact with Spain, Algeria-Tunisia, but rather in the north-west and especially in the more inland Saharan regions. The origin of these industries is mysterious, but is perhaps to be sought in the north African Aterian complex (Forde-Johnston 1959). It is possible that the Aterian itself, at a much earlier, Upper Palaeolithic date, received influences from the Spanish Solutrean with its fine, bifacially worked, barbed and tanged arrow-points (Howe 1967: 171), although here there are insuperable geographical obstacles, especially for peoples who are not known to have possessed ships.

Be that as it may, the north African Aterian Upper Palaeolithic complex has a bifacially worked, barbed and tanged, arrow-point industry, and whilst this gives way fairly rapidly to the Oranian cultural complex in those areas that border on the Mediterranean, to the south, in the Sahara, it can be invoked as a precursor of the Neolithic barbed and tanged arrow-points there. Contact between this complex, which is hard to date, and the Peninsula, would have to be assumed to have occurred via north-west Africa on this theory. The principal disadvantage of the theory is then exposed, because it is in those areas of the Peninsula, the west and south-west in closest relation to north-west Africa, that the barbed and tanged arrow-points are least common. Tarradell (1958; 1959) has demonstrated that by the Bronze Age north-African-Peninsular contacts were unimportant, and a similar verdict seems likely for the Neolithic and post-Palaeolithic periods. Although there is some animal rock art in north-west Africa, the Saharan paintings that are most comparable with those of the Levante are a long way from those areas of north Africa closest to Spain, being in the central Sahara, such as the Tassili n'Ajjer series. Not only are the geographical obstacles to direct contact, and the awkward intervening areas lacking the expected cultural type-fossils, serious drawbacks to theories of cultural relationship, but furthermore, such chronological evidence as is available suggests that the Neolithic artefacts of both Africa and the Tassili rock paintings are not earlier than, but rather, contemporary with if not later than, the Iberian post-Palaeolithic and early Neolithic assemblages, whereas the Capsian is considerably earlier. Similarities between the different circum-Mediterranean cultural complexes are better sought on the basis of cultural convergence dictated by uniform ecological conditions at the time of the post-glacial climatic optimum, itself responsible for their rough contemporaneity, rather than on the basis of trans-Mediterranean maritime contacts.

Artefacts depicted in Levantine art

The hunting techniques depicted in the paintings have been discussed in detail by Bandi & Maringer (1952) and need not be entered into here. The large arrow-points employed by the archers at some sites, e.g. Solana de las Covachas (fig. 5*b*), Cueva de la Vieja, Alpera (fig. 8*a*), and at the Cueva Saltadora (Castellón), suggest bifacially worked arrow-points, although another figure at Alpera (fig. 8*b*) might be employing a microlithic form, since two barbs are not depicted, but only one. Bifacial barbed and tanged arrow-points are typically Neolithic, but it is difficult to say with certainty how soon they were introduced. They are especially common in late Neolithic and Copper Age contexts, but they are also known earlier in the Neolithic. This is an unfortunately vague statement. The recurved bows of the Alpera archers (figs. 8*b*, 8*c*) may be compared with recurved bows depicted at the Sharon rock shelters of Ozanéaré, Jabbaren, and Sefar in the Tassili n'Ajjer group (Lajoux 1963). The Tassili rock shelters have been dated by radiocarbon to the fourth and third millennia B.C. (e.g. Delibrias *et al.* 1964; 1966). Perhaps the recurved bows spread to the Sahara from Egypt; certainly, one of the Sefar anthropomorphs holds an axe the head of which is typically Egyptian and bulbous in form. Now recurved bows were made from solid pieces of wood by the Egyptians, and a Middle Kingdom example of this type is in the Royal Scottish Museum at Edinburgh, dating from around 1,750 B.C. Such bows were probably made by the

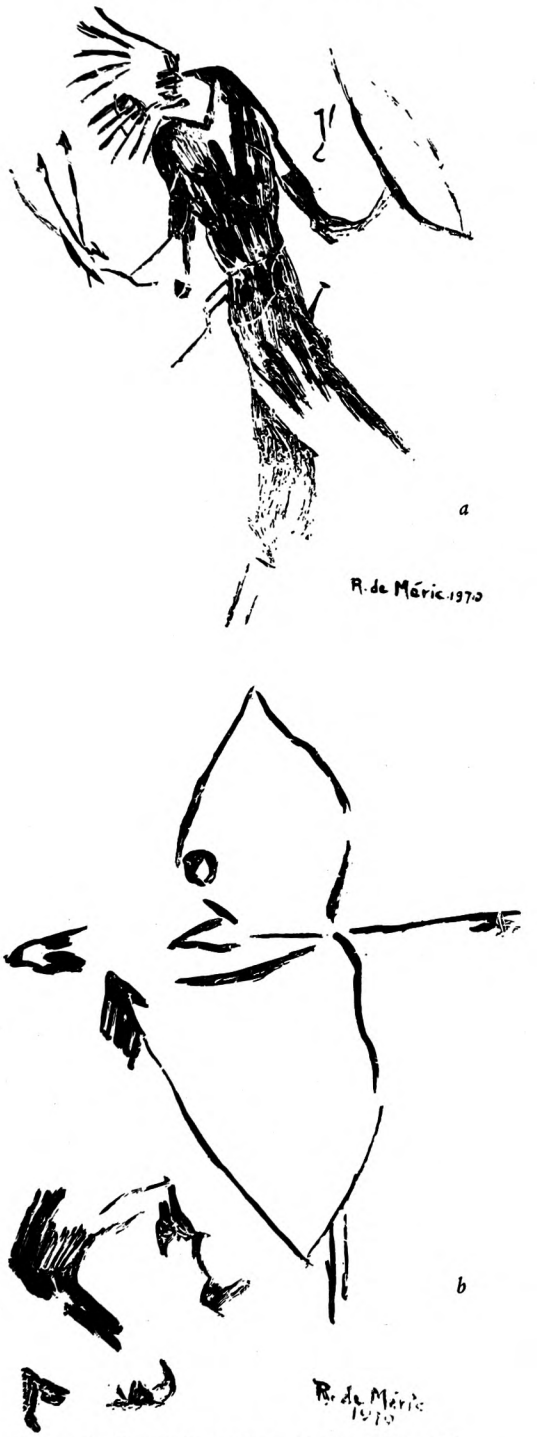


FIGURE 8. Cueva de la Vieja, Alpera (Albacete).



8c

FIGURE 8. Cueva de la Vieja, Alpera (Albacete).

same method as they are today, that is to say by treating the ends of the piece of wood in boiling water or with steam. Bows with recurved ends made this way out of single pieces of wood are stronger than simple arcs such as the long bow, known technically as 'self bows', and have the advantage that they allow the same potential energy to be built up from the same expenditure of energy by the archer in drawing the string, whilst being less cumbersome and thus more suitable for the chase than the long self bows, and are preferred by some archers even today for these reasons. They are convenient for close range hunting of the type practised by the Levantine huntsmen according to the evidence of their art. Nevertheless, recurved bows made from single pieces of wood accumulate considerable internal stresses after the arrow is notched, and do not recover well from extremes of curvature (Elmer 1952).

There are other types of recurved bow that could possibly be those depicted in the Levantine paintings. When fully drawn, all assume an elliptical or parabolic simple arcuate form, and are then indistinguishable from the self bow. The other types of recurved bow include a form in which two curved, fixed, weighted, end-pieces are attached to a working arm which bears the hand-grip. The weighted end-pieces may be made of horns or of wood. Such bows were made using oryx antlers from early times in Egypt in the late pre-dynastic period and early dynastic period (Wolf 1926). They have been used in Asia up to modern times. They tend

to be very short, and in this they differ from the longer bows depicted in Levantine paintings. The third type of recurved bow is the composite, laminated bow, which is a present-day favourite with target archers. This bow overcomes the disadvantages of stress and recovery of shape inherent in the other forms, but appears later in prehistory, being introduced into Egypt by the Hyksos (McLeod 1962).

It has been proposed that the recurved bows of Levantine paintings are composite bows. Thus Jordá (1967) gives them a date late in the first millennium B.C. on the grounds that such bows are otherwise unknown in the Peninsula until they are found portrayed on late Bronze Age stelae in the south-west (Almagro 1966). In particular, the late Bronze Age and early Iberian Iron Age defended settlement site of El Macalón, near Nerpio (Albacete) in south-east Spain is referred to, from which the excavators found, among other exotic objects, socketed arrow-heads with pedunculated sockets that carry a small barb (García Guinea & San Miguel Ruiz 1962). It is proposed that these indicate eastern European influences on weaponry, but the arrow-heads are not like the Scythian ones found at various sites in western Europe, and it is not possible on the strength of these finds to assume that the recurved, composite bows arrived in the Peninsula from such a source. Moreover, the site itself is exceedingly remote and inaccessible, and one might have expected to find more numerous traces of such exotic influences at better-known sites further north in the Peninsula. Furthermore, the archers at the Levantine sites near Nerpio of the Abrigo Sautuola and Solana de las Covachas are not portrayed as using other than self bows. A similar late Bronze Age and early Iberian Iron Age settlement has been excavated (Walker 1971) only a few hundred metres from the Levantine art site at the Fuente del Sabuco. This has not yielded traces of such influences as would have been expected on the basis of Jordá's view of the El Macalón arrowheads. Rather, it seems to share a number of characteristics with that and other south-eastern late Bronze Age and early Iron Age sites which point, if anything, to Carthaginian influences. Moreover, the Fuente del Sabuco archers do not seem to know the recurved bows. The conclusion must be that the Levantine artists were not influenced by foreign weaponry introduced in the first half of the first millennium B.C., presumably because the paintings had been executed several millennia previously.

Indeed, archery fluctuated in popularity at different times in antiquity (Clark 1963), and the same seems true both for the shapes of bows and the shapes of arrowpoints. Clark points out that recurved bows were known quite early in central Europe, being depicted on a decorated slab from a megalithic construction at Göhlitzsch on the River Saale belonging to the Corded Ware-Single Grave complex of cultures, and which themselves receive influences from as far afield as the Copper Age on the steppes north of the Caucasus around 2,000 B.C. It was a shape known, therefore, at periods much earlier than those of Thraco-Cimmerian and Scythian incursions. The contemporaneous presence of recurved and self bows in post-Palaeolithic and early Neolithic Spain seems to indicate no more than a diversity which might have been anticipated on the basis of the variation in arrowpoints.

Agricultural activities are never explicitly depicted in Levantine paintings. Indeed, the only plant portrayed is a stylised tree from which fruit appears to be falling at the cave of Doña Clotilde (Teruel), which may be a later, schematic

painting. A sheep has been discerned at El Mortero (Teruel) (Ortego 1948; Savory 1968). At El Polvorín (Castellón), a man with bows and arrows is leading or pulling a goat by a rope (Vilaseca 1948). A number of sites show obscure paintings that have been interpreted as a rider on a horse (e.g. Fuente del Sabuco, El Mortero), and a man leading a horse is depicted at Boniches de la Sierra (Cuenca). Possible representations of hafted polished stone axes have been interpreted at the Barranco de los Grajos and Solana de las Covachas, but such weapons have not been discovered in the excavations at the former site to date. At one of the caves near Dos Aguas (Valencia), a skirted anthropomorph taking large strides carries a basket on one arm, as if sowing seed, and baskets are shown also at Racó de Molero (Castellón). Baskets are carried, too, by the figures climbing with ropes to obtain wild honey at the Cueva de la Araña (Valencia) (Hernández Pacheco 1924; Jordá & Alcácer Grau 1951), the only Levantine painting to depict insects apart from Cingle de Mola Remigia. Basketry, as Blanc (1964), has pointed out, may well have been known throughout the Upper and post-Palaeolithic, and was known by the early Bronze Age since baskets were found at the Cueva de los Murciélagos (Granada) (Góngora 1868). Agriculture seems to have been a peripheral activity to an economy that was based on a symbiotic relationship between nomadic huntsmen and wild or partly domesticated herds of animals. On the other hand, it would be hasty to conclude that hunting art can *only* be executed by artists belonging to a culture at the hunting and gathering economic level. At the Turkish Neolithic township of Çatal Hüyük, town-dwellers who are believed to have lived by agriculture, saw fit only to paint scenes of the hunt on the walls of their buildings in the seventh and sixth millennia B.C. The paintings show some resemblances to Levantine art, again probably due to convergence of cultural assemblages and hunting patterns in similar ecological conditions, rather than to a more direct relationship of the kind suggested by Jordá (1967). Çatal Hüyük may have had several thousand inhabitants, and yet hunting played a large part in the minds of the people, and perhaps in their diet, as it did right up to the Middle Ages in many parts of western Europe. Hunting pictures, indeed, are popular even in the second half of the twentieth century, although few who nowadays decorate their houses with them have ever hunted wild animals at all. Hunting by itself, therefore, does not withhold the paintings from Neolithic or Bronze Age attributions. The internal faunal evidence, and to some extent the evidence of the arrow-points, suggests that the art belongs to the post-Palaeolithic and earlier part of the Neolithic before the onset of extremely arid conditions in the second millennium that we know occurred in south-east Spain. Some paintings may be Bronze Age, however; the swords depicted at Calapatá and Tivisa (Cabré 1915; Hernández Pacheco 1921; Breuil 1935), and the Iberian inscription added to the Cogul rock shelter (Almagro 1957) indicate continued interest in some rock art sites late into the first millennium B.C. Such late features are uncommon, and one must conclude that the Levantine art had passed its hey-day by the Bronze Age.

The clothing of the anthropomorphs does not tell us much. Like the Upper Palaeolithic anthropomorphs at Los Casares (Guadalajara), those at many Levantine sites seem to be naked. Only where prominent genitalia are displayed can the anthropomorphs be securely sexed, however. Flax cultivation was known in Spain by the Bronze Age, and esparto grass clothing has been recovered from some sites

also. It seems likely that sheep were reared for wool by that period, moreover. Knee-length one-piece garments are portrayed in many Levantine paintings. Some of the figures wearing such apparel have pendulous breasts and may be female. An archer at Collado del Guijarral also seems to wear a similar garment. Other archers, such as the well-known one from Els Secans (Teruel), wear short trousers (Beltrán 1954). Some figures have flowing headgear (e.g. fig. 6*a*), and others arm and leg bands, sometimes with streamers. It is hard to say whether particular types of clothing were confined to one or other sex from the paintings, although it is often claimed that the women wore the one-piece garments, whilst the men either wore no clothes or short trousers. One might bear in mind that in Iron Age Britain the men are known to have worn trousers, presumably also wore kilts in some areas, and are reported as going naked into battle. Nakedness in north-west Europe in cool, damp Iron Age times must have been unpleasant and uncomfortable, yet this odd practice of the Celts must make one wary of accepting Bandi's assumption (Bandi 1964) that nakedness indicates a *necessarily* warm climate. In any case, Upper Palaeolithic anthropomorphs are usually naked when painted in Franco-Cantabrian art, yet the conditions were presumably cold. Other arguments, such as those based on the faunal evidence given above, must be employed to locate Levantine paintings in the most appropriate climatic stage.

Chronological considerations

The time gap between the Upper Palaeolithic and the early Neolithic in the western Mediterranean basin has narrowed in recent years. The latest dates for the end of the Upper Palaeolithic are between 10,500 and 7,500 B.C. in this region, viz. Pi-119 from Levanzo in Sicily of 9,694 ± 110 B.P. (Before Present: dates B.C. are obtained by subtracting 1,950 from the B.P. date)[6] from a layer containing a stone engraved with a bovid[7] (Ferrara *et al.* 1961; Graziosi 1964); M-1023 from the Còva de Bora Gran in Gerona of 11,470 ± 500 B.P. (Crane & Griffin 1965); and Gif-130 from the Cueva de Santimamiñe in Vizcaya, a cave from which mobiliary Upper Palaeolithic art is known (Graziosi 1960), of 9,470 ± 400 B.P. (Delibrias *et al.* 1966). Such dates recall those from Taforalt in north Africa where post-Palaeolithic deposits have given the following dates: Sa-13 of 10,800 ± 400 B.P.; Sa-14 of 12,700 ± 400 B.P.; Sa-15 of 10,500 ± 400 B.P. (Delibrias *et al.* 1964). Even if such late dates as Pi-119, M-1023, and Gif-130 are accepted for the closing phase of the European Magdalenian culture, they are still some 2,000 years too early for the Atlantic climate stage to which the Levantine art is assigned in the present article. Arguments have already been presented to the effect that it is not yet possible to relate the Levantine artists or the post-Palaeolithic lithic assemblages to those of the Upper Palaeolithic with any degree of certainty in the absence of intermediate forms, although the affinity is stronger perhaps for the tool-kits than for the paintings.

The radiocarbon dates from the Portuguese middens near Muge, whose geometric flint industry is comparable with that of the Cueva de la Cocina (Valencia), may have some relevance for the latter site. They are: Sa-16 from Moita do Sebastão of 7,350 ± 350 B.P. (Delibrias *et al.* 1964); Sa-194 from Cabeço da Amoreira of 6,050 ± 300 B.P., and from the same site also are Sa-195 of 7,030 ± 350 B.P., Sa-196 of 5,150 ± 300 B.P., and Sa-197 of 6,430 ± 300 B.P. (Delibrias *et al.*

1965). These are comparable with Mesolithic dates from Brittany such as Gif-221 from Hoëdic of 6,575 ± 350 B.P. (Delibrias *et al.* 1966). It will be recalled that pottery, including cardial-impressed ware, occurred in the upper levels at the Cueva de la Cocina, and not far away in the province of Alicante, cardial-impressed pottery found with polished stone axes at the lower layers of the Coveta de l'Or is dated by radiocarbon from samples KN-51 of 6,150 ± 150 B.P. and H-1754/1208 of 6,265 ± 75 B.P. (Schwabedissen & Freundlich 1966; Schubart & Pascual 1966; Schubart 1965). Such dates for the late post-Palaeolithic and early Neolithic cultures in the Peninsula agree well with the climatic evidence based on the faunal interpretation of Levantine art.

It is not difficult to imagine the relationship between the naturalistic and schematic rock art of south-east Spain, and it is possible to date some of the motifs of the latter by cross-dating, thereby indicating dates by which it may be supposed that the naturalistic style had died out. Martínez Santa Olalla (1946) placed the schematic art in the advanced Neolithic, if not later, and this seems correct. Angular 'stick-drawings' of animals of the kind shown in the schematic paintings occur on incised pottery from the Cueva de la Cocina, although judging from the depth at which they were found in the deposits, these are possibly rather early, and on the well-known vessel from grave 15 at Los Millares (Almería), which is now in the Ashmolean Museum at Oxford, as well as on the beaker pottery from Las Carolinas near Madrid, these last two being Copper Age in date, say around 2,000 B.C. Angular cervids are found engraved on a megalithic tomb also, grave L5 at Montefrío (Granada) (Leisner & Leisner 1943). Schematic rock paintings are known at the Cueva de la Pileta (Málaga), which yielded decorated Neolithic pottery from the same chamber (Breuil *et al.* 1915). However, there are also Upper Palaeolithic artistic motifs at that cave, to which Ripoll prefers to refer the schematic motifs (Ripoll 1964*a*). Recently there has been found a rare piece of painted red-on-buff Copper Age pottery at a burial cave near Jummilla (Murcia) (fig. 9), that shows a rayed 'sun' motif of a kind often depicted on schematic rock paintings (e.g. plate 2). The sherd occurs with other red-on-buff painted ware decorated in solid triangles and chevrons (Molina Grande in press) similar to those from the Cueva de Montgó and Torremanzanas in Alicante, and the painted decoration on the alabaster vessel from the burial cave at Blanquizares de Lébor in Murcia. These Copper Age burial caves date to the first half of the second millennium B.C. Several of them have yielded bone phalanges on which there are engraved or painted oculus motifs like those from Collado del Guijarral and other schematic art sites. Much incised 'symbolkeramik' of the south-east Spanish Copper Age bears similar oculus and rayed 'sun' motifs.

There is some overlap between the distribution of Levantine and schematic rock art. At fifty-two sites with schematic art in the Levantine zone, eighteen have naturalistic motifs also. Apart from the presence of naturalistic motifs at Las Batuecas and Garcibuey (Salamanca), and the Cueva de la Pretina (Cádiz), there are echoes of the naturalistic style in schematic art at Palomas I and Cochinos (see Breuil & Burkitt 1929) and Valdejunco in Portugal (Breuil 1917). The schematic art seems to lie well away from the areas of primary Copper Age settlement in Andalusia and Portugal, and in a like manner the naturalistic Levantine art of the south-east lies away from such coastal sites of primary Neolithic settlement as the

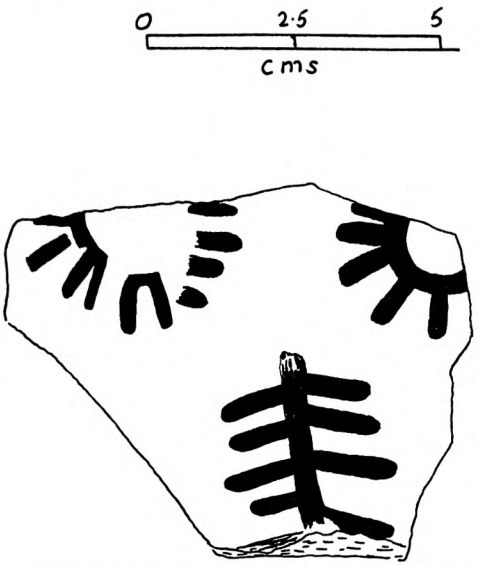


FIGURE 9. Painted sherd. Cueva de los Tiestos, Jumilla (Murcia).

Coveta de l'Or. The distribution of lithic assemblages in the Lower Ebro region (Vallespí Pérez 1959) also seems to show a distribution rather different from that of the Levantine art paintings. One may speculate, and it is no more than speculation, that the development of the valleys by farmers, and the subsequent exploitation of the mineral ores of the mountains by prospectors, combined with a gradually increasing aridity of the mountains of the south-east around 2,000 B.C., led to a general westward drift of the nomadic hunting groups responsible for the rock art. Alternatively, it is possible that it was the influence of new Copper Age communities in the coastal regions that led to the adoption by the huntsmen in the hinterland of new symbols, more schematic in form, and thus stimulated a new burst of artistic activity in the schematic rock paintings. This is no more than speculation, however.

Even more speculative are associations claimed by Ortego (1956) and Jordá (1964) between the anthropomorphs wearing knee-length garments painted in relation to bovids at some rock shelters, notably Cogul, and human-bovid ritual activities of Minoan Crete. Such representations are excessively rare in Levantine art, and where they do occur they are hardly well-organised scenes, frequently containing material extraneous to such an interpretation. The hypothesis is less than convincing, even assuming for the sake of argument that the skirted anthropomorphs are always female, as they are at Cogul. There is a large geographical gap, and probably a large chronological gap also. Moreover, there is a long tradition of human-bovid activities in the Peninsula itself, and there is no reason to suppose that they are not indigenous. They can be traced with some certainty back to Iberian times (Blanco 1961–2; Arribas 1964; Encyclopaedia Britannica 1968). Attention may be drawn to the destroyed Clunia sculpture of a man with a sword (*matador*?) confronting a bovid (Hübner 1893). Bovid figurines go back as far as the early metallurgical settlements of Almizaraque (Almería), and Vila Nova de São

Pedro in Portugal (Blance 1960). Even if one does wish to look to Minoan Crete, a far closer, if somewhat absurd, parallel to the Cretan activities may be drawn in the *pega pega* attack of modern Portuguese bull-fighters, and even the Cretan skirts are better paralleled in ceramic figurines made by present-day Portuguese country-folk (Feltham 1965). This is, of course, irrelevant to Levantine art, but serves to point to the dangers in hastily seizing upon objects only superficially alike and drawing unwarranted parallels. There is no evidence, in any case, to suggest what the ethnographic significance of the paintings might have been, whether cultic, totemic, secular or aesthetic. Ucko & Rosenfeld (1967) have given modern parallels for all such possible significances in modern primitive rock painters; indeed, there are even some who have no idea why they paint at all, much less what the extinct animals are that they assiduously execute. The Hadza of east Africa even go so far as to disclaim responsibility for paintings they have been known to execute. In short, the presence of cults, myths or religions in some parts of the Old World in antiquity cannot be invoked as evidence that *all* Old World prehistoric activities not obviously connected with subsistence or survival when seen from the standpoint of 1970 A.D. are religious whenever we encounter them. To enquire about the 'meaning' of prehistoric art is to embark on a wild-goose chase, and is unproductive unless it is accompanied by qualifying those contexts within which meaning is sought. The only valid context for an archaeologist is the archaeological context, with which this article is concerned. Further ethnographic speculation cannot be resolved by archaeological methods.

NOTES

I thank the following for their help and assistance: Mrs R. de Méric, Professor J. D. Evans, Mr P. Morrissey, Professor Stuart Piggott, the Provost and Fellows of The Queen's College, Oxford, the Oxford University Committee for Advanced Studies, the National Geographic Society, the University of Edinburgh Travel and Research Committee, Commercial Plastics Ltd., Imperial Chemical Industries Ltd., Kodak Ltd.

[1] This series of maps is based on the Madrid meridian, and not Greenwich, and the co-ordinates given here refer to the Spanish meridian as published on the map sheets.

[2] Care has been taken in Mrs de Méric's reproductions to copy the original colours and brushwork. The figures here shown are black and white reproductions of her work, which was executed using printing inks of different colours painted on heavy gauge polythene sheeting on which the figures were traced with blue pencil. Artistic reproductions in colour alone can give true representation of the original colours and details of prehistoric brushwork (cp. Porcar Rippollés 1943*b*, 1945; Thompson 1960). The black and white plate, plate 1, was taken with black and white infra-red Kodak film. Although this film allows considerable detail to be retained, which is lost with ordinary film, it can be seen that far more detail can be distinguished by a trained artist. Moreover, the curvature and fissuring of the rock, and conditions of light and shade, confuse the interpretation of photographs. More recently, I have tried to overcome these difficulties by using infra-red colour reversal film. Daylight colour reversal film was also employed and the projected slides were used by Mrs de Méric as a check on her reproductions. However, slight variations of lighting, or of photographic exposure, can produce considerable colour distortion that is avoided by artistic reproduction. Much is of necessity lost in the accompanying black and white copies of Mrs de Méric's colour paintings. If there is a disadvantage attached to life-size, painted reproductions, it is in the arduous and time-consuming nature of the work, and the quantities of materials needed for large rock expanses. Outlying groups of figures tend to be sacrified if time and/or materials are short, and extremely indistinct figures and painted 'smudges' also present difficulties of exact copying at such a large scale of reproduction. The method is most suitable for supplementing rapid, small-scale, projected sketches, especially for complicated scenes replete with artistic detail. The same disadvantages also apply to photography, of course.

[3] Alternative interpretations of the Toll flora and chronology, however, are proposed respectively by Butzer & Freeman (1968) and Rosselló (1970). Horse and deer are common

at the Cueva de Volcán in Valencia, but not goat, which was, however, common at Parpalló (Davidson in press).

[4] Since writing this, I am informed by Iain Davidson of Selwyn College, Cambridge, that he has identified sheep bones from an aceramic layer with end- and pyramidal scrapers beneath three layers of Neolithic with pottery excavated by Sr Javier Fortea of the University of Salamanca at the Cueva de les Mallaetes (Valencia). Mr Davidson also informs me that the sheep bones reported from the Sant Gregori site (Vilaseca 1939) are not now accepted as sheep, even by the excavator. However, the possibility of sheep in pre-Neolithic Spain is a real one (see, for example, Murray 1971).

[5] There is some doubt about the existence of rock art at this site.

[6] The dates given are calculated on the 5,570 year half-life of C^{14} and can be corrected to the more probable 5,730 value by multiplying them by 1·03. It must be borne in mind that dates for the fifth millennium and earlier may be up to 500 years too low in absolute terms, possibly due to fluctuations in the terrestrial magnetic field (Bucha & Neustupný 1967).

[7] Since writing the above, a further radiocarbon date from the next layer up at this site, with Epigravettian artefacts, has been published. As at other Epigravettian Italian sites, this is in the eleventh millennium B.C., R–566 of 11,180 ± 120 B.P. or 9,230 B.C. (Alessio *et al.* 1970). Doubt is therefore cast on the validity of the tenth millennium Magdalenian date.

APPENDIX I

Key to map (fig. 1).

Open circles: Franco-Cantabrian sites of cave art of Upper Palaeolithic rock paintings and mobiliary sculpture.

Half-open circles with letters: Upper Palaeolithic art in the Levante, Andalusia, and western Spain and Portugal.

Solid circles: Levantine naturalistic rock paintings, numbered as follows:

1. Desfiladero de Leira (Lavaderos de Tello), Vélez Blanco (Almería): Breuil & Obermaier 1914; Cabré Aguiló 1915; Breuil & de Motos 1915; Burkitt 1925; Breuil 1935.

2. Estrecho de Santonge, Vélez Blanco (Almería): Breuil & de Motos 1915; Cabré Aguiló 1915; Burkitt 1925; Breuil 1935.

3. Cueva chiquita, *cortijo* de los Treinta, Vélez Blanco (Almería): Breuil & Obermaier 1914; Cabré Aguiló 1915; Breuil & de Motos 1915; Burkitt 1925; Breuil 1935.

4. Cueva del Coto de la Zarza, Topares (Almería): Cabré Aguiló 1915.

5. Cueva de las Grajas, Almaciles (Granada): Breuil & de Motos 1915.

6. Peñón de la Tabla de Pochico, Aldeaquemada (Jaén): Cabré Aguiló 1915.

7. Cueva del Prado del Azogue, Aldeaquemada (Jaén): Cabré Aguiló 1915.

8. Cueva del Santo, Santa Elena (Jaén): Obermaier 1921–2.

9–17. *Nerpio group* (Albacete)*

Solana de las Covachas, Abrigo del Prado del Tornero 1, Hornacina del a Pareja, Abrigo de las Cabritas, Covacho de la Llagosa, Abrigo de Sautuola, Abrigo del Cazador, Abrigo primero de las casas de los ingenieros de la Presa del Taibilla, Abrigo de la Casa del Sapo:

References: Sánchez Carrilero 1956–61; García Guinea & Krapovickas 1958–59; García Guinea 1961–62; 1962; Carbonell Escobar (private communication).†

18–23. *Minateda group* (Albacete)

La Higuera 1–4; Barranco de la Mortaja, Canalizo del Rayo: Breuil 1920; 1928*a*; 1935.‡

24–29. *Alpera group* (Albacete)

Cueva de la Vieja, Cueva del Queso, Cueva del Venado (Cueva de los Ciervos), Fuente de la Arena (Cueva del Bosque), Cueva Negra, a rock shelter 'near' Cueva Negra: Breuil *et al.* 1912; Breuil & Obermaier 1912; Breuil 1915; Cabré Aguiló 1915; Burkitt 1925.

30–31. *Almansa group* (Albacete)

Monte Mugrón, Abrigo del Rey Moro: Cabré Aguiló 1915.

32. Abrigo de la Mujer, Moratalla (Murcia): Beltrán 1968*a*.

33–34. *El Sabinar group* (Murcia)

* Where several rock shelters occur fairly close together, references to individual shelters are listed together at the end to avoid repetition.

† As mentioned in the text, there may be other rock shelters in the area.

‡ One rock shelter here has not been identified in recent years.

Fuente del Sabuco, Cañaíca del Calar 2: Martínez Sánchez 1969; Beltrán 1968*a*; Walker 1969; Carbonell Escobar 1970.

35–37.—*Cieza group* (Murcia)

Barranco de los Grajos 1–3; López Pascual 1968; Beltrán 1968*a*, *b*, *c*, *d*.

38–40. *Monte Arabí group*, Yecla, (Murcia)

Cantos de la Visera 1–2, a newly found rock shelter about 150 metres from the Cueva del Mediodía: Cabré Aguiló 1915; Breuil & Burkitt 1915; Burkitt 1925; Breuil 1935; sr. José Prats (private communication).

41. Cueva del Peliciego (Cueva de los Murciélagos), Jumilla (Murcia): Fernández de Avilés 1939–40.

42. Cueva de la Sarga, Alcoy (Alicante): Rey Pastor 1952.

43. Cueva de la Tortosilla, Ayora (Valencia): Breuil *et al.* 1912; Cabré Aguiló 1915.

44. Cueva del Sordo, Ayora (Valencia): Sánchez 1947.

45. Cuevas de la Araña, Bicorp (Valencia): Hernández Pacheco 1924; Breuil 1935.

46–49. *Dos Aguas group* (Valencia)

Cinto de la Ventana, Cinto de las Letras, Covacho de las Cabras, Abrigo de la Pareja: Jordá & Alcácer 1951; 1952; Plá Ballester 1966.

50. Barranco de las Cañas, Millares (Valencia): Plá Ballester 1966*a*, *b*.

51. Barranc dels Covarjos, Benasal (Valencia): *La Labor del S.I.P. . . . 1935–1939* (1942).

52–59. *Villar del Humo group* (Cuenca)

Cueva de Bullón, Abrigo de la Selva Pascuala, Fuente de la Selva Pascuale, Peña del Escrito, Marmalo 1–4: Breuil 1935; Almagro 1947*b*; Hernández Pacheco 1959; Beltrán 1968*a*.

60. Boniches de la Sierra (Cuenca): Breuil 1935; Almagro 1947*b*.

61–72. *Tormón-Albarracín-Bezas group* (Teruel)

Huerta de las Tajadas de Bezas, Paridera de las Tajadas de Bezas, Barranco de las Olivanas, Ceja de Piezarrodilla, Cerrada del tío José, Cocinilla del Obispo, Prado del Navazo, Abrigo del Arquero, Cueva de Doña Clotilde, Barranco del Cabrerizo, Barranco del Pajarejo, Los Callejones Cerrados.

References: Breuil & Cabré 1911; Cabré Aguiló 1915; Obermaier & Breuil 1927; Almagro 1944; 1947*a*; 1947*b*; 1951; 1952; Ortego Frías 1950.

73–81. *Alacón group* (Teruel)

Frontón de los Cápridos, Cueva del Garroso (Cerro Felío), Covacho Ahumado (Cerro Felío), Covacho de la tía Mona (Cerro Felío), Covacho de Eudoviges (Cerro Felío), Covacho Ahumado (El Mortero), Los Trepadores (El Mortero), Abrigo de los Borriquitos (El Mortero), Abrigo de los Recolectores (El Mortero).

References: Ortego Frías 1948; Beltrán 1961–62; 1968*a*; Beltrán & Vallespí 1960.

82. Abrigo de la Cañada de Marco, Alacaine (Teruel): Ortego 1968.

83. Val del Charco de Agua Amarga, Alcañiz (Teruel): Cabré Aguiló 1915; Breuil 1915; Beltrán 1970.

84. Els Secans, Mazaleón (Teruel): Vallespí Pérez 1952.

85. Las Caídas del Salbime (Teruel): Pérez Temprado & Vallespí 1954.

86–89. *Ladruñán group* (Teruel)

El Pudial, El Torico, Abrigo del Arquero, Abrigo de la Vacada: Ortego Frías 1946; Ripoll Perello 1961.

90. Valrobira, Cretas (Teruel), and also a painting reputed to be by the nearby road to San Hipólito: Cabré Aguiló 1915.

91–94. *Calapatá group* (Teruel)

Roca dels Moros, Mas del Abogat, Font de la Bernarda, Barranc dels Gascons: Breuil & Cabré Aguiló 1909; Cabré Aguiló 1915; Bosch Gimpera 1924; Vallespí Pérez 1957.

95. La Joquera, Borriol (Catellón): Porcar Roig 1932.

96–101. *Gasulla group* (Castellón)

Còva Remigia, Còva de dalt del Cingle de la Mola Remigia, Les Dogues, Mas Blanc, Abrigo Racò de Molero, Racò de Gasparo: Porcar Roig 1934; Porcar Roig *et al.* 1934–35; Kühn 1926; 1927; Obermaier 1935; 1937; Marínez Santa Olalla 1941–42; Porcar Ripollés 1935; 1943*a*; 1950; 1953; Thompson 1960; Ripoll Perello 1963.

102–115. *Valltorta group* (Castellón)

Còva del Civil, Còva dels Tolls Alts, Còva Rull, Còva dels Cavalls, Abrigo de Arco, Còva del Mas d'En Josep, Coveta alta de la roca del Llandoner, Còva de la Saltadora, Coves del Puntal 1–4, Coveta de Montegordo, Cingle de l' Ermita del Barranco Fondo Duran 1915–20; Obermaier & Wernert 1919; del Arco 1917; Cabré Aguiló 1923.

116–118. *Morella group* (Castellón)

Galería alta de la Masía, Còva del Roble, Covacho de la Viña: Hernández Pacheco 1918.

119. Cueva del Polvorín, Puebla de Benifaza (Castellón): Vilaseca 1948.

120–128. *Tivisa group* (Tarragona)

Còva de Cabra Feixet, Còva de l'Escoda, Còva del Recó, d'En Perdigó, Còva del Ramat, Còva del Cingle, Còva del Pí, Còva de les Calobres, Cóva de la Moleta de Cartagena: Bosch Gimpera & Colominas Roca 1921–26.

129–130. *Rojals group* (Tarragona)

Mas del Llort, Mas de Ramón de Bessó; Vilaseca 1944; 1950–51.

131. Barranc dels Porciules (Tarragona): Obermaier 1921–22.

132. Roca dels Moros, Cogul (Lérida): Cabré Aguiló 1915; Bosch Gimpera & Colominas Roca 1921–26; Breuil 1935; Almagro 1947*b*; 1952*b*; 1957.

Note: Not included in the above list are carvings at Río Bernisa, Rótova (Valencia) and others in the canyon of Escalona, Navarrés (Valencia) which are compared to the Palaeolithic carvings of Rates Penaes (see Anon. 1966 'Actividades del S.I.P.–9'). There are also rock art sites with animal paintings possibly related to the Levantine naturalistic paintings but outwith the Levantine area, viz: Las Batuecas and Garcibuey (Salamanca) (Breuil 1918–19; Hernández Pacheco 1923; Breuil 1935); Valdejunco, Esperança, Portalegre (Portugal) (Breuil 1917); Cueva de la Pretina, Casas Viejas (Cádiz) (Cabré Aguiló 1915); Rabanero (Ciudad Real) (Pericot 1950*a*).

The sites of Upper Palaeolithic art outwith the Franco-Cantrabrian zone are:

A. Escoural (Évora, Portugal): dos Santos 1964; Glory *et al.* 1965.

B. Maltravieso (Cáceres): Almagro 1960.

C. Las Palomas (Cádiz): Breuil & Burkitt 1929.

D. La Pileta (Málaga): Breuil *et al.* 1915.

E. Doña Trinidad de Ardales (Málaga): Breuil 1921; Giménez Reyna 1964.

F. Cala (Málaga): Breuil 1921.

G. Nerja (Málaga): Giménez Reyna 1965; Ucko & Rosenfeld 1967.

H. Parpalló (Valencia): Ballester Tormo 1929; Pericot 1942*b*.

I. Les Mallaetes (Valencia): Jordá 1954*a*.

J. Rates Penaes (Valencia): Gurrea Crespo & Peñalba Faus 1952; Jordá 1954*a*.

K. Sant Gregorí de Falset (Tarragona): Vilaseca 1939.

L, M. Los Casares and La Hoz de Santa María del Espino (Guadalajara): Cabré Aguiló 1934; 1940–41*a*; Beltrán & Barandiarán 1968.

N. El Reguerillo (Madrid): de Loriana 1942.

P. Sierra de Montsía (Tarragona): Ripoll Perello 1964*b*.

?Q. Alcañiz (?) (Teruel): Breuil 1964.

(Almagro, 1954, also indicates a site in Gerona unknown to the writer.)

APPENDIX 2

Sites with schematic motifs in the Levante. The list does not include sites in Andalusia generally, although some of the sites on the eastern side of the Segura watershed are listed.

Almería

(1) Desfiladero de Liera: Breuil 1935.

(2) Estrecho de Santonge: Breuil 1935.
Cueva de los Letreros, Maïmón, Vélez Blanco: Breuil 1935.
La Yedra, Maïmón, Vélez Blanco: Breuil 1935.
Las Colmenas, Maïmón, Vélez Blanco: Breuil 1935.
Fuente de los Molinos, Maïmón, Vélez Blanco: Breuil 1935.
Covachas, Maïmón, Vélez Blanco: Breuil 1935.
Cueva de Juan Pescador, Maïmón, Vélez Blanco: Breuil 1935.
Los Hoyos, Maïmón, Vélez Blanco: Breuil 1935.

Cueva Maïna, Sierra de María, Vélez Blanco: Breuil 1935.
Fuente de la Asa, Sierra de María, Vélez Blanco: Breuil 1935.
El Queso, Sierra de María, Vélez Blanco: Breuil 1935.
Cerro de la Tejera, Vélez Blanco: Breuil 1935.

Murcia

(38) Cantos de la Visera 1: Cabré Aguiló 1915; Breuil & Burkitt 1915.
Cañaíca del Calar 1 and 3: Martínez Sánchez 1969; Walker 1969.
(36) Barranco de los Grajos 2: Beltrán 1968*d*.
Cueva del Mediodía, Monte Arabí, Yecla: Breuil & Obermaier 1914; Breuil 1935.
Cueva del tío Labrador: Breuil 1935.
Cueva de los Paradores: Breuil 1935.
(There are also cup marks on a rock surface on Monte Arabí.)

Jaén

Collado del Guijarral.
(The many sites in the Despeñaperros region are not listed here, see Breuil 1933–35.)

Albacete

Abrigo del Prado del Tornero 2, Nerpio: García Guinea & Krapovickas 1958–59; García Guinea 1961–62; 1962.
Abrigo del Ídolo, Nerpio: García Guinea 1961–62; 1962.
Agrigo de los Idolos, Nerpio: García Guinea 1961–62; 1962.
Abrigo del Castillo de Taibona, Nerpio: García Guinea 1961–62; 1962.
Abrigo de las cases de los ingenieros de la Presa del Taibilla: García Guinea 1961–62; 1962.
Solana del Molinico 1–2, Socovos: Sánchez Jiménez 1956.
(22) Barranco de la Mortaja, Minateda: Breuil 1920; 1928*a*; 1935.
(24) Cueva de la Vieja, Alpera: Breuil *et al.* 1912; Breuil & Obermaier 1912; Breuil 1935.
(27) Fuente de la Arena, Alpera: Breuil 1915; 1935.
(28) Cueva Negra, Alpera: Breuil 1915; 1935.

Alicante

Tarbena: Breuil 1935.

Valencia

Cueva del Pernil: Breuil 1928*b*.
(45) Cuevas de la Araña: Hernández Pacheco 1924; Breuil 1935.
Beniatjar: Breuil 1933; 1935; *La Labor del S.I.P. . . . 1935–1939* (1942).
Bosquera del Escalona: *La Labor del S.I.P. . . . 1935–1939* (1942).
Còva Fosca: *La Labor del S.I.P. . . . 1935–1939* (1942).
Roca del Senallo: *La Labor del S.I.P. . . . 1935–1939* (1942).
Roca del Mollinell, Culla: *La Labor del S.I.P. . . . 1935–1939* (1942).
Bobalar: *La Labor del S.I.P. . . . 1935–1939* (1942).
Covacha de Felix: *La Labor del S.I.P. . . . 1935–1939* (1942).

Cuenca

Orrea: García Sánchez & Spahni 1958.
(52) Villar del Humo: Breuil 1935.

Castellón

(102) Còva del Civil: Breuil 1935.
(103) Còva dels Tolls Alts: Breuil 1935.
(109) Còva de la Saltadora: Breuil 1935.

Guadalajara

Miedes: García Sánchez & Spahni 1958.

Teruel

(68) Cueva de Doña Clotilde: Almagro 1947*a*; 1947*b*.
(83) Val del Charco de Agua Amarga: Breuil 1935.
(91) Roca dels Moros, Calapatá: Breuil 1935.
(92) Mas del Abogat, Calapatá: Breuil 1935.

Soria

Valdecaballos: Ortego Frías 1964.
Cañada del Nido del Cuervo (7 sites): Ortego Frías 1952.
Cañada Honda (8 sites): Ortego Frías 1952.
Covachas de Castro: García Sánchez & Spahni 1958.
Retortillo: García Sánchez & Spahni 1958.
(Also, the following have cup marks only: Canos, Castro, Conquezela, Duruelo de la Sierra: García Sánchez & Spahni 1958.)

Tarragona

(129) Llort: Vilaseca 1943; 1944; 1950–51.
Pobla de Montornés: Vileseca 1943.
Capafonts: Vilaseca 1943.
Lloa: Vilaseca 1943.
Alfarca: Breuil 1935; Vilaseca 1943.
(122) Còva del Pí: Breuil 1935.
Brugent: Breuil 1935.
Còva de les Creus: García Sánchez & Spahni 1958.
Abrigo de Mas de Carles: García Sánchez & Spahni 1958.
Font Villella: Hernández Pacheco 1921.
(Also, the following has cup marks only: Roca de Rogeralls, García Sánchez & Spahni 1958.)

Lérida

(132) Roca dels Moros, Cogul: Breuil 1935.
Coïns: García Sánchez & Spahni 1958.

Gerona

Capmany: Bosch Gimpera & Colominas Roca 1921–26.
Barranc d'Espolla: Bosch Gimpera & Colominas Roca 1921–26.
Vinya d' En Berta: García Sánchez & Spahni 1958.

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PLATE I. Fuente del Sabuco.



PLATE 2. Cañaica del Calar.

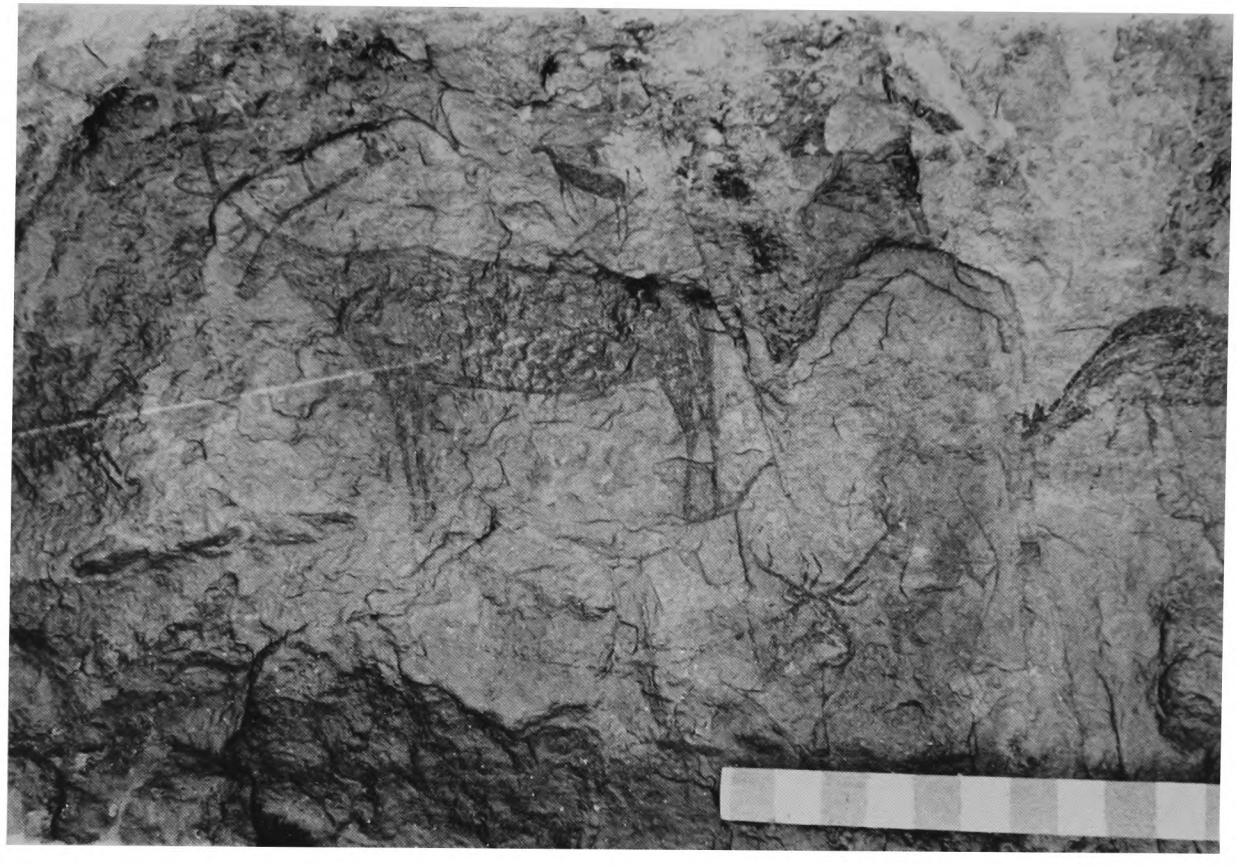

PLATE 3.
Cañaica del Calar. Two cervids.

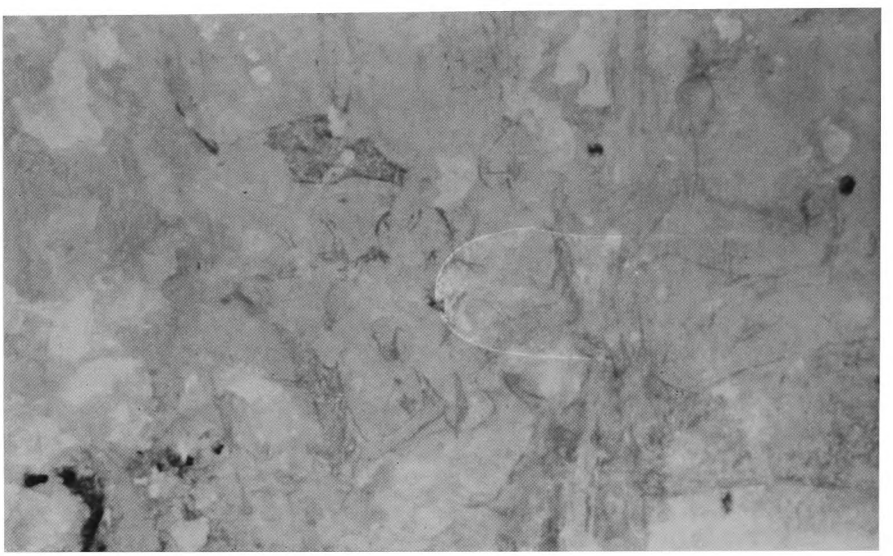

PLATE 4*a*. Solana de las Covachas.



PLATE 4*b*. Solana de las Covachas.



PLATE 5*a*. Solana de las Covachas.

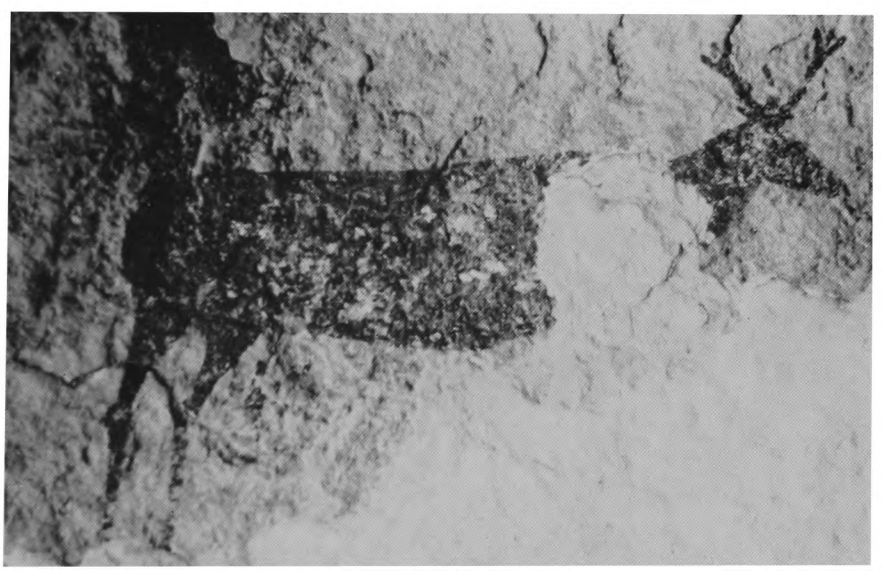

PLATE 5*b*. Solana de las Covachas.



PLATE 6. Collado del Guijarral.

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Michael Walker

EXCAVACIONES EN EL CASTILLICO, CORRAL DE LOS VILLARICOS, EL SABINAR, TERMINO DE MORATALLA, MURCIA, 1969

SEPARATA DEL NOTICIARIO ARQUEOLOGICO HISPANICO XIII Y XIV
MADRID, 1971

EXCAVACIONES EN EL CASTILLICO, CORRAL DE LOS VILLARICOS, EL SABINAR, TERMINO DE MORATALLA, MURCIA, 1969.

(Láminas XXXVIII-XLII)

INTRODUCCION

El yacimiento se ubica en un promontorio de caliza entre dos barrancos, a 1.200 m. sobre el nivel del mar, y se define por las coordenadas N. 38° 10' 52"; E. 1° 30' 00". Se localiza aproximadamente a la misma distancia de las aldeas de Arroyo Tercero y Calar de la Santa, y a unos cuatro kilómetros al suroeste del pueblo de El Sabinar, término de Moratalla, Murcia. El yacimiento se sitúa a pocos kilómetros del punto donde la carretera desde Archivel (Murcia) pasa por la Sierra de Taibilla y llega a la provincia de Albacete, antes de bajar el estrecho valle del río Taibilla. El barranco al norte del yacimiento, la Cañaíca del Calar, contiene varios ejemplares bien conocidos del arte rupestre levantino y del arte esquemático. Aquí hay una fuente, la Fuente del Sabuco, que da agua fresca durante todo el año. En el trozo de terreno, más abajo de la roca donde está el yacimiento y entre los dos barrancos, hay varias estructuras conocidas por la gente del campo como el Corral de los Villaricos, aunque otros llaman al poblado prehistorico que está sobre el promontorio por este nombre también. Aquí denominamos al poblado El Castillico y es conocido con este nombre por mucha gente. El nombre es adecuado porque hace referencia a la muralla masiva de piedras y losas ciclópeas, que alcanza a veces unos 4,5 m. de anchura y una altura semejante. La muralla separa el promontorio de la llanura alta que se extiende hacia la aldea de Calar de la Santa. En otras partes, el promontorio se defiende por la roca cortada a pico de caliza, de unos 30 m. de profundidad, cayendo para unirse con una cuesta de piedras sueltas de caliza, o "talus".

El autor vio el yacimiento durante una expedición a pie por la región en diciembre de 1968, cuando fue para ver las pinturas rupestres en el terreno de don Sebastián Chanes, propietario en El Sabinar. El poblado prehistórico se localiza en el terreno de don Pedro Alvarez Martínez, de Puebla de Don Fadrique (Almería). Le comunicó al autor la presencia de un poblado en las proximidades de El Sabinar por medio de don Emeterio Cuadrado Díaz,

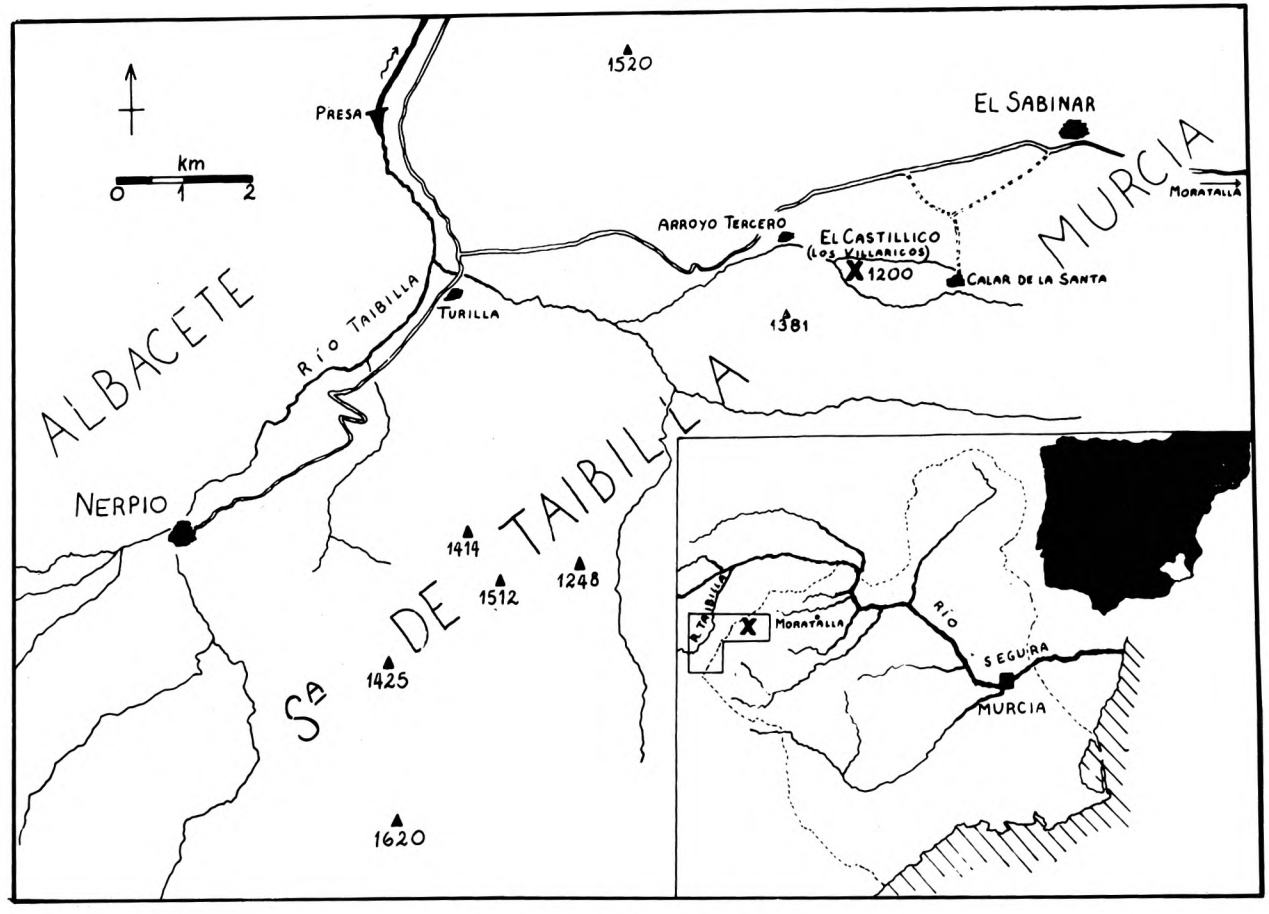

Fig. 1.—Situación del yacimiento.

cuando le visitó hace treinta años, siendo él entonces el ingeniero encargado de las obras públicas de las Aguas del Taibilla. Pero el yacimiento que hemos estudiado no corresponde en algunos detalles al poblado llamado por él "El Castillico", que describió como cerca de Nerpio, l noroeste de la provincia de Murcia, y como un monte accesible por un solo lado. El yacimiento nuestro tiene acceso por los dos barrancos. Además, el señor Cuadrado halló vasijas de cerámica hecha a mano, cantos de cuarcita, objetos de sílex, uno de los cuales tenía la forma de una hoz, un hacha de piedra pulimentada y otros materiales argáricos. Nosotros, en cambio, no hemos encontrado ningún objeto ni de cuarcita ni de sílex. Otras noticias comunicadas por el señor Cuadrado al autor en diciembre de 1968 sugirieron la presencia de un yaci miento prehistórico cerca de donde se localiza el poblado estudiado por nosotros. Es posible que haya varios yacimientos prehistóricos desconocidos en la zona inmediata de El Sabinar.

Nos concedió el permiso de excavación el Ilmo. Prof. Dr. Martín Almagro, Comisario Nacional de Excavaciones Arqueológicas, y agradecemos su ayuda y consejo hacia la realización de la campaña actual. Agradecemos también la colaboración del señor don Jorge Manuel Aragoneses, Delegado Provincial de Excavaciones, a cuyo cargo hemos depositado los hallazgos de las excavaciones en el Museo de Murcia. También hay que agradecer la colaboración de nuestro fotógrafo, señor Morrissey, y nuestro arquitecto y dibujante, señor Douglas.

El plan topografico

Era necesario levantar un plano del promontorio para relacionar los alineamientos irregulares de piedras visibles dentro del recinto formado por la masiva muralla defensiva y el promontorio. Se construyó una red con una línea base que estaba al lado común de dos triángulos, dentro de los cuales se triangularon algunos de los principales rasgos. Coincidían muy bien las determinaciones por triangulación y las que se habían tomado en las líneas de la red.

Las excavaciones

Para constar el número y la secuencia de las fases de construcción de la muralla defensiva, se excavaron dos catas, las trincheras T 1 y T 2. La T 1, de tamaño de 10 X 30 pies, traspasó la mayor anchura de piedras caídas al lado exterior de la muralla, donde creímos en la posibilidad de una torre o bastión escondidos. ya que parecía verse un ángulo de ellos en el monte de piedras. La T 2, siendo 18 X 10,5 pies, pasó por la entera anchura de la muralla defensiva, donde su altura no alcanzaba a 1,5 m., y tenía el intento de averiguar la cultura responsable de la construcción original de la muralla. La trinchera T 2 dio sólo nueve tiestos de cerámica tosca, de los cuales siete vinieron del lado de la trinchera, al oeste de la muralla, y dos sólo del interior de los fundamentos de la muralla. La trinchera T 1 no dio ningún hallazgo de ceramica. Pero un fragmento de un hacha de piedra pulimentada se halló en los cimientos de la torre, y una muy pequeña cantidad de materia orgánica carbonizada se encontró bajo la fachada exterior de la torre, encima de la

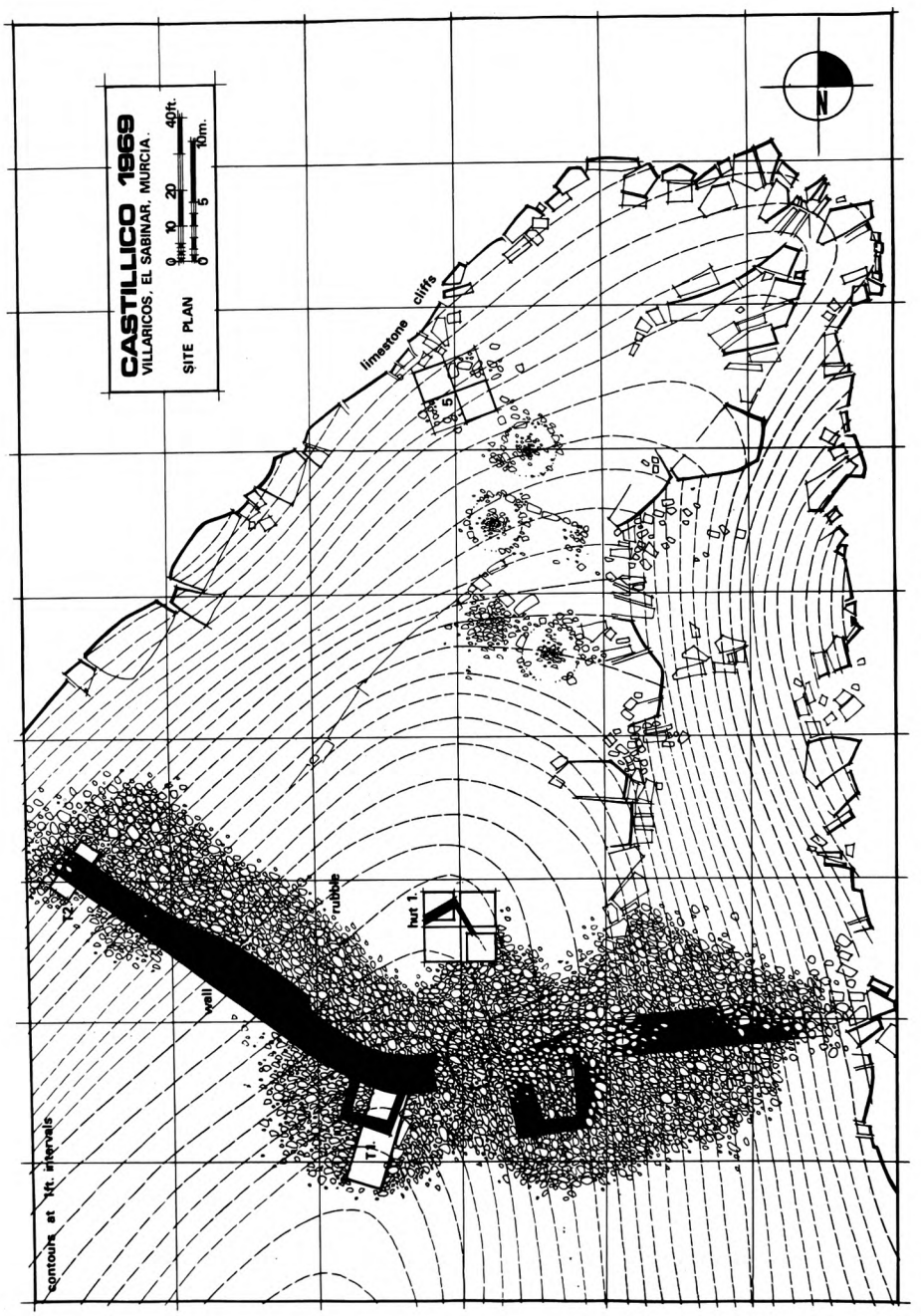

Fig. 2.–Plano del yacimiento.

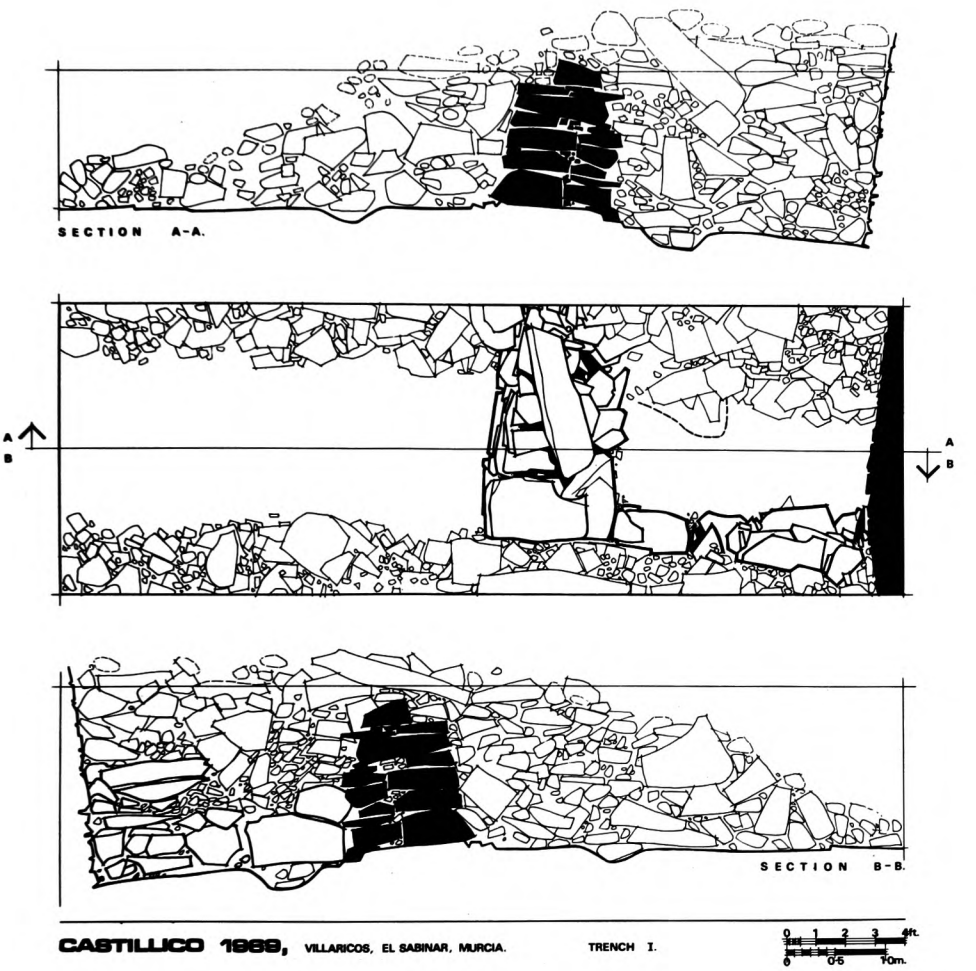

Fig. 3.—Trinchera 1 y secciones.

caliza viva. La materia carbonizada se relacionó con excrementos fosilizados de artrópodos, y quizá fue intrusiva con ellos en el pasado (*).

Las trincheras T 1 y T 2 eran más informativas sobre el modo de construcción de la muralla defensiva y de la torre. Hoy, la muralla es de una altura irregular, pero es curioso notar que también es de una irregular anchura que seguramente había afectado su altura en diferentes lugares. En T 2 la muralla no alcanzaba a una anchura mayor de 3,5 m. Grandes losas ciclópeas de caliza estaban dispuestas en forma de fachada cruda a ambos lados de la

(*) Hemos tomado todas las medidas de las catas en el sistema anglosajón de pies (3 pies = 1 metro) y pulgadas (1 pulgada = 25 milímetros) por razón de la conveniencia de nuestras cintas y nuestros palos. Los dibujos dan la escala en metros y milímetros; las fotografías de la cerámica dan todas las medidas en milímetros.

muralla, pero no estaban cinceladas. Las dos filas de piedras raramente se tocaban interiormente y los constructores tampoco parecían haber intentado una construcción de losas trabadas una en otra. El aspecto interior de las piedras era irregular, dentado y se utilizaron piedras pequeñas y tierra para mantener la estabilidad de las grandes losas. Había de vez en cuando losas atravesadas dispuestas de manera transversa entre las dos fachadas para hacer firme la muralla entera. Se puso la fila más baja de piedras encima de la caliza viva natural, que se debió limpiar de vegetación antes de la construcción.

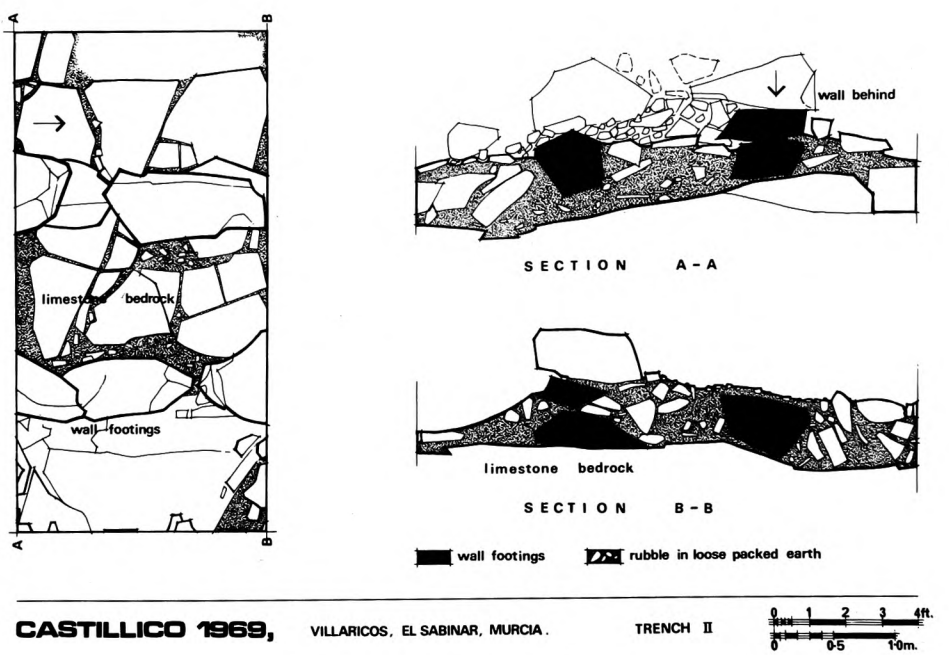

Fig. 4.—Trinchera 2 y secciones.

La torre revelada por la trinchera T 1 fue en su origen de construcción semejante y medía 4,5 X 4,5 m., alcanzando una altura máxima de 2 m Fue construída en la roca viva y apoyada en la muralla principal, con la cual no se atravesaban las losas de la torre. La casi completa falta de tierra hizo imposible una comparación estratigráfica entre las estructuras (véanse las elevaciones estratigráficas). Los únicos hallazgos que podían fechar con mejor seguridad la construcción de la muralla y de la torre, respectivamente, eran la materia carbonizada del pie de la torre y la cerámica de la muralla. Excluidos ellos, solamente detalles de estructura nos dan la base para una interpretación. La torre quizá era una parte intencional del plan original defensivo, el modo de construcción determinado por una falta de experiencia y entendimiento en los constructores. Esta hipótesis podía ser reforzada por la presencia de una puerta de 1 X 1,5 m. de altura en la muralla defensiva detrás de la torre. Pero otras consideraciones de la torre hacen dudoso que la puerta

jamás se pudiera haber utilizado, porque el gran tamaño de las piedras y losas que formaban parte en la base de la pared exterior de la torre, dejaba poco espacio dentro de ella para permitir una especie de escalera o escala necesaria para subir, siempre suponiendo que la torre tenía la misma altura que la muralla. Además, los aspectos interiores irregulares y dentados de las losas hubiesen necesitado muchas piedras y muy grandes para empacar y apoyar la parte de arriba de la torre, y las piedras sueltas encontradas por los obreros quizá tenían tal función. Es posible, no obstante, que la puerta fuera dejada en la muralla con el intento de permitir acceso a la torre que iba a construirse, pero por el modo de construcción, debido a una limitada experiencia por parte de los constructores, resultó que tal puerta fue totalmente impracticable. Una tercera posibilidad existe, y es que la torre se construyera en una época posterior a la muralla, y se situara estratégicamente para superar una debilidad en las defensas causada por la puerta. Favoreciendo tal punto de vista tenemos la interpretación del fragmento de un hacha de piedra pulimentada como vestigio de una fase de ocupación previa del poblado y quizá responsable de la construcción de la muralla, un fragmento echado dentro de las piedras sueltas que se utilizaron para hacer los fundamentos de la torre en una época más tardía, cuando el uso de hachas de ese tipo se había olvidado. El plano topográfico sugiere la posibilidad de una segunda torre, que quizá haría improbable tal explicación si se encontrase delante de una segunda puerta, y en ese caso sería más probable que las puertas tenían un papel relevante en la construcción de las torres. De todas formas, debe haber habido otras entradas más anchas que las pequeñas puertas para dejar entrar al poblado animales y bultos. Quizá una entrada así estaba entre las dos torres.

La excavación de la trinchera T 1 era difícil y lenta debido a las grandes losas que teníamos que mover. Por consecuencia, el número de construcciones dentro del poblado que podían excavarse era menor de lo que se había esperado. "Stony features" o estructuras de piedras se enumeraron del 1 al 5 en el plano. Los números 1 y 5 fueron excavados. Se excavaron cuadros de 30 X 30 pies en cuadrantes opuestos con alternativas fajas de tierra sin excavar. La número 5 era nada más que una estructura geológica de la caliza, y sólo se excavaron dos cuadrantes. La tierra suelta de este rasgo nos dio unos veintiocho fragmentos de cerámica tosca, y este suelo continuaba sin variación, con poca profundidad, hasta la roca viva.

La estructura de piedras número 1, después llamado Cabaña 1 (Hut 1), era más interesante. Se hallaron dos paredes de una construcción rectangular. Las paredes parecen haberse construido de adobe encima de una base débil de piedras. Un incendio había destrozado la cabaña y se encontró una capa de adobe cocida por el fuego que había caído hacia el interior en el accidente. Esta capa tenía 5 cm. de potencia. La llamamos capa 2, y las capas de tierra suelta con piedras sueltas encima y debajo de ella fueron llamadas capas 1 y 3. Como se ve por las secciones estratigráficas, la profundidad total del suelo en la estructura de piedras número 1 variaba entre 0 y 50 cm., y la profundidad de las capas individuales también variaba, debido a la irregularidad del terreno. No obstante, la denominación de las capas 1, 2 y 3 resultó insatisfactoria, porque la capa de adobe no se extendía a través de la cabaña. Además, fragmentos de una misma vasija se hallaron en la capa 3 y

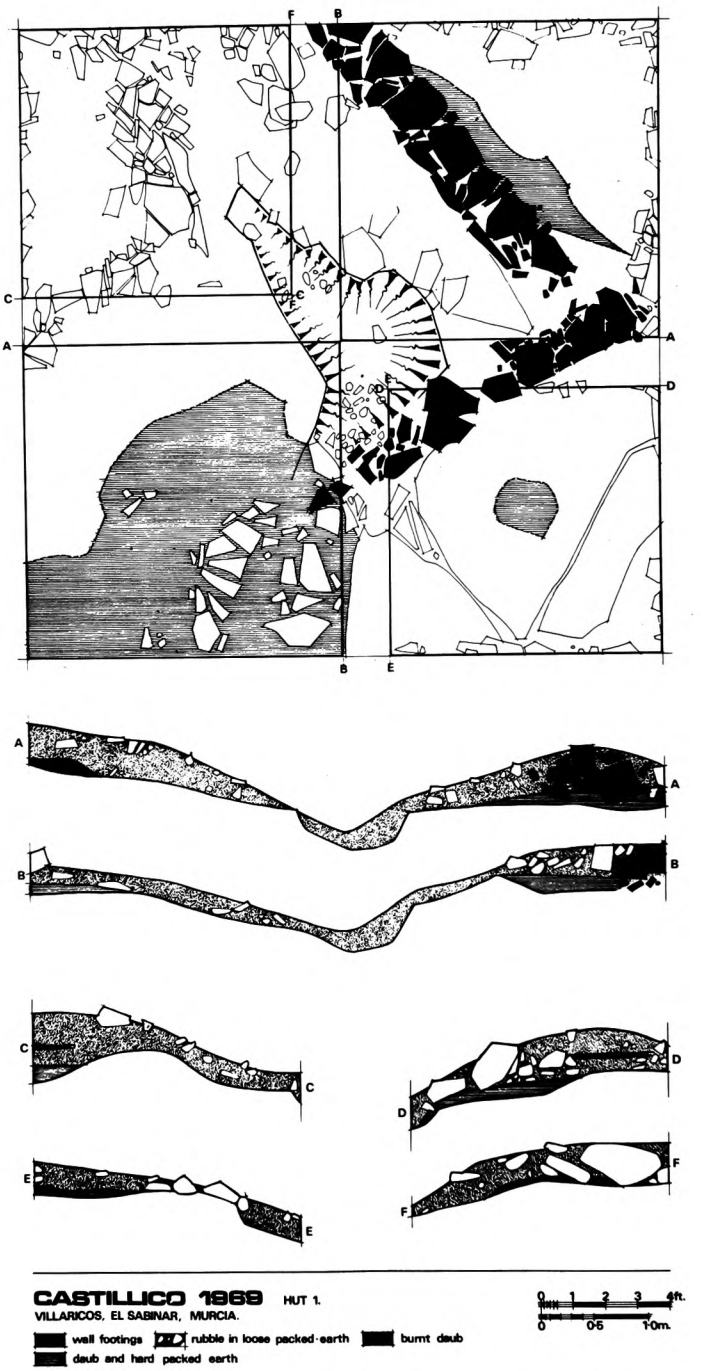

Fig. 5.—Cabaña 1 y secciones.

en la capa 2 (véase número 157ª). Ahora reconocemos que las capas 1, 2 y 3 pertenecían a una sola fase de ocupación de la cabaña y era la segunda fase la que se representaba en la estructura de piedras número 1.

Los fundamentos de piedra de la cabaña se habían dispuesto encima de tierra comprimida y muy firme que contenía adobe, la capa 4, que pasaba continuamente por debajo de las paredes. No conocemos ninguna construcción relacionada con esta capa. La capa 5 contenía algunos tiestos en una tierra más clara, pero creemos que son contemporáneos de los de la capa 4 y que las dos capas representaban la primera fase de ocupación.

Los cimientos de la cabaña número 1 nos dieron una minuciosa cantidad de materia carbonizada, que se ha combinado con la muestra de la trinchera T 1 para la determinación del carbono-14 en el Departamento de Geología de la Universidad de Birmingham, gracias a la agradable colaboración del profesor F. W. Shotton, F.R.S.

Hubiésemos deseado hacer más excavaciones, pero una serie de tormentas violentas después de terminar la excavación de las catas que acabamos de describir, destruyeron la labor y el campamento del equipo.

Se hallaron algunos materiales en la superficie del poblado. Entre ellos había algunos grandes tiestos de borde evertido que probablemente eran parte de una vasija carenada, quizá de tipo argárico tardío.

Se han tomado muestras de algunos tiestos de cerámica para análisis mineralógico.

LOS HALLAZGOS

Piedra

Al contrario que en muchos poblados del sureste español del Bronce II, el yacimiento no dio ni implementos de sílex ni de cuarcita. Un fragmento de un hacha de piedra pulimentada se halló en las piedras sueltas que llanaron las fundaciones de la torre. La sección del artefacto mide 38 X 26 mm. El segmento pequeño, roto a cada lado, es de 27 mm. de anchura. Parece ser de granodiorita.

También se encontraron en varios sitios de la superficie del poblado algunas piedras de moler.

Cerámica

(1) Números 1-9.

La trinchera T 2 dio dos fragmentos que se hallaban en los cimientos de la muralla, de los cuales uno era el borde de una vasija de poca curvatura y hecha a mano. Del exterior de la muralla había siete fragmentos, entre los cuales seis, como el antecedente, eran de color amarillo o amarillo rojizo, y se ven partículas de minerales de "filler" utilizado por los alfareros para reducir la plasticidad de la arcilla. Un fragmento era de una pasta más dura y de menos peso, de color rojizo y brillando en las dos superficies con partículas micáceas. Tenía la base de un asa y el exterior era alisado. También se

veían vestigios de alisar o de tornar en la rueda del alfarero en la superficie interior. Este fragmento estaba menos gastado que los demás.

(2) Números 10-37.

La estructura de piedras número 5 dio veintiocho fragmentos de cerámica tosca, hecha a mano, la mayoría de color amarillo rojizo, algunos

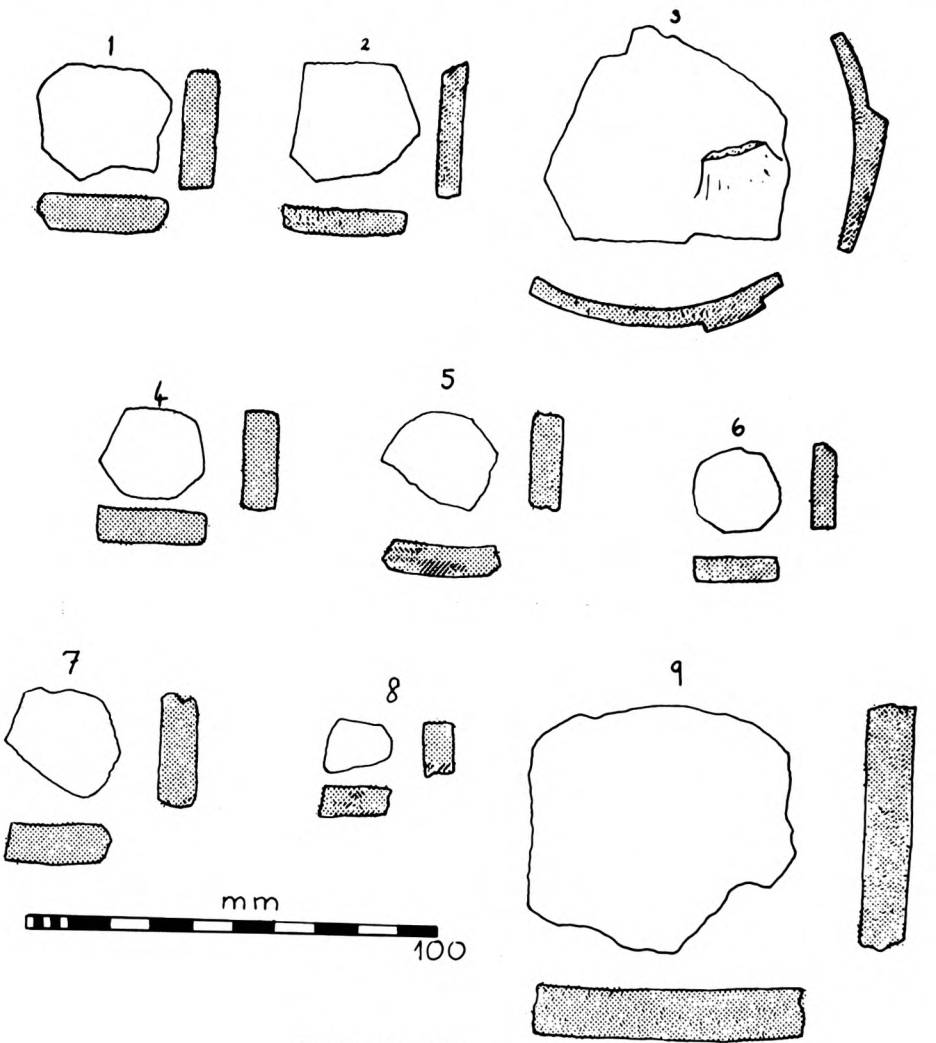

Fig. 6.—Materiales cerámicos.

alisados y a menudo con partículas de minerales. Uno era de una pasta alisada gris y bruñida. Otro era parte de un asa ancha y del vaso correspondiente. Como los fragmentos de la T 2, todos eran demasiado pequeños para determinar las formas de las vasijas.

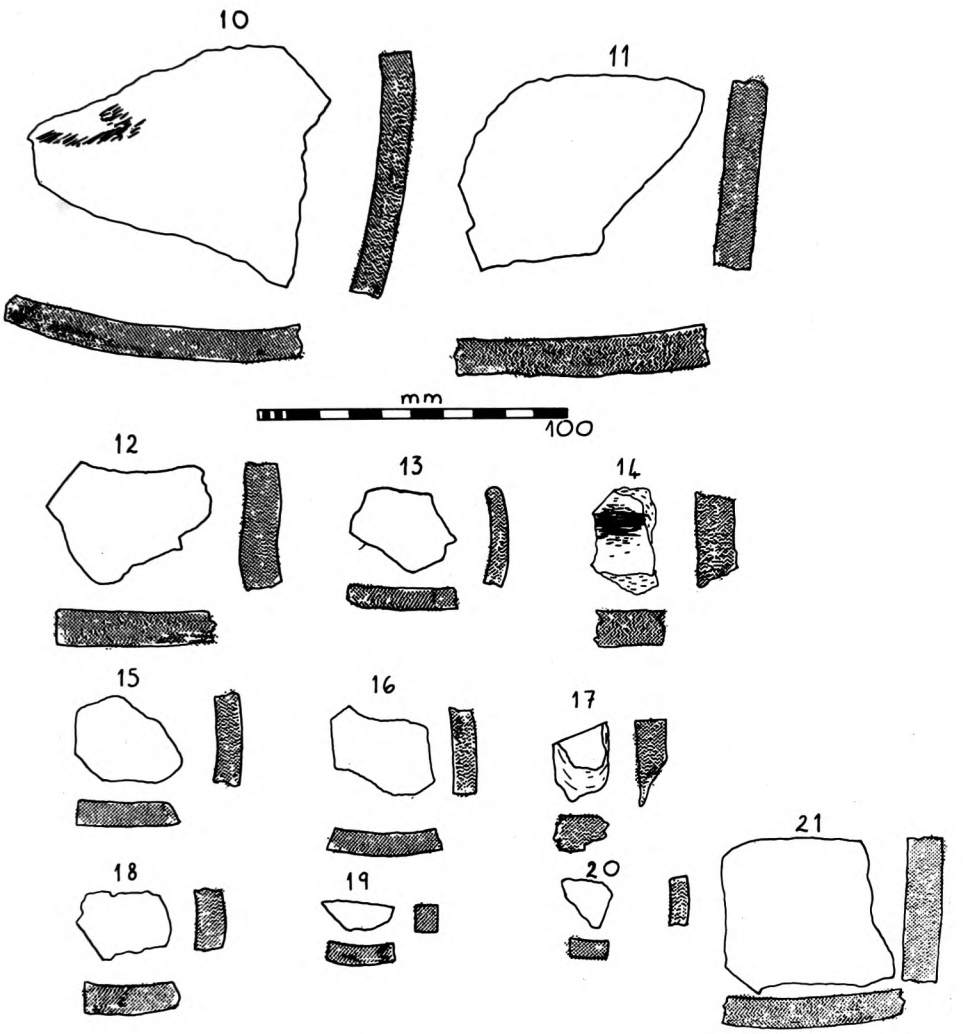

Fig. 7.—Materiales cerámicos.

(3) Números 38-40.

Estos fragmentos se hallaron en la superficie, cerca de la estructura de piedras número 5, y son tres fragmentos de un borde gris y evertido, quizá de un cuenco carenado de tipo Bronce II.

(4) Números 41-205.

La fase segunda de la ocupación en la estructura de piedras número 1, correspondiente a la cabaña 1, dio la mayoría de la cerámica. Treinta y seis (22°/o) de los ciento sesenta y cuatro fragmentos estaban hechos a torno. Eran los únicos hechos así en todo el yacimiento. Además, cinco de éstos

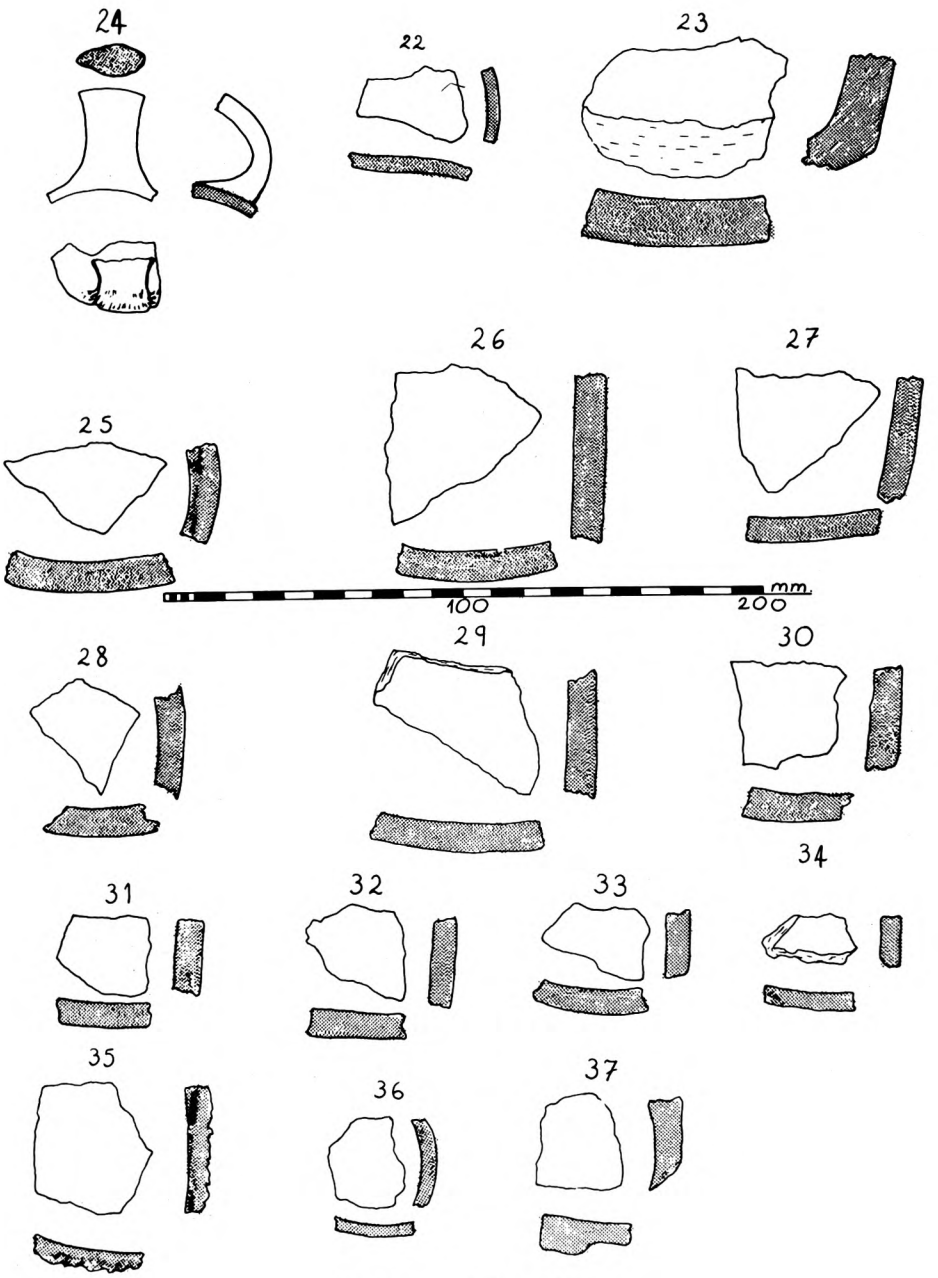

Fig. 8.—Materiales cerámicos.

estaban pintados con rayos concéntricos de entre tres y diez milímetros de anchura, siendo marrón sobre crema, o negro sobre rojizo. Un fragmento estaba pintado en los dos lados. Otros dos eran bruñidos, de color marrón. Se hallaron veintiún bordes y entre ellos también había tiestos llanos y otros ligeramente curvos, como si pertenecieran a cuencos troncocónicos o subhemisféricos. Otros bordes eran evertidos, algunos con carena. La mayor parte de los fragmentos de esta fase de ocupación estaban hechos a mano, siendo de pasta de color amarillo o amarillo rojizo, con partículas de minerales, a menudo partículas grandes. Otros fragmentos eran de color negruzco

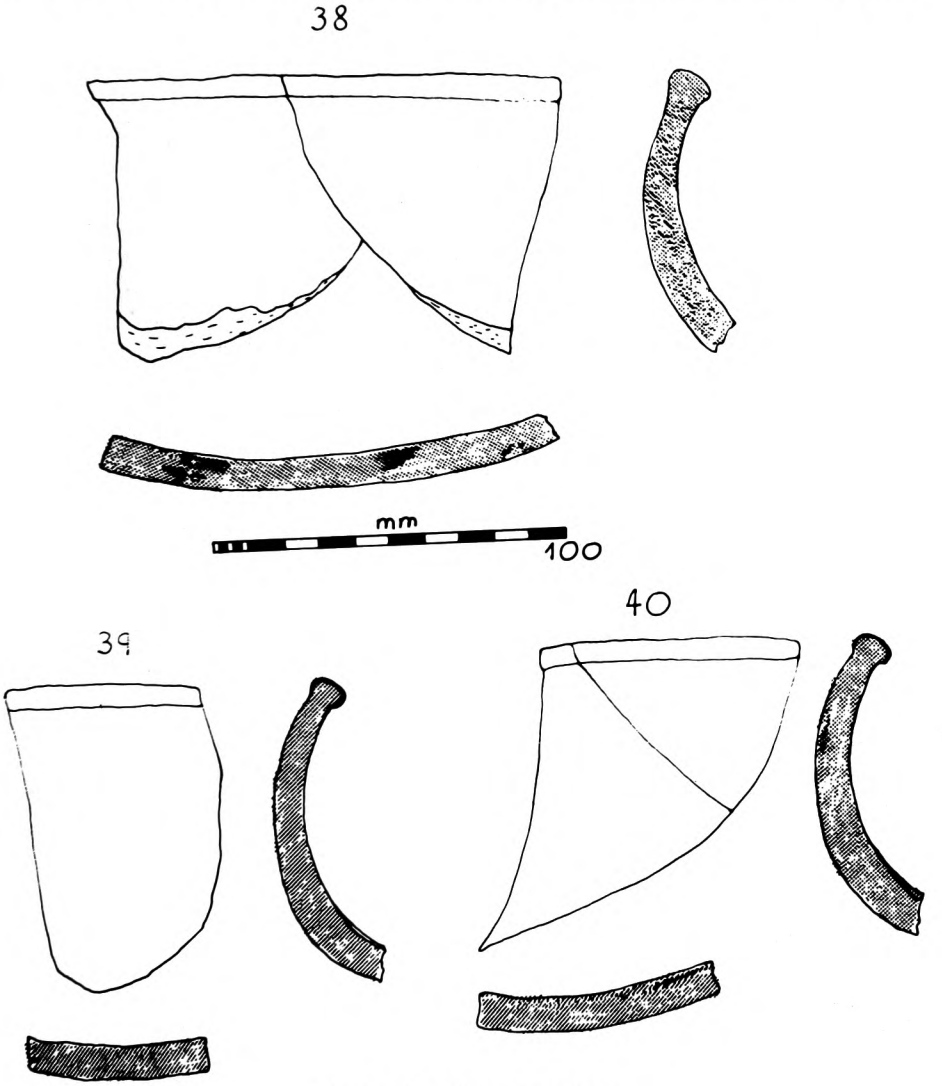

Fig. 9.—Materiales cerámicos.

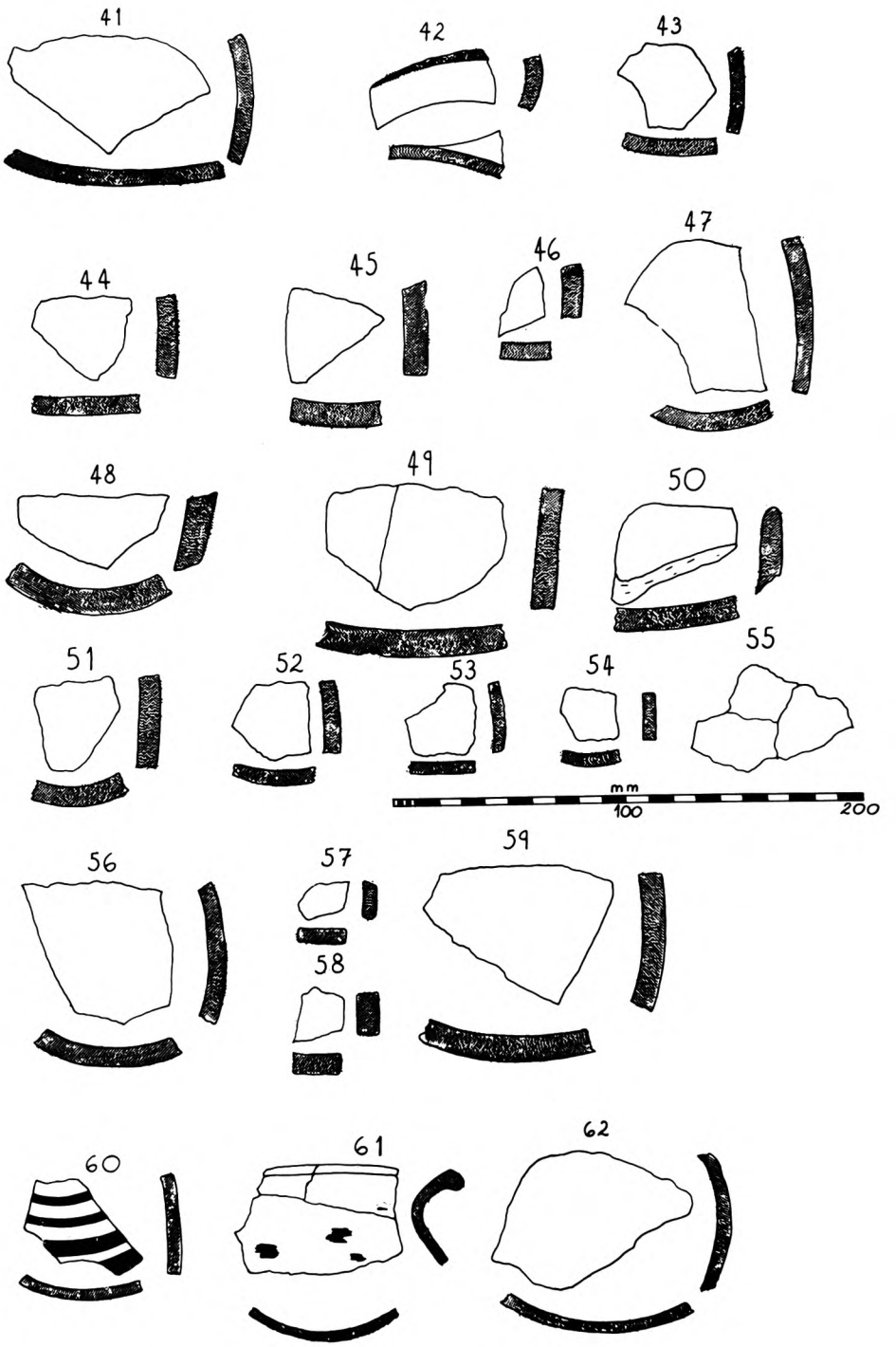

Fig. 10.—Materiales cerámicos.

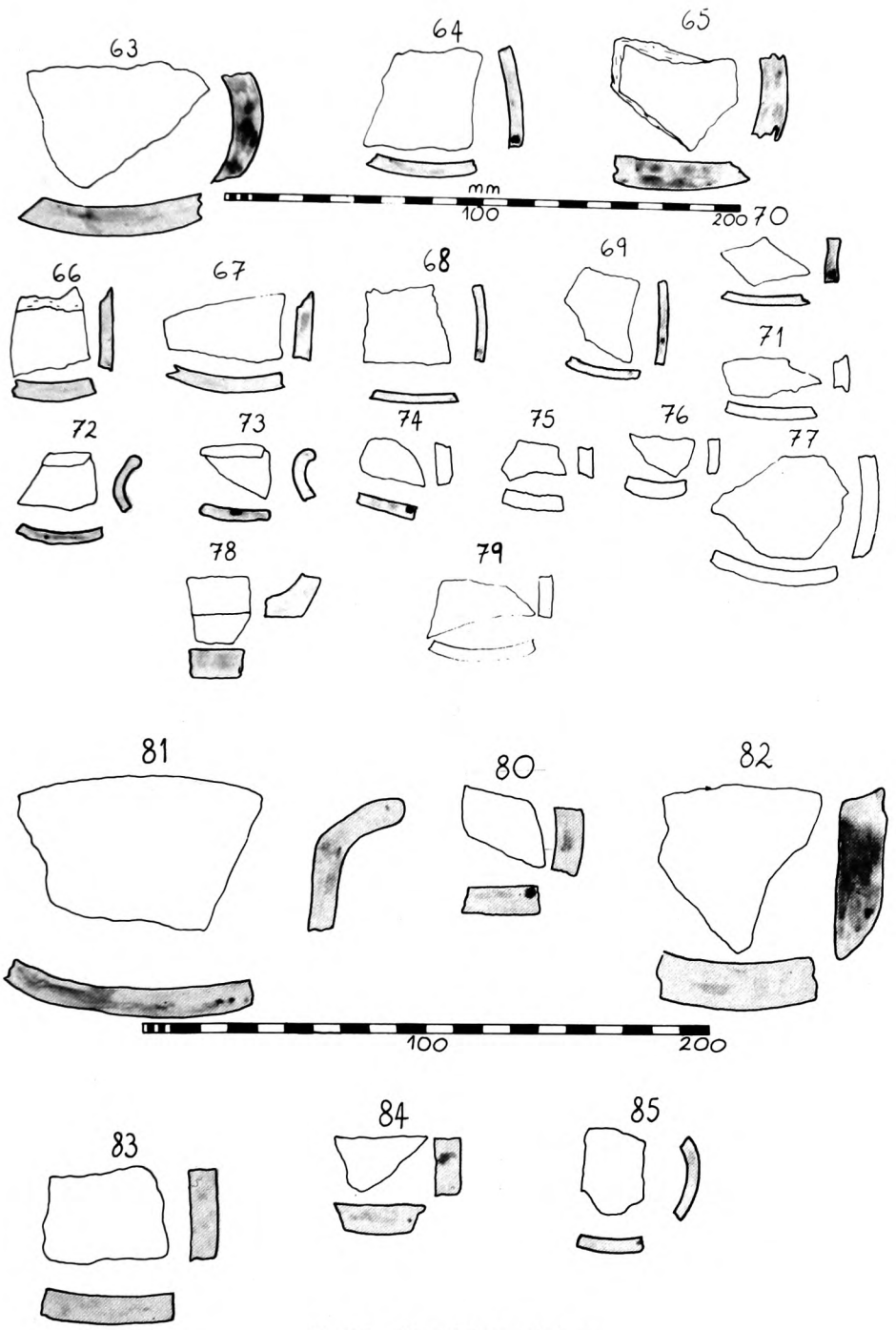

Fig. 11.—Materiales cerámicos.

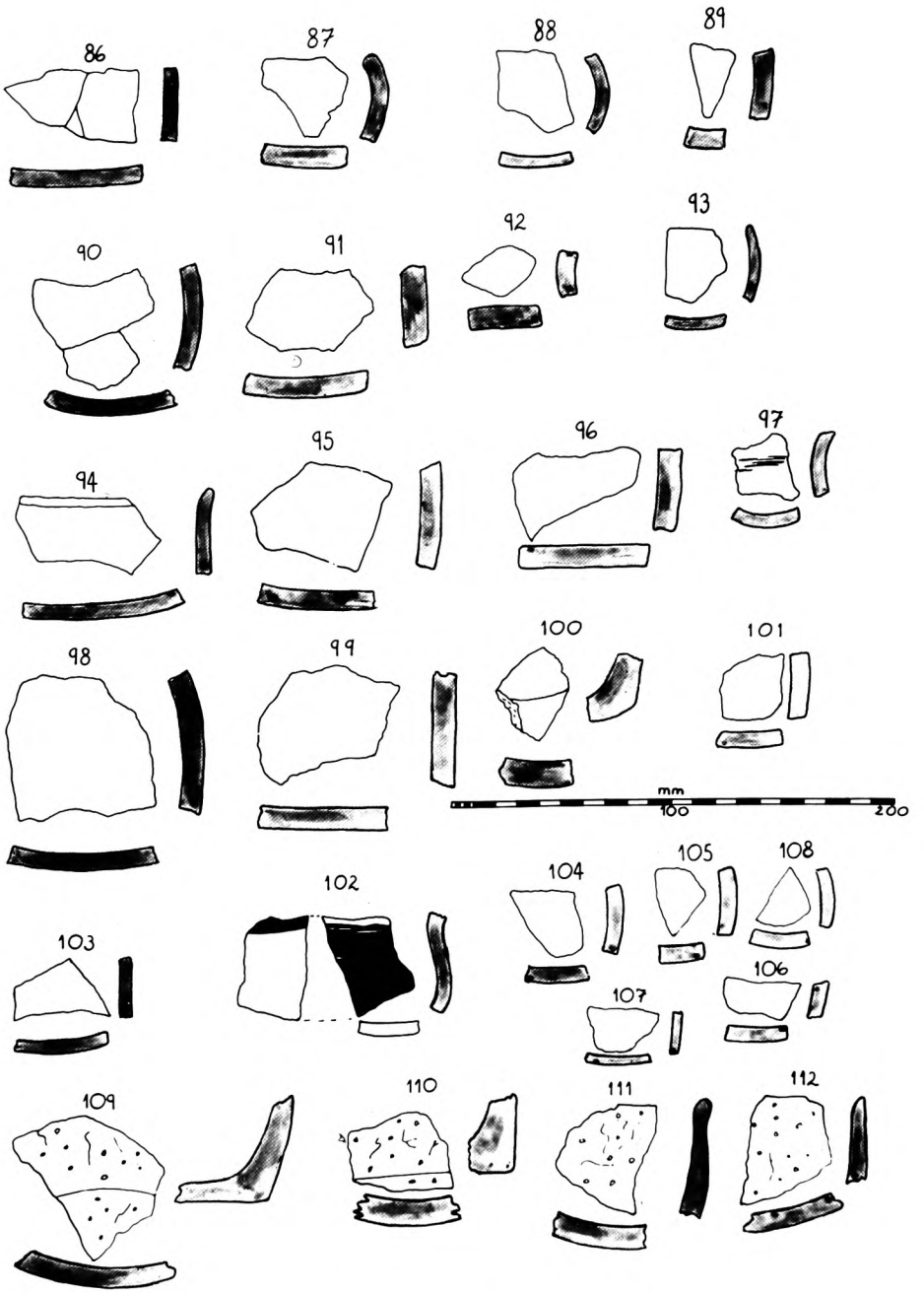

Fig. 12.—Materiales cerámicos.



Fig. 13.—Materiales cerámicos.

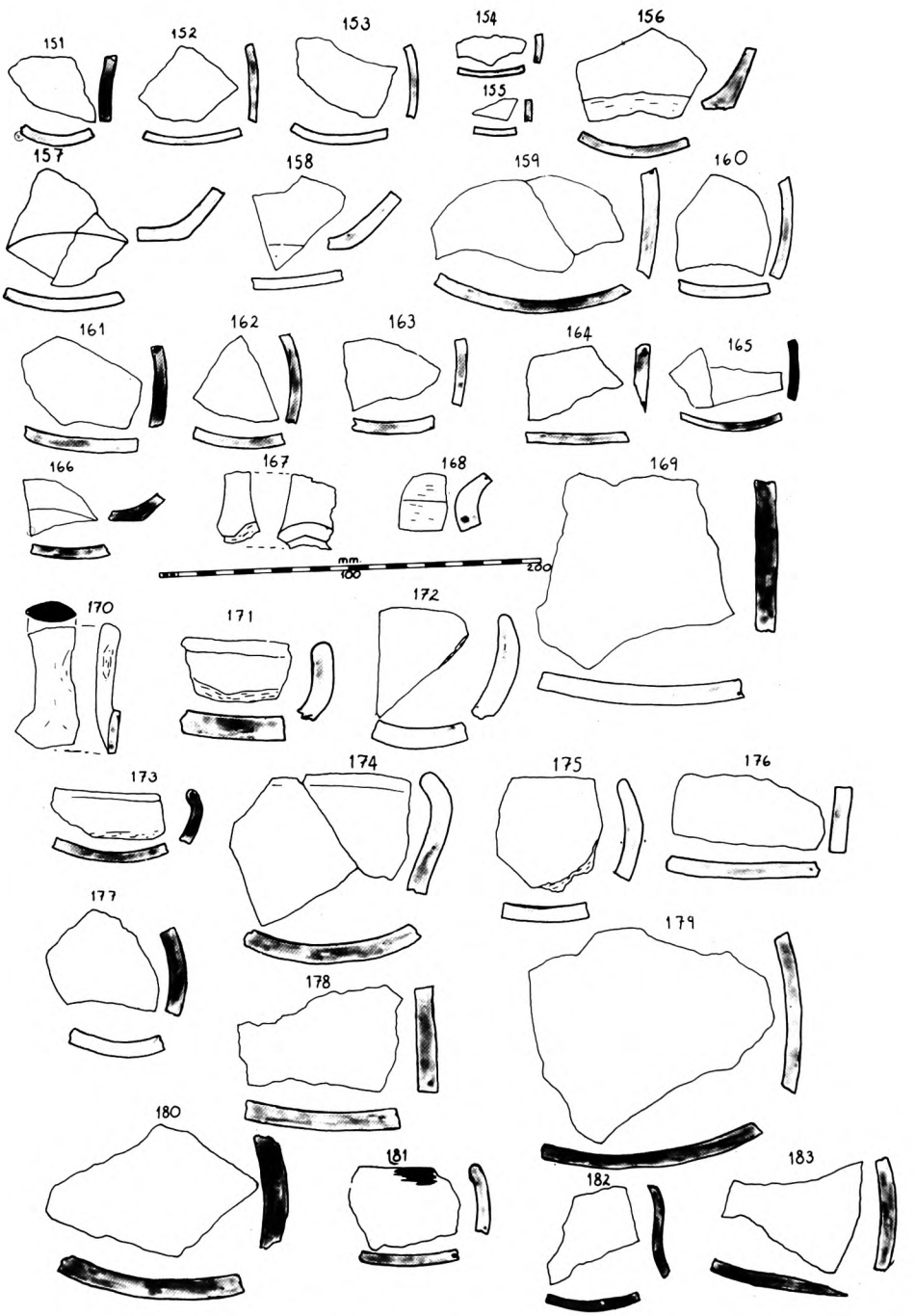

Fig. 14.—Materiales cerámicos.

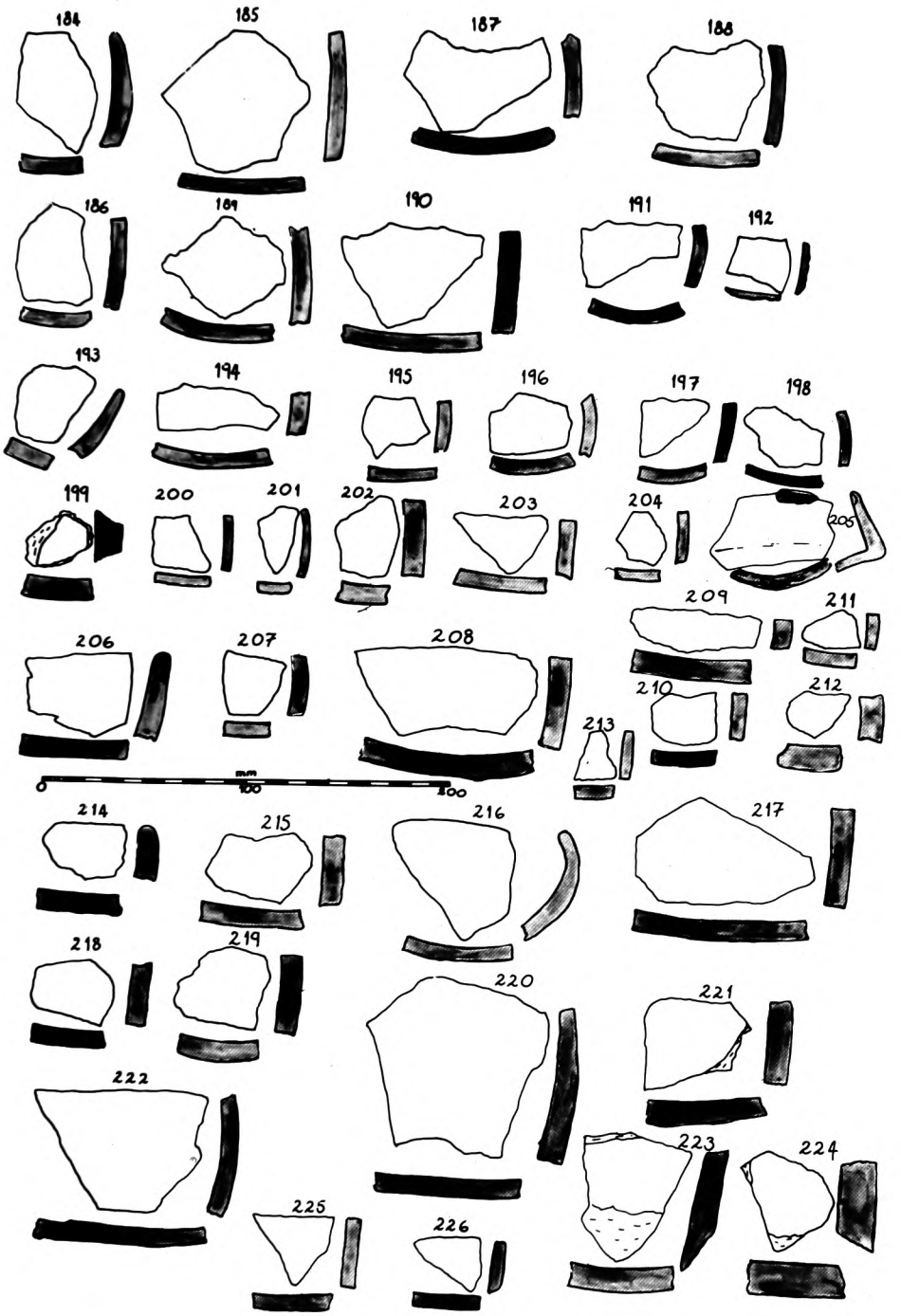

Fig. 15.—Materiales cerámicos.

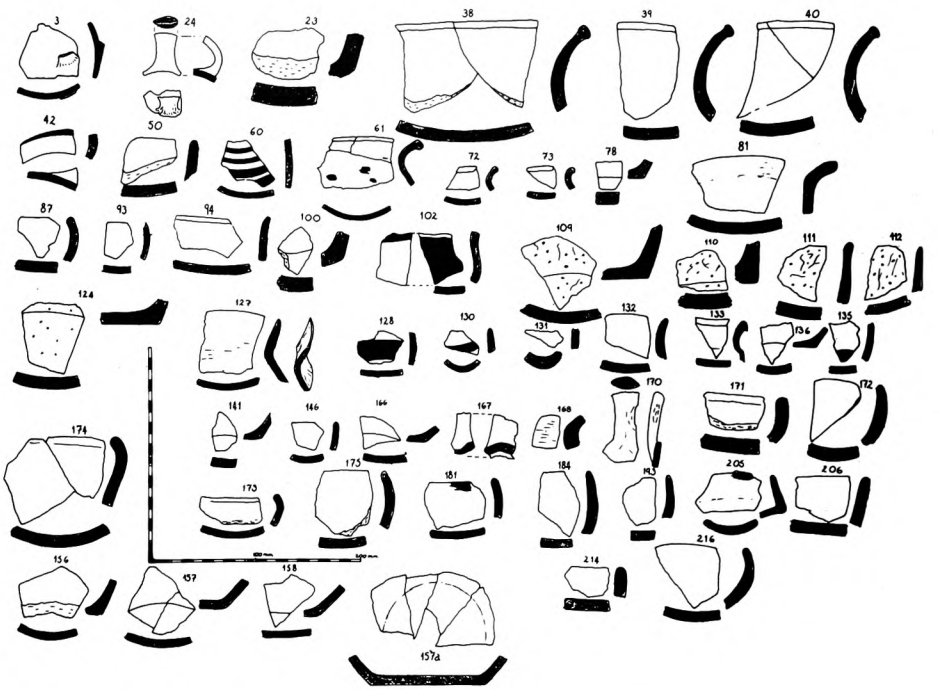

Fig. 16.—Materiales cerámicos. Fragmentos de mayor interés.

y otros de una pasta gris y alisada. Algunos tenían pasta roja con poco mineral visible. Los números 69-76 eran de una pasta dura y roja, todos muy parecidos. Los números 109-125 eran espesos y de pasta de color amarillo con partículas de minerales muy grandes, y quizá pertenecían solamente a dos vasijas, probablemente dos cuencos troncocónicos. Los números 156-164 eran de una pasta dura y gris y parecen ser la base de una vasija y otros fragmentos de sus paredes, todos bien espatulados.

(5) Números 206-227.

La fase primera de ocupación dio veintiún fragmentos de cerámica hecha a mano, y entre ellos tres eran bordes simples. Los tiestos eran de color amarillo rojizo o amarillo con cristales de minerales; algunos eran toscos y otros alisados, algunos de aspecto "jabonoso". Todos estaban muy rodados. Uno se había hecho con mezcla de paja menuda probablemente. Todos los tiestos se parecían a los de la T 2.

Los porcentajes de bordes de la trinchera T 2, y las dos fases de ocupación de la estructura de piedras número 1, variaban entre 11 y 14°/o. No se halló ningún borde en la estructura de piedras número 5.

Se cortaron siete tiestos de la T 2, once de la estructura de piedras número 5, siete de la fase segunda de ocupación y cinco de la primera para tomar muestras para análisis mineralógico. Varios fragmentos encontrados en

la cuesta de "talus", bajo la roca, también se llevaron para este estudio, la mayoría correspondiente a cerámica de la segunda fase de ocupación.

Metal

Una cadena de hierro de 130 mm. de largo se halló en la segunda fase de ocupación, cerca de los fundamentos de la cabaña 1. Consiste en cuatro pares de dobles anillos en forma de "gafas", cada anillo de 22 mm. de diámetro. El hierro tiene una sección circular de 5 mm. de diámetro. La pieza estaba muy corroída, tanto que dos anillos se han obliterado.

Un campesino halló una pieza de bronce cerca de la muralla defensiva hace muchos años. Es la mitad de un bucle de bronce que mide 28 X 26 mm. y lleva una simple lengua detrás, y delante el motivo tiene la forma de una cara humana. El pelo y la barba están muy estilizados, en forma de ondas, y un bigote torcido y largo se une con dos orejas demasiado grandes. La pieza

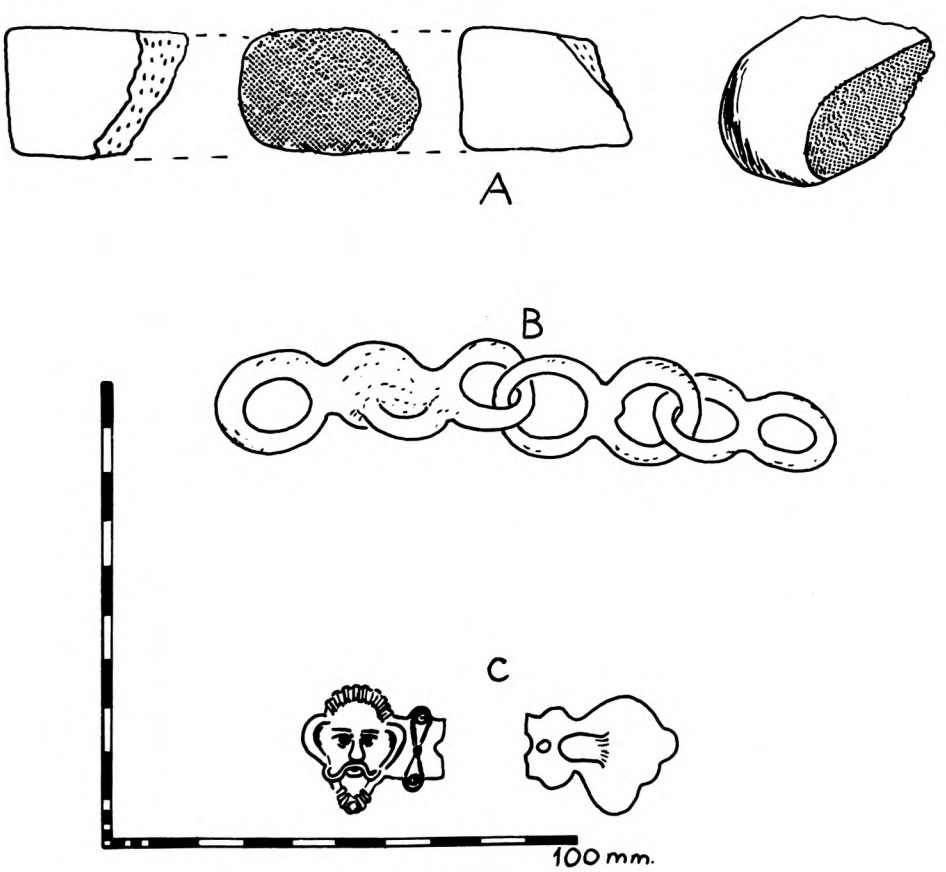

Fig. 17.—Objetos diversos.

parece céltica, y probablemente es un objeto más tardío, que se cayó por casualidad en la época celtíbera, cuando el poblado ya estaba arruinado.

Todos los hallazgos se han depositado en el Museo de Murcia.

DISCUSION

La segunda fase de ocupación, cuando la cerámica se hacía a torno y se pintaba en rayos concéntricos, pertenece a la etapa más temprana de la Cultura Ibérica de la primera Edad del Hierro. A esta fase corresponden los materiales encontrados por García Guinea y San Miguel Ruiz, en el poblado prehistórico de El Macalón, a unos 15 km. al Suroeste, cerca de Nerpio, en la provincia de Albacete (véase M. A. García Guinea y J. A. San Miguel Ruiz: "Poblado Ibérico de El Macalón (Albacete)", en Excavaciones Arqueológicas en España, XXV, pp. 1-43, 1962). Aquí encontraron cerámica pintada con rayos anchos en las capas 8 y 9, muy parecida a la nuestra, pero estratificada bajo capas típicamente ibéricas. También hallaron este tipo de cerámica pintada primitiva en el Cerro del Real, cerca de Galera, en la provincia de Granada, los investigadores Pellicer y Schüle (véase M. Pellicer y W. Schüle: "El Cerro del Real, Galera (Granada)", en Excavaciones Arqueológicas en España, XII, pp. 3-15, 1962). En el Cerro del Real estaba en la capa 4, bajo capas de tipo ibérico típico, pero aquí había capas previas sin la cerámica pintada, pero con cerámica hecha a torno, incluso cerámica bruñida. Como en El Macalón, se halló cerámica greco-púnica en las mismas capas que la cerámica pintada en rayos anchos. Tiestos bruñidos se han encontrado en todos los yacimientos, El Macalón, Cerro del Real y El Castillico, en las mismas capas que esta cerámica pintada primitiva. Notamos que la cerámica con barniz rojo parece más tardía en la secuencia estratigráfica cuando aparece, y este tipo de cerámica se localiza en el siglo VI a. de J.C., según Cuadrado Díaz. En todos los yacimientos encontramos tiestos de bordes evertidos y torcidos, probablemente de vasos carenados del tipo Bronce II tardío, y quizá reforzados por influencias de los Campos de Urnas tardíos desde el Norte, aunque decir eso es decir poco, porque bordes evertidos y formas carenadas son corrientes en todas partes de la Península durante el Bronce II tardío. Quizá es más indicativo de la influencia de los Campos de Urnas una tendencia hacia más cuencos troncocónicos de base llana, en contra de los cuencos de base rehundida y los subhemisféricos argáricos previos. Es curioso que los tiestos de bordes evertidos de este tipo del Bronce II se hallaron en El Castillico, como en El Macalón, en circunstancias que prescindían una comparación estratigráfica con la fase ibérica primera. García Guinea ha denominado esta fase de cerámica pintada en rayos anchos "pseudoibérica", y la localiza en el siglo VII a. de J.C., porque las capas subsecuentes pertenecen al siglo siguiente más o menos, y en esta conexión notamos la fíbula de arco romboidal y las puntas de flecha pedunculadas. En El Castillico tenemos un solo artefacto de metal localizado en la secuencia estratigráfica, la cadena de hierro. A menudo se supone que las cadenas de hierro tienen que ser tardías en la Cultura Ibérica. Tal suposición no parece necesaria, porque dobles anillos en forma de "gafas", pero hechos en bronce, fueron hallados en la famosa colección de la embocadura del río Odiel (Huelva), que debe tener una fecha en el siglo VIII. Estos no son muy

diferentes de los dobles anillos de nuestra cadena. Pero por otra parte, la cadena de El Castillico difiere completamente de la cadena de anillos individuales, asociada con el ornamento en forma de pajarito y derivado del Hallstatt D, encontrada en El Bovalar (Castellón), un yacimiento que podemos fechar por la fíbula de pie alto (véase F. Esteve Gálvez: "La necrópolis ibérica de El Bovalar (Benicarló, Castellón de la Plana)", en Archivo de Prehistoria Levantina, XI, pp. 125-148, 1966). (Pero hay que advertir que Schüle ha avisado contra una fácil derivación de prototipos hallstátticos "D" desde el norte de los Alpes para todas las fíbulas peninsulares de pie alto (véase W. Schüle: "Dos elementos llamados hallstátticos en el hierro de la Meseta", en VII Congreso Nacional de Arqueología, Barcelona, 1960, pp. 227-232, 1962).

Aunque no parece ser evidencia firme para este autor creer en influencias hallstátticas en la fase inicial ibérica con la cerámica pintada en rayos anchos, aparte de características generales tales como cerámica pintada o bruñida, formas troncocónicas y bordes evertidos, es interesante notar que hay un grupo inédito, aunque típico, de tres urnas bicónicas con cuello recto, taponadas por cuencos en el Museo de Albacete, y que se hallaron tiestos de cerámica excisa en el yacimiento del Bronce II tardío de Cabezo Redondo, cerca de Villena (Alicante), conservados en el Palacio Municipal, Villena, que merecen comparación con la cerámica excisa de la cuenca del Ebro. Es instructivo volver a Bosch Gimpera ("Two Celtic Waves in Spain", en Proceedings of the British Academy, XXVI, pp. 25-148, 1940) y reflexionar sobre su argumento, favoreciendo una penetración céltica temprana en la Península. Está claro que había gente que vivía en la Meseta en los siglos IX y VIII a. de J.C. por el mapa de distribución de fíbulas tempranas "chipriotas", "sículos" (c. p. Pantalica II), "Huelva", y "ad occhio" (véase E. Cuadrado Díaz: "Precedentes y prototipos de la fíbula anular hispánica", en Trabajos de Prehistoria del Seminario de Historia Primitiva del Hombre, de la Universidad de Madrid y del Instituto Español de Prehistoria del Consejo Superior de Investigaciones Científicas, núm. 7, pp. 1-61, esp. mapa 1, 1963). Es posible que el tipo "sículo" pertenezca al siglo X a. de J.C. El problema entonces es saber quiénes eran la gente que podía importar objetos tan exóticos. Si no eran celtas, es difícil imaginar quiénes eran.

Parece que la Cultura de los Campos de Urnas septentrional y las incursiones hallstátticas subsecuentes ejercieron influencia hasta los límites del territorio que antes había sido el centro de la Cultura Argárica, es decir, las provincias de Murcia, Almería, la parte meridional de Alicante, y la parte oriental de Granada. Los grandes pueblos argáricos tempranos, como La Bastida, cerca de Totana (Murcia), y El Argar, cerca de Antas (Almería), no tenían más defensas que las regaladas por la Naturaleza en las estrechas cuestas erosionadas de los valles, encima de los cuales se habían construido. Después, y sobre todo hacia el Norte, los poblados mostraban cierta tendencia hacia un menor tamaño y hacia defensas fuertes, ayudadas por localizaciones estratégicas en las cumbres de montes altos. No es intento de este informe dar una lista de los muchos poblados defendidos del Bronce II alicantino y valenciano, muchos de los cuales fueron ocupados poco tiempo y completamente dentro del Bronce II. Pero notamos que algunos de los poblados con defensas más grandes se situan en la periferia, así tenemos El

Acequión, un poblado curioso en una laguna con restos de murallas (véase J. Martínez Santa Olalla: "El "crannog" de la laguna de Acequión, en la provincia de Albacete", en Anales del Seminario de Historia y Arqueología de Albacete, I, pp. 1-12, 1951), y el poblado defendido subrectangular de Cañaverosa, cerca de Moratalla (Murcia), con torres reforzando los ángulos de la muralla (véase E. Cuadrado Díaz: "El poblado argárico de Cañaverosa, cerca de Moratalla (Murcia), con torres reforzando los ángulos de la muralla (véase E. Cuadrado Díaz: "El poblado argárico de Cañaverosa, en SAITIBI, Noticiario de Historia, Arte y Arqueología de Levante, núms. 9-10, pp. 5-15, 1943). El Castillico difiere de éstos en tener la torre rectangular en frente de la muralla. El modo de construcción permanece crudo y ciclópeo, como el de los demás poblados del Bronce II levantino, en contra de los mejores edificios ibéricos posteriores. Las torres serían quizá tomadas de los comerciantes cartagineses que estaban establecidos en el siglo VIII en las costas andaluzas y levantinas meridionales, y quizá fueron ellos también quienes estimularon la adopción de la rueda del alfarero y la tecnología del hierro.

Interesante es notar que no encontramos ningún hiato en la secuencia estratigráfica entre las dos fases de ocupación que se sucedían. Se espera que la materia carbonizada dé cantidad suficiente para permitir fechar el comienzo de la fase segunda de El Castillico. Desgraciadamente, la muestra de la base de la torre se tuvo que mezclar con la muestra de las fundaciones de la cabaña 1 por razón de la cantidad, muy pequeña. No obstante, es difícil creer que la torre sea más tardía que la cabaña. Menos fácil es relacionar la torre con la construcción de la muralla principal. Quizá las dos se construyeron al comienzo de la época ibérica. De otro modo, es posible que la muralla se construyera anteriormente.

En resumen, podemos sugerir que se rejuvenecieron los poblados pobres del Bronce II tardío en la zona montañosa, entre las dos esferas de influencias en conflicto, en el primer cuarto del primer milenio antes de Jesucristo. Quizá era la consecuencia directa de la nueva Cultura Ibérica desarrollándose bajo las influencias extranjeras de la Cultura Argárica tardía en Andalucía y en el Levante meridional, y que luego se expansionó al Norte hasta la misma Cataluña, con una absorción de la heritencia céltica. No es improbable que la fundación y la expansión de la Cultura Ibérica desde sus raíces argáricas representasen un efecto directo de los comerciantes greco-fenicios, deseando una expansión de sus mercados en el extranjero y su protección contra su posible destrucción. Son necesarias más excavaciones de poblados defendidos en el territorio de la frontera entre las dos esferas de influencia, sobre todo en poblados que ofrezcan una mayor profundidad de suelo y una secuencia estratigráfica más extensa que El Castillico, y que también presenten defensas complicadas. Así quizá resolveremos algunas de las especulaciones planteadas en esta discusión.

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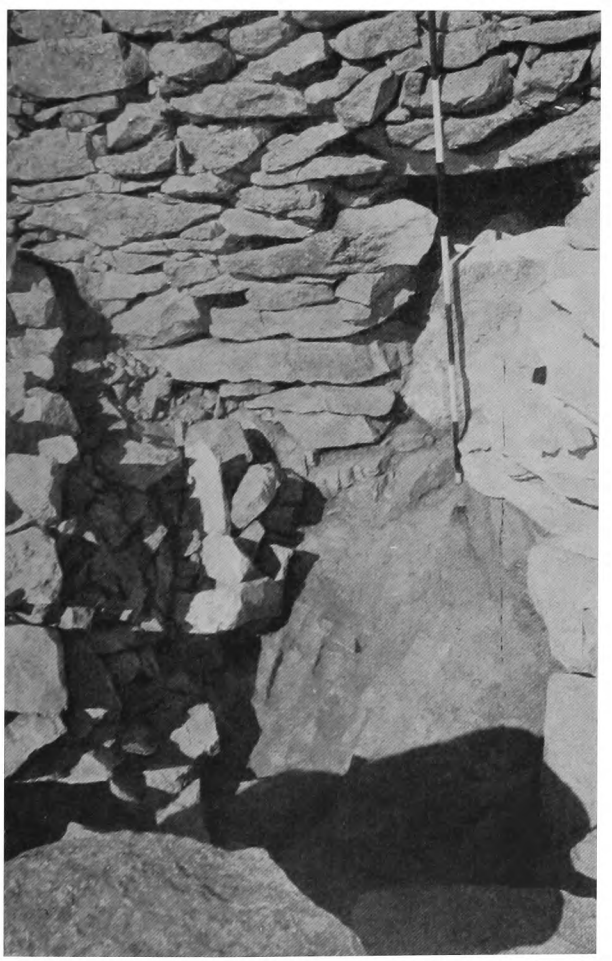
LAMINA XXXVIII



El Castillico.—Vista del lugar antes de comenzar los trabajos.



1



2

EL CASTILLICO.—1. Muralla y torre defensiva.—2. Interior de la torre y puerta de la muralla.

LAMINA XL



El Castillico.—Vista del ángulo de la pared de la cabaña número 1.



1

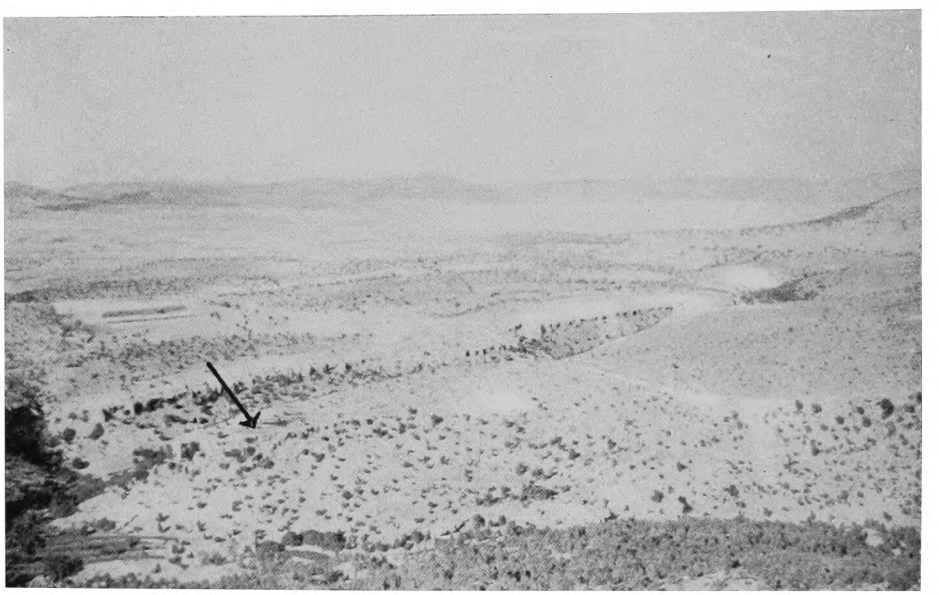


2

EL CASTILLICO.—1. Trinchera T-2 y excavación de la base de la muralla.—2. Estructuras de piedras número 1.—Nótese las huellas de los postes de la cabaña 1.

LAMINA XLII

1



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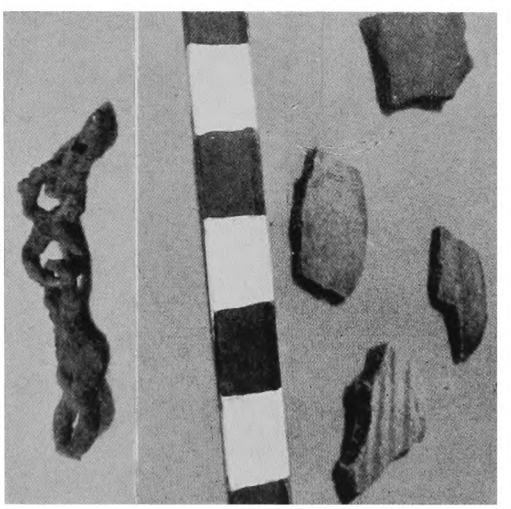

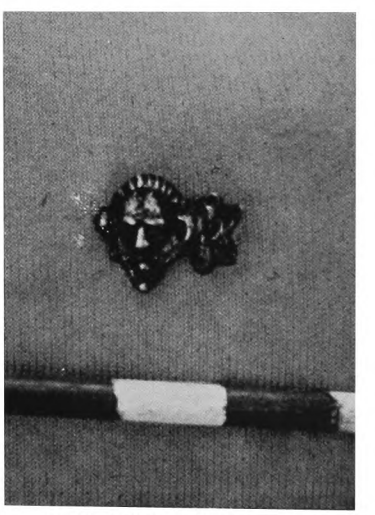

El Castillico.—1. Vista aérea del yacimiento.—2. Materiales diversos.