

THE NEOLITHIC AND COPPER AGE OF THE ABRUZZO-MARCHE REGION,
CENTRAL ITALY

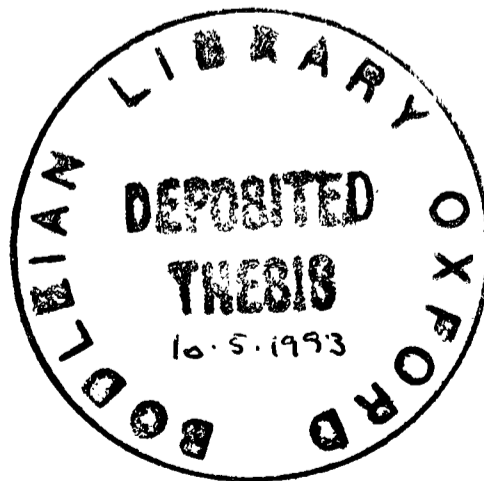
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APPENDIX 1. CATALOGUE OF NEOLITHIC AND COPPER AGE SITES IN ABRUZZO AND MARCHE

1. Introduction to the catalogue

a) Introduction

This catalogue contains details of the 291 known Neolithic and Copper Age sites in the Abruzzo-Marche region. They are grouped, first, according to the province in which they are located, and then in alphabetical order. (For my definition of a 'site', see Chapter 4). An ideal entry in the catalogue begins with name of the site, which generally corresponds with a specific locality, followed by the name of the nearest modern village or town to that site. The following details are then provided: i) references to published primary data from the site; ii) the museum(s) in which material collected from the site is now stored; iii) the nature of the fieldwork carried out at the site, the name of the project director, and the date(s) during which the fieldwork was carried out; iv) the artefacts and features found at the site, including pottery vessels (fabric, surface decoration, and vessel forms), baked clay, lithic, obsidian, bone (including antler and teeth), and shell artefacts, faunal and plant remains (see Appendices 3 and 4), human remains, and surface and excavated features; v) the type of site (ie. residential site, lithic survey site, find-spot, cave site, and human burial site - see p. 149-50 for definitions of these terms); vi) the chronological phase(s) to which the site can be assigned (see Chapter 1), and the reference numbers of any radiocarbon dates from the site (the numbers correspond to those used in Appendix 2), vii) a map and 6-figure grid-reference for the location of the site on the 1:25,000 Istituto Geografico Militare (I.G.M.) topographical maps; viii) a description of the location of the site in terms of local geology (using the 1: 500,000 Carta Geologica d'Italia - Servizio Geologico d'Italia), local hydrology, altitude, distance inland from the modern Adriatic coast, Barker's (1975) site catchment analysis of modern soils found within a 1 km radius of the site, and modern land-use. For stratified sites, information is provided for each major stratigraphic phase. The catalogue is intended to be as detailed as possible, but the size of the entries vary greatly due to the varying quantities of data available for each site in published reports and unpublished museum collections.

b) Summary of sites in the catalogue

CHIETI province (CH):

1. Bomba, 2. Colle Sinello, 3. Crocefisso, 4. Fonterossi, 5. Fossacesia, 6. Lanciano, 7. Lettopalena, 8. Madonna del Freddo, 9. Maiella mountains, 10. Pennadomo, 11. S. Tommaso, 12. Villaggio Rossi.

PESCARA province (PE):

13. Cardito, 14. Catignano, 15. Coll'alto, 16. Colle Maggio, 17. Colle Trotta, 18. Dorero, 19. Fontanelle, 20. Fonti di S. Callisto, 21. Grotta Oscura, 22. Grotta di Pescosansonesco, 23. Grotta dei Piccioni, 24. Piano d'Orta, 25. Planoianni, 26. Pluviano, 27. S. Agnese, 28. Salle, 29. Sorgenti Pescara, 30. S. Silvestro, 31. Turrivalignani, 32. Villa Badessa, 33. Villaggio Leopardi.

L'AQUILA province (AQ):

34. Arciprete, 35. Avezzano, 36. Camerata, 37. Capestrano, 38. Capo d'Acqua, 39. Cellitto, 40. Cesa Vaccara, 41. Colle S. Stefano, 42. Grotta Beatrice Cenci, 43. Grotta la Cava, 44. Grotta Cola II, 45. Grotta Continenza, 46. Grotta a Male, 47. Grotta Maritza, 48. Grotta delle Marmitte, 49. Grotta di Ortucchio, 50. Grotta S. Nicola, 51. Grotta la Punta, 52. Grotta Tronci, 53. Il Mulino, 54. La Fossa, 55. La Troja, 56. La Valle, 57. Luco dei Marsi - Trasacco, 58. Madonna del Soccorso, 59. Massa d'Albe, 60. Ortucchio, 61. Pescina, 62. Pescocostanzo, 63. Riparo Monte la Difesa, 64. Settefonti, 65. S. Giovanni - S. Lorenzo, 66. S. Ruffino, 67. S. Sebastiano, 68. Sulmona basin, 69. Tufo, 70. Villalungo.

TERAMO province (TE):

71. Ancarano, 72. Basciano, 73. Battágliá, 74. Bellante, 75. Canzano, 76. Casciano, 77. Casoli, 78. Castagna, 79. Castagneto, 80. Castell'alto, 81. Castelbasso, 82. Cesenà, 83. Civitella del Tronto, 84. Colle, 85. Colle S. Savino, 86. Colline di Colonnella, 87. Colline di Tortoreto, 88. Cologna, 89. Colonella, 90. Controguerra, 91. Crocetta, 92. Ferri, 93. Fortress, 94. Giardino, 95. Giulianova, 96. Grotta Salomone, 97. Grotta S. Angelo, 98. La Badia, 99. La Torretta, 100. Mindoli, 101. Nereto, 102. Notaresco, 103. Padule, 104. Pianaccio, 105. Pianvallello, 106. Pizzotondo, 107. Ripoli, 108. Rocciano, 109. Scendella, 110. S. Domenico, 111. S. Donato, 112. S. Giorgio, 113. S. Giuseppe, 114. S. Maria a Vico, 115. Torricella, 116. Valle del Salinello, 117. Valle del Vomano, 118. Viale Kennedy, 119. Villaggio Colli, 120. Villa Ripa.

ASCOLI PICENO province (AP):

121. Acquasanta, 122. Acquedotto, 123. Arquata, 124. Buscalferri, 125. Castel Trosino, 126. Castignano, 127. Ciafone, 128. Colle Appeso, 129. Colle del Tronto, 130. Fermo, 131. Fondo Alessandrini, 132. Gran Caso, 133. Lisciano del Tronto, 134. Montalto Marche, 135. Monte dell'Ascensione, 136. Monte Calvario, 137. Montecalvo, 138. Montegallo, 139. Monte Granaro, 140. Monte Pramdone, 141. Monte Tinello, 142. Mozzano, 143. Pagliari del Tronto, 144. Pedaso, 145. Poggio di Bretta, 146. Ponte, 147. Ripetta, 148. Sambuco, 149. S. Benedetto del Tronto, 150. Servigliano, 151. S. Lazzaro, 152. S. Vittoria in Materano,

153. Torrente Marino, 154. Valle Aso, 155. Valle S. Martino, 156. Valle del Tronto, 157. Venarotta - Vindola, 158. Villa Panezia.

MACERATA province (MC):

159. Acquafresca, 160. Appignano, 161. Area Guzzini East, 162. Area Guzzini West, 163. Borgo S. Lorenzo, 164. Bovara, 165. Cagnore, 166. Campilunghi, 167. Campo Sportivo, 168. Capannacce, 169. Casone, 170. Castellano, 171. Castello di Pitino, 172. Cava Koch, 173. Cerreto Monnece, 174. Codarone, 175. Colle Argento, 176. Colle di Collicelli, 177. Colle Montanari, 178. Colle Morico, 179. Crispiero, 180. Fiastra, 181. Gaglianovo, 182. Il Colle, 183. La Maddalena, 184. Lanciano, 185. La Pisciarella, 186. Laverino, 187. Lucciano, 188. Madonna dell'Ospedale, 189. Masciotto, 190. Matèlica, 191. Monteleone, 192. Monte S. Angelo, 193. Mummuiola, 194. Pantaneta, 195. Penna S. Giovanni, 196. Piampalente, 197. Pian delle Mure, 198. Podere del Tufo, 199. Polverina, 200. Porto Recanati, 201. Rangore, 202. Rocchetta, 203. Serrone, 204. S. Ginesio, 205. S. Maria del Rango, 206. S. Maria in Selva, 207. Tavignano, 208. Torre Beregna, 209. Torrone, 210. Valle del Cesolone, 211. Valle di Lapidoso, 212. Valle Potenza, 213. Via Duomo 109, 214. Villa Potenza.

ANCONA province (AN):

215. Appurano, 216. Aquatina, 217. Avacelli, 218. Belvedere Ostrense, 219. Berbentina, 220. Borgo Tufico, 221. Bosimano, 222. Buzzetto, 223. Campogrosso, 224. Cartiere Miliani, 225. Cava Giacometti, 226. Caverna di Frasassi, 227. Cerreto, 228. Cold'Api, 229. Coppetella, 230. Donatelli, 231. Fabriano, 232. Fienili, 233. Filetto, 234. Fondo Argentini, 235. Fondo Coccia, 236. Fosso Betellico, 237. La Gradina, 238. Genga, 239. Grotta dei Baffoni, 240. Grotta del Mezzogiorno, 241. Grotta del Prete, 242. I Fossi, 243. Le Conce, 244. Le Conelle, 245. Madonna delle Spinelle, 246. Moje, 247. Monte Cappone, 248. Monte Colombo, 249. Montesecco, 250. Monticello dei Frati, 251. Murazzano, 252. Névola river, 253. Novali, 254. Osimo, 255. Pèrgola, 256. Piaggessa, 257. Pian del Monte, 258. Pianetti, 259. Ponte Manarini, 260. Prosano, 261. Protonara, 262. Ripabianca, 263. Rocchetta, 264. Saline, 265. Senigallia, 266. S. Giovanni, Camerano, 267. S. Giovanni, Sassoferrato, 268. S. Lorenzo, 269. Spinalbeto, 270. S. Rocco, 271. Tignano, 272. Vescovara, 273. Via Cardeto, 274. Via Marconi.

PESARO-URBINO province (PO):

275. Borgo Pace, 276. Ca-i Gamboni, 277. Calmino della Morte, 278. Campo di Aviazione, 279. Carpegna, 280. Costa, 281. Fiori, 282. Fossombrone, 283. Frontone, 284. Orciano, 285. Pardo di Sotto, 286. Ponte d'Azzo, 287. Porta Cavour, 288. Sassocorvaro, 289. S. Biagio, 290. S. Lorenzo in Campo, 291. Urbania.

2. The catalogue

CHIETI province (CH)

1 Bomba

- i) Radmilli 1981: 381.
- ii) Unpublished material in the Pigorini Museum, no. 54032.
- iii) Surface find: 19th century.
- iv) Arrowhead/lance (Fig. 129.1).
- v) Find-spot.
- vi) Copper - Bronze Age.
- vii) 147/II/SE Atessa 47-54-.
- viii) At c. 430 m asl on a stream-cut hillslope of the Middle-Lower Miocene sandstone and marl Monte Pallano (1020 m asl, 2 km away), and above the River Sangro (c. 190 m asl, 2 km away). 27 km inland from the coast.

2 Colle Sinello, Vasto

- i) Ducci et al. 1986-7: 107; D'Ercole 1987-8: 406.
- iii) Surface finds: Giacci and Geniola, 1987.
- iv) Pottery decoration: pairs of oval impressions in fish-scale motif, minute point impressions, and incised bands filled with a fish-scale motif. Also some Serra d'Alto and Diana type sherds.
- Lithics.
- v) Residential site.
- vi) ? Early Neolithic, and late Neolithic - final Neolithic/early Copper Age.
- vii) 148/IV/SE Casalbordino Stazione.
- viii) On a Pleistocene terrace 55-60 m asl between the Adriatic coast and the River Sinello. About 1.5 km inland from the coast.

3 Crocefisso, Tricalle, Chieti

- i) Agostini 1986-7a and b; Ducci et al. 1986-7; Ducci and Perazzi 1987.
- iii) Excavation: Burri and Ducci, 1981.
- iv) Pottery. Fabrics: coarse, semi-fine, and fine. Decoration: small impressions (simple motifs, or parallel lines of impressions forming bands and bands meeting at angles); pairs of larger impressions forming fish-scale bands; incised slashes; incised lines (angular motifs, fish-scale, band containing fish-scale, ladder, band of parallel lines forming zigzag motif bordered by horizontal line, hatched and free bands, triangles, rhomboidal and rectangular zones); incised and impressed (areas of horizontal lines of impressions bordered by single incised line forming rectilinear decorated and free areas,

impressed area bordered by incised line and 2 incised ladders). Vessel forms: bowls (large, truncoconical, and hemispherical), large truncoconical vessels, oval vessel with handles, oval vessel with short cylindrical neck, flasks, flat bases, ribbon handles. Thin-section analysis: the fabrics appear to have been made from raw materials found at the site.

Lithics: 8 flint nodule and pebble cores (flakes), many pieces with cortex and much debitage, and about 150 pieces of fire-cracked flint from the bottom of the cavity; 472 flakes (146 retouched, 326 non-retouched, especially 2.1-4.0 cm long), more flakes than blades, 17 burins, 7 truncations and beaks, 1 point, 48 side-scrapers, 18 denticulates, and 1 hammer stone.

Sea shells: 2 Venus (1 broken)

Faunal remains: Bos taurus, Ovis/Capra, Sus, Rumina decollata.

Features: semi-circular cavity (4.3 m diameter and 0.7 m deep) surrounded in part by a small ditch (0.2-0.4 m wide and 0.2 m deep). The cavity contained (from bottom to top): a burnt layer with charcoal; a 12 cm thick layer of compacted soil with some fire-reddened sand; a brown fill with few artefacts; and a darker fill with charcoal, lithics, and pottery (Fig. 88).

v) Residential site.

vi) Early Neolithic.

vii) 141/III/SE Chieti 317917.

viii) At 187 m asl on a stream-cut Pleistocene clay, sand and conglomerate hillslope between the River Pescara (c. 13 m asl, 3 km away) and Colle Arenazze (307 m asl, 0.4 km away). Buried below 70 cm depth of colluvium; residual limbs of brown soils around the site. 10 km inland from the coast.

4 Fonterossi, Lama dei Peligni

i) Colini 1896: 12; Pigorini 1896; Dall'Osso 1910: 394-5; Dall'Osso 1915: 17-18; Rellini 1914; Rellini 1932; Barker 1975: 160; Radmilli 1981: 273-4, 284-5, 380; Manzi and Macchiarelli 1989; Hedges et al. 1990: 212.

ii) Origini Museum and Institute of Anthropology, Rome.

iii) Excavations: Dall'Osso 1909, Rellini 1914, Manzi and Macchiarelli 1989.

iv) Pottery. Fabrics: coarse, fine grey/black, figulina. Decoration: fingernail impressed, incised (lines obliquely

in wide zones), lug covered by small notches, notched rim, cordons (some impressed). Vessel forms: ollas and flasks, lugs, handles (ring, cylindrical, ear, ribbon, ribbon handle with a groove and raised edges, axe-shaped handle raised above rim), and a base.

Lithics. Many small flakes and bladelets (minimum 3 cm long), cores, blades and side scrapers, awl, geometric triangle, arrowhead, small polished stone axe, grindstone fragment. Also a hammer-axe with a hole from Lama dei Peligni.

Obsidian bladelet.

Plaster (some with branch impressions).

Faunal remains, including Bos.

Extent of surface material: c. 100 x 50 m.

Quarry section stratigraphy (from top to bottom): 1. topsoil (0.2 m thick); 2. blackish deposit with large black semi-elliptical stains in section, and containing much plaster (some with branch impressions), lithics, faunal remains, and pottery (0.5-1.0 m thick); 3. sterile white deposit of clay and a little sand (0.5-1.0 m thick); 4. sterile shallow layer of black soil (0.2-0.3 m thick), containing land snails (Helix, Cyclostoma, Bulimus, and Oniscus); 5. sand formation (3 m thick); 6. fine clay.

Early Neolithic human burial in an oval pit (1.5 m long), cut into the lower sand and clay deposits, and irregularly ringed by limestone blocks. The body was laid out with flexed legs and the arms placed close to each other. Body parts included a skull, femurs, tibia, fibulae, and feet. 3 non-retouched flakes were found in the pit.

v) Residential site.

vi) Early Neolithic, C14 - 5; final Neolithic/early Copper Age; and late Copper Age - Bronze Age (hammer-axe, and axe-shaped handle raised above the rim).

vii) 147/III/SE Lama dei Peligni, 147/II/SO Torricella Peligna 34-56-.

viii) At c. 400 m asl on Pliocene clay and marl hillslope flanking the upper River Aventino (c. 295 m asl, 0.5 km), and below the Maiella mountains (750-2793 m asl, base 2 km away). Modern land use and soils: 79% arable/potentially arable, light soils; 21% pasture/rough grazing. 33 km inland from the coast.

5 Fossacesia

i) Radmilli 1970: 424; Azzi et al. 1973; Cremonesi 1973; Barker 1975: 161; Tanda 1977: 131; Alessio et al. 1978; Radmilli 1981: 312-316.

ii) Unpublished material in the private De Pompeis Collection.

iii) Survey and excavation: Cremonesi, 1970-3.

Pottery (Fig. 38). Fabrics: coarse, fine, figulina. Decoration: incised (line, hatched triangle), red filled incised, incised rectangles filled with impressed points, impressions in rows on or under rim, applied little discs and cordons, red tinted. Vessel forms: truncoconical, convex, hemispherical and carinated bowls; spherical olla; truncoconical and globular vessels; strainer; ladle; circular lids; handles (ribbon, indented ribbon, tubular, spool, ring, Serra d'Alto style rolled up ribbon with 2 vertical holes); plug handle fixtures; lugs.

Clay artefacts: spindle whorls - relatively abundant, 1 decorated with incised lines; and weights - mostly cylindrical, with a hole passing near the edge, and one spherical with a central hole.

Lithics. Regular blades and large flakes especially, long retouched blades (Fig. 75.4-5), burins, side scrapers, truncations, backed tools, geometrics (large rhomboids, trapezes, a semilunate), arrowheads (Fig. 59.39-44), sickle blades, triangular flaked axe, 4 small polished stone axes, fragment of a polished stone ring with triangular section, sandstone pendant, pebbles painted with red bands.

Obsidian: cores, flakes, blades, bladelets, and truncations; very frequent.

Copper awl (Fig. 77.1).

Bone industry: awls, points (max. 8.5 cm long), needles, and flat spatulae.

Shells: many pierced Pectunculus.

Faunal remains: Ovis.

Features. A large figure-of-eight shaped cavity (15 m x 6.5 m), containing 3 pits (2.5 m deep) and other small holes. Fill (from bottom to top): 1. clay and whitish soil with a few artefacts (max. 1.25 m thick); 2. four circular stains of ashes and charcoal (1.25 and 0.75 m diameter) with fire-reddened clay, and overlain by compact clay with a few artefacts (0.4 m thick); 3. dark black soil with many artefacts (max. 0.9 m thick), and a layer of plaster and pottery along the north wall (0.15 m thick). Also 3 rectangular cavities (6.5 x 1.8 m, and 1.15 m deep; 7.0 x

1.8 m, and 0.8 m deep; 6.3 x 1.8, and 1.0 m deep), filled by (bottom to top): 1. clay with a few artefacts; 2. blackish soil with numerous artefacts.

v) Residential site.

vi) Late Neolithic - final Neolithic/early Copper Age transition. C14's - 10 and 11.

vii) 148/IV/SO Fossacesia 57-73-.

viii) At c. 40 m asl on the edge of a stream-cut Pleistocene terrace of clay and pebbles flanking the lower River Sangro (c. 10 m asl, 2 km away), with the Colle Castagno behind (c. 200 m asl, 3 km away). Modern land use and soils: 60 % arable/potentially arable, heavy soils; 40% arable/potentially arable, light soils. 4.5 km inland from the coast.

6 Lanciano

ii) Unpublished material in the Pigorini Museum, nos. 12996G and 13009G.

iii) Surface finds: 19th century.

iv) 2 polished stone axes (Fig. 142.1-2).

v) Find-spot.

vii) 147/I/SE Lanciano.

viii) At c. 280 m asl on a Pleistocene sand and conglomerate hill. 10 km inland from the coast.

7 Lettopalena

i) Colini 1896: 12-13; Pigorini 1896; Radmilli 1981: 380.

ii) Perugia Museum nos. 4328-4330.

iii) Surface finds: 19th century.

iv) Axe-hammer with hole, and 3 arrowheads (Fig. 129.2-4).

v) Lithic survey site.

vi) Axe = Copper Age - Bronze Age; arrowheads = 38/

101,117,136/102,165 = Copper Age.

vii) 147/III/SE Lama dei Peligni 30-50-.

viii) At c. 675 m asl, on Middle and Lower Miocene sandstone and marl hills, flanking the upper River Aventino (c. 550 m asl, 0.2-3 km away), and in front of the Colle di Macine (836 m asl, 4 km away) and Monte Nerodomo (1160 asl). 41 km inland from the coast.

8 Madonna del Freddo

i) Chierci 1878; Dall'Osso 1910: 380-382.

ii) Reggio Emilia and Chieti Museums.

iii) Surface finds: Nobili, c. 1878.

iv) Lithics: 3 cores, 9 blades, and 1 flake; side scrapers and awls; lances, 2 javelins and 2 arrowheads; 1 polished oval axe, 2 quadrangular axes with holes, and a wedge; 3

- hammers and 1 crusher; and a triangular-sectioned ring.
- v) Lithic survey site.
- vi) Copper Age - Bronze Age.
- vii) 141/III/SE Chieti 33-90-.
- viii) Between a high point (235 m) and the Fagnani stream (125 m), on the stream-cut Pleistocene clay hills flanking the River Alento (c. 50 m, and 0.6 km away), and 10 km inland from the sea.

9 Maiella mountains

- ii) Unpublished material in the Pigorini Museum, nos. 61303-61306.
- iii) Surface finds: 19th century.
- iv) 4 arrowheads (Fig. 129.5-8).
- v) Find-spot(s).
- vi) 32,155,158/BA/-/- = late Neolithic - Copper Age, and Bronze Age.
- viii) These limestone mountains lie between the Rivers Pescara and Sangro, between about 30 and 45 km inland from the coast, and reach a maximum height of 2793 m asl (Fig. 80).

10 Pennadomo

- i) Radmilli 1981: 381; Pigorini 1896.
- iii) Surface find: 19th century.
- iv) Long retouched chert blade/dagger.
- v) Find-spot.
- vi) Final Neolithic/early Copper Age - Bronze Age.
- vii) 147/II/SO Torricella Peligna 44-50-.
- viii) On a stream-cut Middle - Late Miocene sandstone and marl hill, at c. 350-450 m asl, between Monte Rezzano (630 m asl, 0.7 km away) and the S. Leo stream (0.2 km away), which runs to the River Sangro (205 m asl, 2.5 km away). 31 km inland from the coast.

11 S. Tommaso

- ii) Unpublished material in Perugia Museum, no. 514.
- iii) Surface finds: 19th century.
- iv) 2 arrowheads (Fig. 129.9-10).
- v) Find-spot.
- vi) 150,162/13,139 = Final Neolithic/early Copper Age - late Copper Age.
- vii) 147/IV/SO 15-71-.
- viii) At c. 450-550 m asl, by the Rio stream, on an Upper Miocene hill-slope between the River Orta gorge (c. 300 m asl) and Colle Bianco (845 m asl, 3 km away). 37 km inland from the coast.

12 Villaggio Rossi, Marcianese, Lanciano

i) Geniola 1975; Geniola and Mallegni 1975; Geniola 1982a and b; Ronchitelli and Sarti 1982; Radmilli 1981: 337, 381; Ambers et al. 1987; Bowman et al. 1990.

ii) Unpublished material in the Pigorini Museum.

iii) Excavations: Geniola, 1969, over an area of c. 150 m².

iv) Pottery (Figs. 8-12).

Area IA, levels V-III. Fabrics: coarser and finer. Decoration: impressed (fingernail, finger in 2 rows, triangular stab-and-drag, round point), incision (slashes, groups of parallel lines meeting at angles). Vessel forms: flasks (1 with ring handle), bowl with pedestal base, cylindrical and deep baggy vessels, bases (flat, heel and pedestal), handles (ring and ribbon).

Area IA, levels II-I. Fabrics: coarser and finer. Decoration: impressed (minute impressions all over, shell-impressed parallel tremolo lines, microrocker line, shell-impressed, combined impressed and incised (incised line bordering parallel tremolo lines), incised (slashes, lines in angular V motif, hatched and fish-scale filled triangles and rectangles), red-filled incisions (ladder bands in fish-scale motif). Vessel forms: flasks, hemispherical and carinated bowls, beakers, cylindrical and bellied vessels, flat and concave bases, ring handles, lugs (round, triangular and tongue, pierced, vertical on rim).

Lithics.

651 cores (especially for flakes), 4212 flakes, only about 8 small regular blades, 6 truncated blades, 10 side scrapers, 6 end scrapers, 4 beaks, 3 burins, 3 points, 1 geometric sickle blade, 3 geometrics (2 triangles, 1 trapeze), 1 backed blade and 1 backed bladelet, a few denticulates, 8 flaked tranchets, 5 ground stone axes (2 on pebbles) (Fig. 58.1-4), and grindstones. Also a few large patinated ? Palaeolithic flakes.

Obsidian. Cavity IA: level V - 1 bladelet, VI - 1 bladelet, III - 0, II - 1 bladelet and 1 flakelet, I - 5 bladelets, 2 flakelets, and 1 minute core. Cavity IBB5: 1 small blade and 1 bladelet.

Bone industry: 9 points, 7 awls, 3 needles, 3 U-shaped 'fish hooks', 2 little spatulas, 2 beads, 1 quadrangular 'pendant', bone decorated with 3 parallel curvilinear incised lines, ? handle.

Sea shells: 1 Patella, and 1 bivalve.

Faunal remains: abundant but unidentified, including land snails.

Plaster, some with imprints, found in all the cavities (1 imprint 25 cm circumference).

Features: 8 cavities (Fig. 89).

Cavity IA (8 x 7 m). Level V: a little pit dug into the bottom of the cavity on one side, compacted soil underlying a fireplace of large stones, and a covering layer of mixed dark soil with charcoal. Level IV: pits and a little ditch dug into V, eroded fill, compacted soil with a fireplace, and postholes. III: fireplace with stones, covered by a compacted mixed soil layer. II: compacted dark soil, clay, and a fireplace with ashes and charcoal. I: a fireplace, compacted soil and stones, and 4 cylindrical pits or postholes.

Cavity IIIC-B (5 x 2 - 3 m). Cavity IBB1 (0.7 x 0.5 m). Cavity IBB5 (5 x 2 m) containing mixed soil layers. Cavity IE6 (4 x ? m), containing a dark soil layer, then a very mixed soil, then stones and plaster, then another dark soil layer. Cavity IE4 (3 x ? m), containing mixed soil and pebbles, then a dark soil layer, then a shallow layer of burnt and cemented bone, then more dark soil. Cavity IE1 (3 x ? m). Cavity IIIA (2 x 2 m), formed by a pit and a post-hole.

Human remains.

Cavity IA: skull found in a little pit dug into the bottom of cavity, belonging to a female aged 50 - 55 years (deduced from fusion of the sutures); other remains from the upper part of level V; remains in pits and a little ditch dug into level V from level IV; a mandible fragment and other remains from level III, and a group of animal bones mixed with human bone fragments; disarticulated remains also from levels II and I.

Cavity IBB1: human remains present.

Cavity IIIA: human remains from upper part of the pit.

v) Residential site.

vi) Earlier and later early Neolithic. C14's - 1, 3 and 5.

vii) 147/I/SE Lanciano 493735.

viii) At 346 m asl on a wide Pleistocene sand, conglomerate, and clay hill-top (408 - c. 300 m asl), with streams leading down from it. Between the Rivers Feltrino and Sangro. 13 km inland from the coast.

PESCARA province (PE)

13 Cardito, Loreto Apruntino

i) Radmilli 1956b: 251.

ii) Chieti Museum.

iii) Surface finds: Leopardi, 1956.

iv) Pottery and lithic bladelets.

v) Residential site.

vi) ? Neolithic.

vii) 141/III/SO Pianella 17-96-.

viii) At c. 130 m asl on a Pleistocene fluvial terrace by the middle River Tavo (c. 120 m asl, 0.3 km away), below the stream-cut Colle Fiorano (150 - 399 m asl, 0.8 - 4.0 km away). Modern cultivation: cereals and fruit trees. 17 km inland from the coast.

14 Catignano

i) Barker 1975; Pitti and Tozzi 1976; Azzi et al. 1977; Tozzi 1977; Tozzi 1978; Bigazzi and Radi 1981: 232-3; Radmilli 1981; Tozzi 1981; Tozzi 1982; Costantini and Tozzi 1983.

iii) Excavations: Tozzi, 1971-8, over an area of 2280m².

iv) Pottery (Figs. 21-25).

Fabrics: coarse, fine, figulina (17%). Decoration: incised, some red-filled (bands containing sub-parallel, rectangular and fish spine lines, triangles and rectangles containing oblique lines, lozenge), grafitti, some white-filled (band of shallow lines, ladders, pairs of parallel lines joined obliquely by bands of segments delimiting triangular filled areas, stars, triangles containing hatching, fringe, 2 triangles joined at the vertices), negative technique painting creating little points within areas of colour, bichrome red paint (unbordered lines and bands, some as wavy lines, triangles and rectangles, circular and quadrangular drops and stains, wide chevrons, hemispherical bowl with exterior festoons linked in groups of 3 and interior bands separated by thin lines that divide the vessel into 4 sectors), a few trichrome red and brown-black painted (vessel with exterior red band bordered by numerous thin brown lines and interior red triangles along the rim from whose minor sides hang fringes, rows of points obtained by the negative technique), horizontal grooves. Vessel forms: deep hemispherical bowls, carinated bowls, truncoconical or slightly convex cups, flasks, large olla with globular body and narrow mouth, high beaker with heel foot and cylindrical or slightly out-turned walls, little oval vessel with pair of lugs, bases (round especially, slightly flattened, concave), small handles (ring, strap, ribbon, rectangular ledge with small hole), lugs (conical, pinched horizontal tongue).

Lithics: 65 cores; 1056 non-retouched flakes and 54 retouched flakes; 309 non-retouched blades and 93 retouched blades (generally broken); 10 sickle blades; 24 truncations; 14 denticulates; 28 burins; 21 notches; 7 beaks; 3 end scrapers; 5 points and awls; 7 trapezes; 1 'pièce écaillée'; 1 microburin; 1 flaked biface; 1 ground stone axe; 2 hammer stones.

Obsidian: 5% of the total lithics, sourced to Lipari.

Bone industry: awls and spatulae.

Plant remains: Ajuga, Avena sativa, Chenopodium album, Corylus, Euphorbia elioscopia, Galeopsis, Galium, Hordeum distichum, Hordeum vulgare, Hordeum nudum, Lathyrus cicera, Lens esculenta, Lithospermum arvense, Malus sylvestris, Pisum, Polygonum, Rubus, Silene, Triticum monococcum, Triticum monococcum - dicoccum, Triticum dicoccum, Triticum compactum, Vicia faba.

Faunal remains: Bos taurus, Canis familiaris, Ovis/Capra, Sus scrofa, Capreolus capreolus, Cervus elaphus, Testudo, and Vulpes vulpes.

Extent of surface material: 20,000-30,000 m².

Features (Figs. 90.A and 94).

1. Shallow linear ditches. Varying depth, from a few cm to 50 cm. Up to 9.5 m long. Deeper ones contain grey fill and pottery.

2. Relatively shallow rectilinear cavities with fire-baked sides and bases, and pebbles (sometimes in semi-circular arrangements) and ash and charcoal lenses in the bottom. 4 x 2 m - 6 x 2.5 m area, and 0.2 - 0.7 m deep. Contain few artefacts, 1 with carbonized grain.

3. Deep pits with semi-circular plans and irregular bell-shaped sections, sometimes surrounded by post-holes. Smaller (1.8 - 4.5 m diameter, and 0.8 - 1.6 m deep), and larger (up to 8 m diameter). Filled with ash lenses, charcoal, organic material, plant remains, plaster, pottery (fairly intact), and grindstones. One lined with clay and lime, another contained a human burial.

4. Post-holes. 0.25 - 1.0 m diameter. 1 containing a child burial.

5. Hearths.

The shallow ditches and post holes appear to delineate at least 4 rectangular and trapezoidal structures with rounded ends, surrounded by pits and hearths.

Plaster.

Human remains.

Pit 9a. Crouched skeleton, and an undifferentiated fill with ashes, charcoal, organic material, a painted pottery vessel and sherds.

Post-hole 39. Skeleton of a child, a few years old, with a broken grey bowl placed next to the head.

v) Residential site.

vi) Middle Neolithic. C14 - 14.

vii) 141/III/SO Pianella 167903.

viii) At 205 m asl at the end of a Pleistocene fluvial terrace (sandy clay, overlying cobbles with sand, then sand) extending from the Colle Cerreto (277 m asl, 2 km away), between and at the meeting point of the River Nora (c. 165 m asl, 0.15 km away) and the Fosso dei Cappuccini

stream (c. 180 m asl, 0.15 km away). Modern soils and land use: clayey soil; olives, grape vines and crops; erosion of the Pliocene clay and marl hills on the opposite side of the River Nora (Fig. 95). 22 km inland from the coast.

15 Coll'alto, Penne

- i) Radmilli et al. 1953: 75.
- ii) Chieti Museum.
- iii) Survey: Leopardi, 1952.
- iv) 2 arrowheads (9.2 and 2.5 cm long).
- v) Find-spot.
- vi) Late Neolithic - Bronze Age.
- vii) 140/II/NE Penne 08-99-.
- viii) Stream-cut Upper Miocene sandstone and clay hill (c. 300 - 463 m) between the River Tavo and the Gallero stream, which meet at the eastern end of the hill. Modern land use: good agriculture. 23 km inland from the coast.

16 Colle Maggio, Penne

- i) Costantini pers. comm. 1988.
- ii) Unpublished material in Costantini's private collection of material from the site.
- iii) Surface collection: Costantini, 1983.
- iv) Pottery: finger impressed decoration, incised slashes in rows, and a lug.
Lithic blades (3 - 5 cm long).
Bone awl.
Pierced shell.
Faunal remains.
Plaster, with 2-3 cm wide impressions.
Blackened soil, and 8 cavities seen in road cutting section through the site.
- v) Residential site.
- vi) Early Neolithic.
- vii) 140/II/NE Penne 12-05-.
- viii) At c. 250 - 334 m asl on the upper part of a Pliocene stream-cut clay and marl hill (up to 334 m asl), between the River Fino (115 m asl, 1.5 km away) and the Baricello stream (c. 135 m asl, c. 1.5 km away). 16 km inland from the coast.

17 Colle Trotta, Penne

- i) Radmilli et al. 1953: 75.
- iii) Surface find: Leopardi, 1952.
- iv) Arrowhead.
- v) Find-spot.
- vi) Late Neolithic - Bronze Age.
- vii) 140/II/NE Penne 06-03-.
- viii) Location. At c. 300 - 561 m asl on a stream-cut Upper Miocene sandstone and clay hillslope flanking and near to the head of the Baricello stream (c. 0.5 km away). 23 km

inland from the coast.

18 Dorero, Penne

- i) Radmilli et al. 1953: 75.
- iii) Surface find: Leopardi, 1952.
- iv) Arrowhead.
- v) Find-spot.
- vi) Late Neolithic - Bronze Age.
- vii) ? 140/II/NE Penne.

19 Fontanelle, Pescara

- i) Giove Ruggeri 1978: 438; Agostini 1986-7a; Ducci et al. 1986-7; Ducci and Perazzi 1987.

iii) Surface collection and excavation in the area of dark surface soil stains (1 x 4 m² trench and some 1 m² trenches): Giove and Radmilli, 1977.

iv) Pottery (Fig. 17.1-12). Fabrics: coarse, fine and figulina (3%). Decoration: impressed (fingernail, pairs of oval impressions in fish-scale, stab-and-drag point and rectangular point, cardial all over or in more regular lines, rocker in horizontal lines or irregular and overlapping, microrocker in lines and lines forming angular bands), incised (slashes, segments and lines), combined bands of impressions and incised slashes, combined incised triangles filled with stab-and-drag impressions and ? red coloured surface, combined brown painted bands and incised slashes. Vessel forms: miniture truncoconical bowl with flat base, truncoconical bowl, flat and heel bases, ribbon handles and lugs.

Lithics: 10 flake cores, 179 non-retouched pieces, 31 retouched pieces, 14 burins, 4 truncations, 1 truncation/beak, 2 backed blades, 39 side scrapers, 13 denticulates, 3 scaled pieces, 1 composite, 1 small bifacially flaked axe, and 1 small polished stone axe (Fig. 69.6).

Bone industry: 1 point.

Sea shell: 1 Glycimeris violacescens pendant with a drill hole at one end.

Animal bones: Bos taurus, Sus scrofa, Ovis or Capra.

Plaster.

Extent of surface material: 3300 m².

v) Residential site.

vi) (? later) Early Neolithic.

vii) 141/II/NO Pescara 347982.

viii) At 34 m asl on the shallow stream-cut hill-slope of the small Pleistocene clay Colle Orlando (126 m asl, 0.3 km away), flanking the lower River Pescara plain (5 m asl, 0.3 km away, river 3 km away), with a second band of hills running behind (c. 100 - 190 m asl, 1 km away). The site was located on brown soils, which have since been deeply cut into by ploughing. Modern land use: crops, fruit trees, olives. 4 km inland from the coast.

20 Fonti di S. Callisto, Popoli

i) Mattiocco 1981: 12-16; Bigini 1986-7; Radi 1986-7; Allegri et al. 1987.

iii) Surface collection and excavation (20 m² area): Mattiocco and Radi, 1979.

Stratigraphy: upper level, sterile stratum, lower level.

Lower level

iv) Pottery. Fabrics: coarse, semi-fine, fine, and figulina (24%). Decoration: cordon, finger and fingernail impressions (on or under rim, or without order), incised lines (1 under rim on inside of bowl), red, brown or black bichrome painted (traces, single or multiple tremolo band bordered by lines, ladder band, bands of dots, band of dots bordered by lines, lines (simple, crossing bands of lines, band of parallel lines changing angle, tremolo bordered band and parallel line-filled geometric areas without spaces, filled and free triangles and diamonds with bordering lines or squares), 1 sherd with red and black trichrome painted (red band with black border). Forms: truncoconical bowls with flat bases, cup, small truncoconical vessel with flat heel base and cylindrical handle (?ladle), miniature semi-ovoid vessel with flat base, cylindrical, ovoid and globular vessels, flask necks, bases (flat especially, heel), handles (ribbon, ribbon with notched ledge appendage, tubular, spool, strap, little stick), spool-style lugs.

Lithics: 31 cores, 1 rejuvenation flake, 223 non-retouched flakes, 15 retouched flakes, 19 non-retouched blades, 2 retouched blades, 1 sickle blade, 2 microburins, 2 points, 1 geometric trapeze, 13 denticulates and notches, 1 11 cm blade with a notch at one end and an end scraper at the other, grindstones.

Obsidian: 1 broken retouched blade.

Bone industry: 5 awls

Faunal remains: Bos taurus, Ovis or Capra, Sus scrofa, Cervus elaphus, Capreolus capreolus, Lepus europaeus, Ursus

arctos, Canis familiaris, Martes martes, Buteo buteo,
Testudo testudo.

Plaster, some with semi-cylindrical impressions (5 - 11 mm wide).

Features: semi-circular hollow, with indistinct edges, filled by homogeneous grey soil, a few stones, pottery and lithic artefacts. A cylindrical pit (0.45 m diameter, and 0.3 m deep). 4 burnt structures. One of these was sub-rectangular (1.2 x 2.4 m), and comprised a level of medium and small stones overlain by a layer of burnt soil, then a thick layer of charcoal.

v) Residential site.

vi) Later late Neolithic. C14 - 9.

Upper level

Pottery. Fabrics: coarse, semi-fine, and fine black burnished. Decoration: notches in horizontal row, parallel horizontal grooves. Vessel forms: bowls (deep truncoconical, convex, carinated), bases (flat, heel and round), ribbon and spool handles, lugs.

Lithics: 10 cores, 23 non-retouched flakes, 5 retouched flakes, 2 non-retouched blades, 1 burin, 2 denticulates, 1 flaked biface.

2 clay spindle whorls.

Faunal remains: Bos taurus, Ovis or Capra, Sus scrofa.

v) Residential site.

vi) Full Copper Age.

Surface material

Clay female figurine, lacking head and feet, 8.5 cm long (Fig. 148.1).

vii) 146/I/SO Navelli 023708.

viii) At 280 m asl on the edge of the Canestro stream, at the point where it emerges from the Canestro valley to join with the Fonti di `S. Callisto streams, forming a single stream which runs to the upper River Pescara, meeting that river at almost the same point as the Aterno and Giardino rivers join it (250 m asl, 1.5 km away). At the end of a short valley, on the edge of the Popoli-Sulmona basin Pleistocene - Pliocene lacustrine and fluvio-lacustrine deposits, and below the marl Monte Ospedalera (725 m asl, 1.5 km away). Modern land use: crops on the hills to the south and west, scrub and trees on other hill-slopes, and in the valley bottom. Fish farm built over site (Plate 5).

47 km inland from the coast.

21 Grotta Oscura, Orta Valley

- i) Burri 1977; D'Ercole 1988a: 3.
- ii) Unpublished material in Pescara Museum.
- iii) Surface collection: Burri, c. 1977.
- iv) Pottery: a dark fabric and figulina; simple red band painted pottery and a finger-impressed cordon; a carinated sherd.
- Wall painting.
- v) Cave site.
- vi) ? Middle Neolithic, (and ? Bronze Age).
- vii) 147/IV/SO 146763.
- viii) Extensive cave, at c. 285 m asl, on the top edge of the River Orta gorge, 3 km up from the point where the River Orta meets the River Pescara, with the stream-cut and gently undulating Upper Miocene Colle Morlo behind (303 m asl, 1.75 km away) (Fig. 91). 33 km inland from the coast.

22 Grotta di Pescosansonesco

- i) Radmilli 1980: 15; Radmilli 1981: 311; D'Ercole 1988a: 3.
- iii) Surface collection: Radmilli, c. 1980.
- iv) Pottery: Catignano style red band painted pottery; Ripoli style plain and painted pottery; (Bronze Age pottery).
- v) Cave site.
- vi) ? Middle Neolithic, late Neolithic, (and Bronze Age).
- vii) 146/I/NE Civitaquana 077792.
- viii) Cave at 615 m asl on the side of Monte la Queglia (995 m asl), with stream-cut hills below leading down to the River Pescara (163 m asl, and 4 km away) (Plate 6). Cave (10 m wide x 8 m deep x 5 m high) is now heavily weathered, both inside and outside, with a dark soil layer containing pottery on the hill slope immediately below, probably eroded out of the cave. Extensive view from the cave over the River Pescara valley to the Maiella mountains on the other side (25 km away). Land use today: wooded slopes of Monte Queglia behind, woods and agricultural fields on the hills below, and the cave used as an enclosure for the sheep from the nearby village of Pescosansonesco. 37 km inland from the coast.

23 Grotta dei Piccioni, Bolognano

- i) Ferrara et al. 1961; Barker 1975; Cremonesi 1976; Radmilli et al. 1978; Skeates 1991a.
- iii) Excavations: Radmilli, 1956-60, 1964-5, 1977.

Spits 26-21

iv) Pottery (Figs. 13-14). Fabrics: coarse, fine, and figulina (4%). Decoration: impressed (fingernail, point, microrocker zigzag in a straight band), combined fingernail impressed and incised lines, incised (short segments, slashes, parallel, intersecting and zigzag lines), 2 sherds with traces of red paint from spits 20 and 21. Vessel forms: bowls (large deep truncoconical, hemispherical), carinated bowls with round bases, flasks with high cylindrical necks, ladle, semi-ovoid beaker, strainer, ovoid and cylindrical vessels, handles (ribbon, lug handle), conical lugs.

Lithics: 7 cores, 3 rejuvenation flakes, 62 non-retouched flakes, 2 retouched flakes, 15 non-retouched blades, 2 large blades, 1 retouched blade, 9 non-retouched bladelets, 1 burin, 1 end scraper, 2 backed bladelets, 1 beak, 1 sickle blade, 1 awl, 1 flaked tranchet, 2 small polished stone axes (Fig. 69.5), 2 circular spindle whorls, grindstones.

Obsidian: 3 flakes.

Bone industry: 14 awls, broken U section of ? fish-hook.

Sea shells: 3 pierced Pectunculus, 1 Trochus.

Ochre: piece of ochre (4.5 x 2.5 x 1.5 cm), and a grindstone with red ochre staining.

Faunal remains: Talpa, Canis, Vulpes vulpes, Meles meles, Martes foina, Felis sylvestris, Lepus europaeus, Glis glis, Evotomis glareolus, Arvicola italicus, Apodemus sylvaticus, Sus scrofa, Cervus elaphus, Capreolus capreolus, Bos, Ovis or Capra, birds.

Human remains. Articulated skeleton of a child, lying crouched on its left side, overlying a layer of sterile stones at the base of the cave.

Features. Stratum G (spit 26 and overlying bedrock below): culturally sterile, with stones, soil, and microfauna. Stratum F (spits 26-22): large stone blocks (probably fallen from the cave roof), greyish soil, and a succession of hearths. Stratum E (spits 21-12): stones, brown and grey soil, almost continuous series of hearths with ashes and charcoal, and pits.

v) Cave site.

vi) Later early Neolithic. C14 - 6.

Spits 20-18

iv) Pottery (Figs. 19-20). Fabrics: coarse, fine, and figulina (11%). Decoration: finger impressions, incised

(segments, slashes, simple, intersecting and zigzag lines), incised motif on carinated and necked vessel (wide horizontal band on the carination containing obliquely converging groups of 5 parallel lines, an oblique group of 4 parallel lines leaves this towards the base, and 3 parallel curving lines leave this towards the rim, and lines and oblique bands filled with hatching leave from the rim), red or black painted (a few bands contain oval unpainted areas created through the use of a negative technique, lines, bands, triangles, combined wide horizontal bands and large vertical triangles, on interiors and exteriors). Vessel forms: bowls (hemispherical or truncoconical), round-based carinated bowls, flasks, ollas, carinated vessel with elliptical body and truncoconical neck, ladle, handles (ribbon, ring), lugs (pierced, 1 vertical on rim).

Lithics: 6 cores, 1 rejuvenation flake, 141 non-retouched flakes, 6 retouched flakes, 6 non-retouched blades, 2 large blades, 1 retouched blade, 2 truncated blades, 4 non-retouched bladelets, 1 burin, 1 end scraper, 2 geometrics (1 rectangle, 1 rhomboid), 4 points, 1 small ovoid pebble with an incised groove around its middle, grindstones.

Bone industry: 9 awls, 1 boar's tusk pendant.

Sea shells: 1 Trochus.

Faunal remains: Canis, Vulpes vulpes, Felis sylvestris, Lepus europaeus, Glis glis, Arvicola italicus, Sus scrofa, Cervus elaphus, Capreolus capreolus, Ovis or Capra, Bos, birds.

Features: stratum E (spits 21-12) contained a brown and grey soil, with stones, an almost continuous series of hearths with ashes and charcoal, and pits containing grey soil with many stones towards the bottom.

v) Cave site.

vi) Middle Neolithic.

Spits 17-16

iv) Pottery. Fabrics: coarse, fine, and figulina (20%). Decoration: bichrome red or brown painted (26, all over, slender and wide bands meeting at angles), finger impressed, curvilinear grooves, irregularly incised lines, grafitti hatched triangles in a band and curvilinear ladder bands on truncoconical flat-based cup (? Lagozza style). Vessel forms: bowls (spherical, hemispherical, truncoconical, carinated), cups (semi-ovoid with flat bases, truncoconical with flat base and small pierced handle (? Lagozza style), large 2 handled olla, high cylindrical flask necks, deep truncoconical vessel with flat base and 2 handles, large cylindrical vessel, ovoid vessel with handle, ovoid vessel with short neck, flat

base, and 2 pierced lug handles, convex vessel, squashed elliptical vessel with flat base, short neck and handle, funnel, ladle, bases (flat, heel, and concave), handles (plug attachment, ribbon, ribbon with raised edges, strap), lugs (pairs, conical).

Lithics: 18 cores, 6 rejuvenation flakes, 313 non-retouched flakes, 5 retouched flakes, 5 non-retouched blades, 6 large blades, 12 retouched blades, 1 truncated blade, 20 non-retouched bladelets, 2 burins, 1 backed bladelet, 1 beak, 1 awl, 1 point, 1 notch, 5 arrowheads (Fig. 57.1-10.2), large ground stone axe and small polished stone axe (Fig. 71.12-15), small pebble with central drill hole, grindstones, pebbles with traces of red ochre.

Obsidian: 1 bladelet.

Bone industry: 9 awls, 1 point, 1 spatula

Sea shells: 5 pierced Pectunculus.

Faunal remains: Ursus arctos, Canis, Vulpes vulpes, Meles meles, Felis sylvestris, Glis glis, Arvicola italicus, Sus scrofa, Cervus elaphus, Capreolus capreolus, Ovis or Capra, Bos, birds.

Features: stratum E (spits 21-12) contained a brown and grey soil, with stones, an almost continuous series of hearths with ashes and charcoal, and pits containing grey soil with many stones towards the bottom.

v) Cave site.

vi) Earlier late Neolithic.

Spits 15-14

iv) Pottery. Fabrics: coarse, fine, and figulina (13%). Decoration: red or brown bichrome painted (27, parallel lines in bands, narrow and wide bands meeting at angles, circular stain from which fan out 3 irregular segments which reach the rim, Serra d'Alto type vessel with chequerboard, parallel straight and wavy lines, and triangular motifs), trichrome red and brown painted (2, rows of brown dots between brown band and red lines, and outside obliquely parallel brown lines), applied rows of pastilles/little discs below rims, cordons, notched and point-impressed rims, incised (10 parallel lines in a band, single line), grafitti (? Lagozza style truncoconical vessel with internal hatched triangles in a band), 2 circular impressions to the side of a lug. Vessel forms: bowls (carinated, small slightly convex, hemispherical, spherical, truncoconical, semi-ovoid with round base), cups (semi-ovoid, ? Lagozza style truncoconical flat-based with little handle), flasks (including high neck and wide out-turned rim), olla, funnel, ladle, pourer lip, 2 handled spherical vessels with short neck and flat base, deep

truncoconical vessel with 2 handles and flat base, spherical vessel with cylindrical neck and handle, convex vessel, tubular Serra d'Alto type handle on spherical vessel with short neck, plug handle attachments, ribbon handles (some with raised edges), lugs (conical, spool, pairs).

Clay weights: 7 trapezoidal/bell-shaped with hole at one end, 1 round with hole on the edge, 1 triangular with hole at apex, 2 cylindrical with a hole at one end.

Lithics: 35 cores, 2 rejuvenation flakes, 467 non-retouched flakes, 15 non-retouched blades, 10 large blades, 31 non-retouched bladelets, 12 retouched blades, 1 truncated blade, 1 burin, 4 end scrapers, 4 beaks, 1 point, 1 trapeze, 9 arrowheads (Fig. 57.1-10.2), 2 bifacially flaked axes, 1 ground stone axe on a notched pebble, 1 ground stone axe (Fig. 71.12-15), 3 flat and round spindle-whorls, 1 large lithic ring fragment, grindstones, painted pebbles. A group of lithics was found in spit 14 in a small niche in the wall, comprising: 87 flakes, 1 flake core, 1 bladelet core, and 1 bifacially flaked axe.

Obsidian: 8 blades/bladelets, and 1 rejuvenation flake.

Bone industry: 12 awls, 1 chisel, 1 left humerus of Fulica atra with traces of red ochre at the distal end, 1 left humerus of Columba palumbus, 9 humeri of Anas boscas with traces of clay and red ochre at the distal end, 1 left humerus of Bucephala clangula with traces of clay at the distal end, 3 bird humeri with traces of clay or red ochre at the distal end, 1 Lepus europaeus metatarsal with traces of clay and ochre at the distal end.

Sea shells: 15 Pectunculus (14 pierced), and 1 Trochus, 1 Triton nodiferum painted with red ochre, with drill hole in lip, and apex cut off.

Faunal remains: Ursus arctos, Canis, Vulpes vulpes, Meles meles, Martes foina, Felis sylvestris, Lepus europaeus, Glis glis, Arvicola italicus, Sus scrofa, Cervus elaphus, Capreolus capreolus, Ovis or Capra, Bos, Fulica atra, Columba palumbus, Anas boscas, Bucephala clangula, and unidentified birds.

Human remains and structured ritual deposits in the 'Level of the Circles'.

A line of 11 rather scattered circles of stones, 30-80 cm in diameter, lay on a large flat slab of rock close to the back wall of the cave (Fig. 124.1). Around the circles the shallow soil was blackened and contained charcoal and ashes, (whereas away from the circles and slab the soil was of a browner colour with fewer signs of burning).

Remains of children: articulated bones from the upper half of the body of an infant within the first circle at the southern end of the line; at the other end of which were two child skulls, together with the post-cranial body parts

and a few skull fragments from another child.

A large quantity of animal bones, pottery, lithic, bone, and shell artefacts were deposited both in and around the circles of stones, and they exhibit clear spatial patterning in relation to the child remains. Overall, one can distinguish two major concentrations of animal bones and artefacts at each end of the line of circles, close to the child remains, and a smaller concentration in the middle of the line (Fig. 124.2).

In more detail, there is a notable decrease from south to north in numbers of whole vessels, and a corresponding increase in numbers of sherds (Fig. 124.3). There was a predominance of bowls in the ceramic assemblage. There was also a distinctive group of unusual artefacts located around circle 11, close to the main group of child remains. This included: a red painted triton shell (Triton nodiferum) with its apex cut off and a small suspension hole drilled through its lip; 11 bird humeri (mostly of duck) and one hare metatarsal, each with a red coloured pellet of clay at the distal end (or traces of this); 6 clay weights; a half-drilled round and flat pebble; and a group of 5 intact fineware pottery vessels.

All body parts were represented in the bones of the major animal species, though there was a predominance of meat parts. At least 5 ovicaprids, 3 pigs, and 1 cow were represented, and a few red and roe deer bones were also present. Only meat parts were noted for the minor species, with the exception of 1 hare mandible.

Features: stratum E (spits 21-12) contained a brown and grey soil, with stones, an almost continuous series of hearths with ashes and charcoal, and pits containing grey soil with many stones towards the bottom.

v) Cave site.

vi) Later late Neolithic.

Spits 13-12

iv) Pottery. Fabrics: coarse, fine, figulina (11%). Decoration: red and brown trichrome painted (1, wide red band bordered by narrow brown band), red or brown bichrome painted (8, wide red band, band of parallel brown lines), graffiti (? Lagozza style internal band of hatched triangles below rim), deep horizontal grooves, applied discs (some superimposed). Vessel forms: bowls (hemispherical, truncoconical, carinated), cups (little narrow deep truncoconical, ? Lagozza style truncoconical with flat base and pair of pierced lugs handle), ollas, deep truncoconical vessel with flat base and 2 handles, ovoid vessel with pierced lug handle, spherical vessel with handle, ovoid vessel with wide out-turned rim, convex vessel, elliptical vessel with flat base, high neck and sharp shoulders with lug handles, high cylindrical necks (1 with handle), high concave side neck, pourer lip, funnel, ladle, plug handle attachments, ribbon handles (some with

raised edges), lugs (conical, large rectangular).

Clay weights: 1 trapeze-sectioned with hole at one end.

Lithics: 13 cores, 448 non-retouched flakes, 9 retouched flakes, 9 non-retouched blades, 4 large blades, 18 retouched blades, 2 end scrapers, 3 beaks, 3 points, 4 notches, 4 arrowheads, 26 non-retouched bladelets, 2 bifacially flaked axes, 3 little polished stone axes, 4 axes made from notched pebbles, 2 spindle whorls, grindstones.

Obsidian: 2 blades/bladelets.

Bone industry: 7 awls, 1 chisel, 1 burnt bone pendant, 2 circular buttons (1 with 2 central holes, 1 with 1 central vertical hole and another horizontal hole meeting that one).

Sea shells: 6 Pectunculus (pierced), 1 Cardium.

Faunal remains: Canis, Vulpes vulpes, Meles meles, Felis sylvestris, Glis glis, Arvicola italicus, Sus scrofa, Cervus elaphus, Capreolus capreolus, Ovis or Capra, Bos, and birds.

Features: stratum E (spits 21-12) contained a brown and grey soil, with stones, an almost continuous series of hearths with ashes and charcoal, and pits containing grey soil with many stones towards the bottom.

v) Cave site.

vi) Final Neolithic/early Copper Age. C14 - 15.

Spits 10-9

Pottery. Fabrics: coarse, semi-fine, fine black, brown, and red burnished. Decoration: cordons (finger-impressed, curved, segmented), applied lugs and discs, fingernail impressions over surface and on rim, notched rims, incised/grafitti lines on truncoconical bowls (zigzag, vertical fish spine and central star), intentionally roughened surfaces (sometimes in a regular direction) ? scaled. Vessel forms: low and wide truncoconical bowls, narrower cups with lug handles, deep bowls with slightly closed truncoconical neck, flasks, deep little cylindrical vessel with handle, miniature cylindrical vessel with handle, ovoid vessel with flat base and inturned rim, large cylindrical vessel with slightly inturned rim, semi-ovoid vessels, flat and heel bases, ribbon and strap handles, lugs (elongated, pierced, in pairs or rows).

Clay artefact. A 15 cm long rectangular clay block with a wide longitudinal groove and the start of 4 holes placed in the corners on one face, and 2 horizontal holes through the thickness of the block.

Lithics: 6 cores, 1 rejuvenation flake, 82 non-retouched flakes, 6 retouched flakes, 10 non-retouched blades, 1 truncated blade, 1 retouched blade, 1 point, 4 arrowheads (Fig. 57.11-13), 1 notched dagger (8.5 cm long), 1 pebble axe with groove around the middle, 1 trapezoidal bifacially flaked axe, 1 ground stone hammer-axe with a hole (Fig. 73.31) , grindstones.

Bone industry: 4 awls, 2 pierced Ursus canines, 1 pierced Sus canine.

Faunal remains: Ursus arctos, Canis, Vulpes vulpes, Meles meles, Felis sylvestris, Glis glis, Sus scrofa, Cervus elaphus, Capreolus capreolus, Ovis or Capra, Bos, and birds.

Plant impressions of Pteridium aquilinum on plaster fragments.

v) Cave site.

vi) Earlier full Copper Age. C14 - 16.

iv) Pink coral. Smoothed pendant with small hole at one end, from the general 'Ripoli' levels (spits 17-12).

vii) 147/IV/SO S. Valentino 142752.

viii) Large cave found at c. 275 m asl, on the top edge of the River Orta gorge (c. 100 m sheer drop), 4 km up from the point where the River Orta meets the River Pescara; with the gently undulating Upper Miocene Colle Micone directly behind, cut by the Arolle stream (1.4 km away), which then leads down to the River Pescara (c. 160 m asl, 4 km away) (Plate 3). Modern land use: olives, vines, and limited crops on the hills behind, woods and scrub in gorge; 76 % arable/potentially arable light soils, 24 % pasture/rough grazing. View from the cave is limited to the area of the gorge (Fig. 91, Plate 2). 34 km inland from the coast.

24 Piano d'Orta

i) Di Fraia 1988.

iii) Excavation (> 104 m² area): Di Fraia, 1973-4.

iv) Pottery. Fabrics: coarse, fine, and figulina (10%). Decoration: finger-impressed rim, point impressions (in horizontal band or without order), notched rim, applied discs in 1 or 3 horizontal rows, cordons (plain, finger impressed, segmented), decorated ribbon handles (6 parallel vertical grooves, 2 vertical incised lines bordering horizontal rows of impressions), horizontal grooves, band of horizontal incised lines, traces of red paint (in band or all over). Vessel forms: hemispherical cup with pierced

lug handle, carinated, hemispherical and truncoconical bowls, flasks, semi-ovoid ollas, ladle, spout, globular, truncoconical and carinated vessels, flat and heel bases, handles (ring, ribbon, and indented ribbon), plug handle attachments, lugs (simple, tongue, horn shaped, pierced, indented, and in pairs).

Clay artefacts: 2 spindle whorls, small elliptical piece with four point impressions along one edge (? stamp), 2 cylindrical weights pierced longitudinally, 4 large cylindrical weights pierced horizontally.

Lithics: 89 cores, 4 rejuvenation flakes, 1926 non-retouched flakes, 84 retouched flakes, 15 non-retouched blades, 7 retouched blades, 3 unfinished tools, 4 truncations, 2 microburins, 7 notches, 14 denticulates, 1 beak, 2 awls, 13 side scrapers, 9 end scrapers, 4 burins, 1 geometric trapeze, 18 points, 11 arrowheads (Fig. 48.45-48), 7 flaked tranchets, 1 small polished stone axe, and grindstones.

Obsidian: 4 flakes (2 retouched) and 3 blades.

Bone industry: 1 awl.

Sea shell: 1 pierced Glycymeris violacescens.

Faunal remains: Bos taurus, Ovis or Capra, Sus scrofa, Canis familiaris, Cervus elaphus, Capreolus capreolus, Ursus arctos, Testudo, and birds.

Features: a large elliptical cavity, c. 13 x 8 m, with a spherical section, filled (from bottom to top) by: a dark grey layer (maximum depth 0.9 m), with charcoal, ashes, fire-reddened clay, organic material, and artefacts; then an almost sterile yellow-grey clayey upper layer (0.1-0.15 m depth).

Plaster fragments: some with imprints, and others with flat surfaces.

v) Residential site.

vi) Final Neolithic/early Copper Age.

vii) 146/I/SE Pòpoli 131781.

viii) At 135 m asl on Pleistocene travertine, on the edge of the River Pescara (c. 130 m asl, and 0.3 km away), by a small stream which leads to the River Pescara, with the stream-cut Upper Miocene Colle Morlo behind (c. 175-303 m asl), and just up from the junction of the River Orta and the River Pescara (0.65 km away) (Fig. 91, Plate 1). 33 km inland from the coast.

25 Planoianni, Penne

- i) Radmilli et al. 1953: 75.
- iii) Surface collection: Leopardi.
- iv) Polished axe/chisel (7.5 cm long).
- v) Find-spot.
- vi) 19,BA = Final Neolithic/early Copper Age - Bronze Age.
- vii) 140/II/NE Penne 12-01-.
- viii) At c. 200-300 m on the stream-cut north-east side of the Pliocene clay and marl Penne hill (473 m asl), above the Baricello stream (135 m asl, and 2 km away), and at the head of the Mordaco stream (which runs into the Baricello stream). 19 km inland from the coast.

26 Pluviano, Penne

- i) Radmilli et al. 1953: 74; Barker 1975.
- iii) Surface collection: Leopardi.
- iv) Hammer-axe with hole (10 cm long).
- v) Find-spot.
- vi) Late Copper Age - Bronze Age.
- vii) 140/II/NE Penne 09-01-.
- viii) Between c. 375 and 300 m asl on the southern side of the Pliocene clay and marl Penne hill (473 m asl), above the River Tavo (245 m asl, c. 1 km away), and flanked by the Monache and Murata streams (c. 0.25 km away). Modern land use: intensive agriculture, 100 % arable/potentially arable light soils. 21 km inland from the coast.

27 S. Agnese, Città S. Angelo

- i) De Pompeis 1978.
- iii) Surface collection, aerial photography, and 1.2 m² excavation, De Pompeis, 1972.
- iv) Pottery. Fabrics: coarse, fine, and figulina (39%). Decoration: finger impressions in band under rim, rows of incised circles on the rim, 1 ribbon handle with 3 parallel grooves, applied discs in band under rim, red painted. Vessel forms: carinated and truncoconical bowls, truncoconical vessel, flat and heel bases, handles (ribbon, ring, often indented, tubular), plug handle attachments, lugs (tongue and pierced).

Features: 135 dark circular soil stains (Neolithic) over an area of 38,000 m², and 3 linear stains (? more recent). The Neolithic deposits were disturbed by ploughing in the area of the excavation pit.

Lithics: 48 cores (18 flake, 30 bladelet), 7 rejuvenation flakes, 465 non-retouched flakes, 5 retouched flakes, 59 non-retouched blades (up to 7 cm long), 64 non-retouched bladelets, 21 retouched blades (up to 8 cm long), 2 end scrapers, 1 side scraper, 3 arrowheads, 1 pebble tinted

with red ochre.

Obsidian: 4 flakes, 9 bladelets.

Faunal remains: Felis sylvestris, Lepus europaeus, Sus scrofa, Cervus elaphus, Capreolus capreolus, Ovis or Capra, Bos taurus, and birds.

Human remains: 1 cranium fragment, and 1 femur fragment.

Plaster.

v) Residential site.

vi) Late Neolithic.

vii) 141/III/NO Loreto Apruntino 218046.

viii) At 85 m asl on a Pleistocene fluvial terrace flanking the River Fino (45 m asl, 0.2 km away), near to the Mammoccio stream (0.3 km away), with the deeply stream-cut Pleistocene clay Colle di Sale behind (100-376 m asl, 0.4-5.0 km away). Modern land use: vineyard. 6 km inland from the coast.

28 Salle

i) Radmilli 1981: 380.

ii) Unpublished material in the Pigorini Museum, nos. 53809 and 53811.

iii) Surface find: 19th century.

iv) 2 notched daggers (1 flint, 1 copper) (Figs. 65.1 and 66.2).

v) Find-spot(s).

vi) Late Copper Age - Early Bronze Age.

vii) 147/IV/SO S. Valentino 14-70-.

viii) At c. 425-475 m asl on the Upper Miocene sandstone and clay Salle hill, cut by the Arigastia and Riomaggio streams, near the top end of the River Orta gorge (c. 0.4 km away), with Monte Morrone behind (800-2061 m asl, and 3-5 km away) (Plate 7). 38 km inland from the coast.

29 Sorgenti Pescara

ii) Unpublished material in Bologna Museum.

iii) Surface finds: 19th century.

iv) Arrowheads.

v) Find-spot.

vi) Late Neolithic - Bronze Age.

vii) 146/II/NO Raiano 02-69-.

viii) At c. 250 m asl, by the major springs at the head of the River Pescara, below the Palaeogene marl Capo Pescara hill (452 m asl, 0.6 km away), on the edge of the Pleistocene - Pliocene lacustrine deposits of the Popoli-Sulmona plain. The River Pescara joins the River Aterno 1

km downstream. 48 km inland from the coast.

30 S. Silvestro, Pescara

i) D'Ercole 1981: 339-340.

iii) Excavation: 1981.

iv) Pottery: figulina fabric, and impressed decoration.

Lithics included: 2 arrowheads (1 concave based, 1 tang and fin).

Features: a small ditch.

v) Residential site.

vi) Late Neolithic - final Neolithic/early Copper Age.

vii) 141/II/NO Pescara 379990.

viii) At c. 55 m asl on the stream-cut coastal slope of the Pleistocene clay S. Silvestro hill (164 m asl), near a stream (0.1 km away), above the coastal plain (2 m asl, 0.4 km away), and 1 km inland from the coast.

31 Turrivalignani

i) Radmilli 1981: 337.

iii) Survey: Pannuti, c. 1970.

iv) Lithics: bladelets, truncated bladelets, 2 arrowheads.

v) Lithic survey site.

vi) ? Final Neolithic/early Copper Age (bladelets and arrowheads).

vii) 147/IV/NO Scafa 19-79-.

viii) Between c. 200 and 300 m asl on the stream-cut slope of the Pliocene clay and marl Turrivalignani hill (339 m asl, c. 0.75 km away), above the meeting point of the Rivers Lavino and Pescara (93 m asl, 1.5 km away). 28 km inland from the coast.

32 Villa Badessa

i) Radi 1979; Bigazzi and Radi 1981: 232-3; De Pompeis pers. comm. 1988.

iii) Excavation (17 trenches): De Pompeis and Radi, 1973.

iv) Pottery. Fabrics: coarse and figulina. Decoration: bichrome red painted (wide bands meeting at angles and in zigzags, triangles hanging from rims, internal narrow parallel straight and wavy lines, negative technique on red painted zones creating striations), applied oblique cordon, multiple lugs, short parallel incisions. Vessel forms: deep hemispherical or carinated bowls and cups, flasks, beakers, truncoconical and semiovoid vessels, bases (flat heel and round), handles (ribbon, strap, pierced lug, ring), lugs (pierced, tongue, pairs near rim).

Lithics: cores, rejuvenation flakes, flakes, blades and bladelets (a few retouched, 5 cm long), 2 truncations, 5 burins, 1 point on a bladelet, 1 small polished axe, a

broken lithic ring, a grindstone.

Obsidian: 2 flakes, 3 bladelets.

Bone industry: a few awls and a spatula fragment.

Sea shells: pierced Pectunculus shells, and a segment of a shell bracelet (? 10 cm diameter).

Features: 1 oval cavity (2 x 3 m, and maximum depth 0.7 m), filled with blackish clayey soil, stones, and artefacts.

Plaster.

2 human burials, with painted pottery vessels.

v) Residential site.

vi) Middle Neolithic.

vii) 141/III/SO Pianella 220896.

viii) At c. 105 m asl on the end of a Pleistocene fluvial terrace between the River Nora and the Giachetto stream, which converge just below the site (90 m asl, 0.5 km away), with low stream-cut Pleistocene clay hills to the south and west. Modern land use: olives and crops on the terrace by the river, and good agriculture on the Villa Badessa hill (1 - 2 km away) (Fig. 95). 19 km inland from the coast.

33 Villaggio Leopardi, Pluviano, Penne

i) Radmilli 1959: 888; Ferrara et al. 1961; Cremonesi 1967; Evett and Renfrew 1971; Barker 1975; Radmilli 1981: 277-280.

ii) Chieti Museum.

iii) Excavation: Leopardi, 1957-8.

iv) Pottery (Figs. 5-6). Fabrics: coarse, fine, and early figulina (0.2%). Decoration: impressed sometimes in rows (fingernail, finger, point), notched rim, 1 incised fish spine. Vessel forms: beaker, truncoconical, hemispherical, and carinated bowls, jar, strainer, ring and strap handles, lugs including pierced and on rim.

1 star shaped clay artefact.

Lithics: 32 flake cores, 3 rejuvenation flakes, 97 non-retouched flakes, 8 retouched flakes, 27 non-retouched blades (fairly irregular), 6 retouched blades, 35 non-retouched bladelets, 2 truncations, 2 end scrapers, 2 beaks, 1 burin, 1 sickle bladelet, 9 small polished stone axes, 1 pebble chopper, grindstones.

Bone industry: 11 awls, 1 spatula, 1 boar's tusk flake with a rounded end.

Sea shells: 1 pierced Pectunculus with smoothed edges.

Faunal remains: Canis familiaris, Felis sylvestris, Sus scrofa, Bos, Ovis or Capra.

Plant impressions: Triticum dicoccum, Hordeum.

Features (Plan 5): 3 elliptical cavities with flat bases (4 x 3 x 1 m, 3.75 x 2.85 x 0.65 m, 4 x 2.75 x 1.3 m).

Plaster: much, some with imprints.

v) Residential site.

vi) Earlier early Neolithic. C14 - 2.

vii) 140/II/NE Penne 094014.

viii) At c. 375 m asl on the southern side of the Pliocene clay and marl Penne hill (473 m asl), above the River Tavo (245 m asl, 1.5 km away), and flanked by the deeply cut Monache and Murata streams (c. 0.25 km away) (Plate 4). Modern land use: intensive agriculture, 100 % arable/potentially arable light soils. 21 km inland from the coast.

L'AQUILA province (AQ)

34 Arciprete

i) R. Grifoni Cremonesi pers. comm. 1986.

ii) 1980's find.

iv) Human burial with arrowheads.

v) Human burial site.

vi) Full-late Copper Age - Early Bronze Age.

vii) 152/IV/NE Gioia dei Marsi 835448.

viii) At 675 m asl on western side of a wide valley situated on the southern side of the Fucino basin, below Monte Labbrore. About 1-2 km away from the Neothermal lake edge, and 77 km inland from the coast (Fig. 84).

35 Avezzano

ii) Unpublished material in Perugia museum, nos. 121, 4116, 6551.

iii) Surface finds, 19th century.

iv) 3 arrowheads (Fig. 129.11-13).

v) Find-spot(s).

vi) ?BA/14/122 = Late Neolithic - final Neolithic/early

Copper Age (and ? Bronze Age).

vii) 145/II/SE 70-54-.

viii) Between c. 665-725 m asl on Pleistocene deposits, on the north-west side of Lake Fucino (c. 655 m asl, 3.5 km away), below the Upper Cretaceous skeletal limestone Monte Cimarani (c. 800-1108 m asl, 1.5-3 km away), and on the edge of a wide valley with Pleistocene deposits which leads from the Fucino basin through to the valley of the Rivers Salto and Imele (6 km away). 81 km inland from the Adriatic coast.

36 Camerata, Tagliacozzo

i) Pigorini 1888: 134-5,193; Colini 1898: 212.

ii) Unpublished material in the Pigorini Museum, nos. 37436-37451.

iii) 19th century find.

iv) Rock-cut tomb dug into the tufa, and sealed by pieces of the same rock, containing a human skeleton, 18 arrowheads (Fig. 129.14-18, 130.1-10) arranged in a 'crown' around the skull, and a bone adze and a copper flat axe (Fig. 77.4) placed in the middle.

v) Arrowheads: 90/-/90/-/90/-/90/-/-/-/53/53/-/-/- = late Copper Age. Also similarities to the 'crown' of arrowheads at early Bronze Age Assergi. Bone adze = final Neolithic/early Copper Age - early Bronze Age. Copper axe = Copper Age - early Bronze Age. = late Copper Age - early Bronze Age.

vi) Human burial site.

vii) 145/III/SE Pereto 43-53-.

viii) Between c. 765 and 835 m, near to the point where the Fioio stream emerges onto a basin filled by Pleistocene deposits from a long gorge through the Simbruini mountains, comprising Middle - Lower Miocene and Cretaceous skeletal limestones. Modern land use: fruit trees and grazing around Camerata, but much crop cultivation (cereals) in the Pleistocene basin. On the border between Abruzzo and Lazio, and geographically linked to the latter. 72 km inland from the Tyrrhenian coast, and 103 km inland from the Adriatic coast.

37 Capestrano

ii) Unpublished material in Perugia Museum, no. 3002.

iii) Surface find: 19th century.

iv) Arrowhead (Fig. 130.11).

v) Find-spot.

vi) 153,?BA = Final Neolithic/early Copper Age - ? Bronze

Age.

vii) 146/I/NO Capestrano 98-80-.

viii) At c. 330-450 m asl on the edge of the Capestrano basin, filled with Holocene deposits, at the head of the River Tirino, with the stream-cut Palaeogene calcareous marl hill-side of the Serra di Navelli mountain behind (c. 400-967 m asl, 0-3 km away). Modern land use: basin - 83% arable/potentially arable heavy soils, 17% arable/potentially arable light soils, irrigation channels, good agriculture (maize, cereals, market gardens, a few vines); wooded mountains. 42 km inland from the coast.

38 Capo d'Acqua, Capestrano

i) Bonuccelli and Faedo 1968; Barker 1975; Radmilli 1981.

iii) Excavation: Occhiolini, Bonuccelli, and Faedo, 1965, over an area of 138 m².

iv) Pottery. Fabrics: coarse, fine, and figulina (4%). Decoration: impressed (point and fingernail in rows and cordon motif), incised (slashes, parallel lines in geometric motifs), and painted (1 sherd simple red band). Vessel forms: flasks, truncoconical bowls, beakers, strap handles and lugs.

Lithics: made on local flint pebbles; 21 cores (11 flake, 1 flake/blade, 10 blade), 1 rejuvenation flake, 216 non-retouched flakes, 93 irregular blades, 6 retouched blades, 6 truncated blades, 10 denticulates, notches, and beaks, 4 awls, 6 burins, 3 sickle blades, 1 backed bladelet, 2 end scrapers, 1 side scraper, 1 piercer.

Bone industry: 2 awls.

Sea shell: 1 fragment of Cyprea.

Faunal remains: Ursus arctos, Vulpes vulpes, Lepus europaeus, Sciurus vulgaris, Sus scrofa, Capreolus capreolus, Bos taurus, Ovis or Capra.

Features (bottom to top): traces of compacted earth; blackish layer with organic remains and artefacts (0.2 m deep); plough soil (0.4 m deep).

v) Residential site.

vi) (? later) Early Neolithic.

vii) 146/I/NO Capestrano 002818.

viii) 343 m asl on the Holocene deposits of clay and gravel on the flat plain of the Capestrano basin, close to the head of one of the streams feeding the River Tirino (1.4 km away) and the Capo d'Acqua springs (373 m asl, 0.4 km away), with the Palaeogene marl Monte Scarafano to the west.

(c. 400-1425 m asl, and 0.9-3.6 km away) (Plates 16 and 17). Modern land use: 83% arable/potentially arable heavy soils, 17% arable/potentially arable light soils, irrigation channels, good agriculture (maize, cereals, market gardens, a few vines); wooded mountains. 40 km inland from the coast.

39 Cellitto, Paterno

i) Di Fraia 1970; Barker 1975; Irti 1979b; Radmilli 1979: 322-3; Bigazzi and Radi 1981: 232-3; Cremonesi 1985; Grifoni Cremonesi 1985: 721-2; Grifoni Cremonesi 1988: 23.

iii) Excavations and survey: Di Fraia (3 x 2 m² area) 1970; Irti 1978 survey; Cremonesi (6 m² area) 1979, 1986.

Lower stratum

iv) Pottery. Fabrics: coarse, fine, and figulina. Decoration: impressed (tremolo or triangular) and incised (deep slashes in rows), red painted. Forms: truncoconical bowls, flasks, heel bases, lugs.

Much plaster (some with impressions).

Lithics: trapezes, sickle elements, grindstones.

Obsidian.

v) Residential site.

vi) (? later) Early Neolithic.

Unspecified context

iv) A few pits containing Ripoli style painted pottery were found during the 1986 excavations.

vi) Late Neolithic.

Upper stratum

iv) Pottery. Fabrics: coarse, fine (some burnished), and figulina (0.9%). Decoration: applied little discs (in pairs, rows or covering surface), finger, fingernail and round point impressions (in horizontal rows on or under rims), notches (under rim), excision and incision (4 horizontal rows of deeply cut triangles bordered below by incised lines), grooves, minute zigzags (in parallel horizontal lines), grafitti (parallel horizontal lines, 1, 2 or 3 zigzag lines, festoons), incised (1, 2, or 3 parallel horizontal lines, horizontal ladder, narrow hatched band, large rectangle, hatched triangles in line below rim, some bordered above by a horizontal line, 1, 2 or 3 zigzag lines, some forming a band of diamonds), incised decoration around lugs (lugs with corresponding

interior handles) or applied discs (short incisions forming rays around lugs, horizontal band of incised diamonds below rim and vertical hatched line, or 2 parallel zigzag lines, departing from the lugs. Forms: bowls (small, truncoconical, slightly convex, carinated, truncoconical with convex inturned rim), truncoconical cup, truncoconical vessels with flat or heel bases, little ovoid vessel with flat base and 2 horizontal handles on rim, handles (ribbon, indented ribbon, 1 ribbon with appendage), plug handle fixtures, internal handle with corresponding 2 exterior lugs, lugs (some pierced).

11 cylindrical clay weights, pierced longitudinally.

Lithics: 2 cores, 24 non-retouched flakes, 9 retouched flakes, 2 non-retouched blades, 4 retouched blades, 1 truncated blade, 1 backed point, rectangles, sickle elements, 1 small rhomboidal arrowhead, a small triangular ground-stone axe, a lithic ring, grindstones.

Obsidian: 6 flakelets, 16 non-retouched bladelets, 5 retouched bladelets, 1 beak.

Bone industry: 2 awls and 1 point.

Much plaster, some with impressions (1 cm wide).

Faunal remains (including surface finds): Ovis or Capra, Bos, Sus, Vulpes, Martes, Ursus arctos, Cervus elaphus.

Human remains (including surface finds): 2 skull fragments, and 1 premolar.

v) Residential site.

vi) Final Neolithic/early Copper Age.

Surface material

iv) Upper half of a stone figurine (3 cm high) (Fig. 148.2).

vii) 146/III/SO Celano Sud 754582.

viii) At 676 m asl on Pleistocene deposits of clay and pebbles, on the northern side of the Fucino basin, between the Cretaceous skeletal limestone Tre Monti mountain (c. 800-1398 m asl, 0.75-2 km away) and Lake Fucino (c. 655 m asl, 3 km away) (Plate 15). Modern land use: cereal crops and vines; 52% arable/potentially arable heavy soils, 34 % arable/potentially arable light soils, 14% pasture/rough grazing; wooded hill-slopes behind. 75 km inland from the coast.

40 Cesa Vaccara, Colle Mitra - Pacile

- i) Mattiocco 1981.
- iii) Surface collection: Mattiocco, 1970's.
- iv) Small polished stone axe (7.8 cm long).
- v) Find-spot.
- vi) 27 = Final Neolithic/early Copper Age - Bronze Age.
- vii) 153/IV/NO Pettorano sul Gizio 154504.
- viii) On the Cretaceous-Upper Jurassic limestone Cesa Vaccara hill (1076 m asl), at the south-east end of the Sulmona basin (c. 400 m asl, 5-6 km away), above the River Gizio (500 m asl, 2 km away). 52 km inland from the coast.

41 Colle S. Stefano, Ortucchio

- i) Radi 1987-8: 407-8; G. Radi pers. comm. 1988; Radi and Wilkens 1989.
- iii) Excavation (100 m² area): Radi, 1988.
- iv) Pottery. Fabrics: coarse and finer. Decoration: incised slashes and grooves, parallel lines, intersecting lines, v's; finger and point impressed; also some rocker, microrocker, and rows of small impressions. Forms: hemispherical vessels, truncoconical bowls, semiovoid and ovoid vessels, flasks with high straight necks, flat bases, lug handle, ribbon handles.
Lithics: numerous microliths, retouched flakes, retouched blades, denticulates, burins, end scrapers, truncations, microburins, beaks, backed points, side scrapers, geometrics - especially trapezes, numerous 'sickle elements', and small 'greenstone' and limestone ground-stone axes.
Obsidian - 7.6% of all lithics.
Bone industry: awls, points, spatulae, a deer antler mattock.
Sea shells - 1 Dentalium, 1 Cardium, 1 Semicassis undulata.
A few ornaments.
Faunal remains.
Plaster, some with impressions.
Features: a pavement of baked clay, a pebbled area, and a shallow linear cavity.
Surface finds spread over at least 5000 m².
- v) Residential site.
- vi) Early Neolithic.
- vii) 152/IV/NE Gioia dei Marsi 883452.
- viii) At 669 m asl on a Holocene terrace on the south-east side of the Lake Fucino basin (c. 655 m asl, 2.75 km away), near to the Rio di Lecce stream (0.15 km away) which runs from the Monte Pietrascritta and Monte Ara dei Merli behind (c. 700-1330/1806 m asl, 0.75-5 km away), and on the edge of a short and wide side valley (Fig. 84, Plate 14). Modern land use: crops, vines, grazing. 74 km inland from the coast.

42 Grotta Beatrice Cenci, Petrella

- i) Agostini and D'Ercole 1986: 211.
- iii) Surface collection: Agostini and D'Ercole, c. 1980's.
- iv) Figulina (and BA) pottery.
- v) Cave site.
- vi) ? Neolithic.
- vii) 145/II/SO Tagliacozzo.
- viii) Cave (10 x 6 x 10 m asl) at 1045 m asl on the side of the narrow valley of the upper River Imele (1035 m asl, 0.1 km away), near to the head of the River Imele (1.5 km away) and to the Petrella Liri pass (1088 m asl, 1.25 km away) between the River Imele and Liri valleys, with Monte Valminiera behind (c. 1000-1307 m asl, 0.1-1 km away) (Fig. 104, Plate 19). Modern land use: grazing in the valley, wooded mountain slopes. 92 km inland from the Adriatic coast, and 77 km inland from the Tyrrhenian coast.

43 Grotta la Cava, Trasacco - Ortucchio

- i) Tozzi 1962.
- ii) Chieti Museum.
- iii) Excavation: Tozzi, 1959.
- iv) Pottery. Fabric: coarse and fine. Decoration: scaled. Vessel forms: beakers, lugs, cups and bowls with flat and round bases, cup with ribbon handles raised above rim. Clay spindle whorl. Lithics: 2 hammer-axe fragments with holes, 1 flake, grindstone. Faunal remains: Bos, Sus scrofa, Ovis or Capra. Human remains: in a niche along the side wall, disarticulated remains of two children aged 6-7 years, with a rock placed over them; also a few bones from a juvenile aged 17 years from the cave.
- v) Cave site.
- vi) Late Copper Age - Early Bronze Age.
- vii) 152/IV/NE Gioia dei Marsi 854447.
- viii) Cave at c. 650 m asl on the southern side of the Lake Fucino basin (lake at c. 655 m asl, 1.7 km away), on the bottom edge of the Upper Cretaceous limestone Monte Praticelle (911 m asl, 0.4 km away) (Fig. 84). Modern land use: scrub and woods on the hillslope. 77 km inland from the coast.

44 Grotta Cola II, Petrella

- i) Nicolucci 1877: 6-7; Radmilli 1957; Barker 1981a: 157.
- ii) Chieti Museum.
- iii) Excavations: Nicolucci, c. 1877, in cave entrance; Radmilli, 1956, total excavation.
- iv) Pottery. Fabrics: coarse, fine, and figulina. Decoration: incised triangle, applied 'pseudo pan-pipe'. Vessel forms: lugs, ring handle, handle with lateral appendages, flask, carinated bowl. Lithics: 1 flake and 1 bladelet, grindstones.

Obsidian: 1 flake.

Bone industry: 1 awl.

Faunal remains: Capra, Cervus elaphus, bird.

Features: hearth (40 cm deep) which occupied the area of the cave.

v) Cave site.

vi) Final Neolithic/early Copper Age.

vii) 145/II/SO Tagliacozzo 587532.

viii) At 1150 m asl on the south-west side of the Upper Cretaceous limestone Monte Arunzo (1455 m asl, 1 km away), above the head of the River Liri (900 m asl, 0.65 km away), and near to the Petrella Liri pass between the River Liri and Imele valleys (1088 m asl, 1.4 km away) (Fig. 104, Plate 20). Extensive view over the Liri valley. Modern land use: scrub and woods on the hillslope; 30% arable/potentially arable light soils, 70% pasture/rough grazing. 92 km inland from the Adriatic coast, and 77 km inland from the Tyrrhenian coast.

45 Grotta Continenza, Trasacco

i) Grifoni Cremonesi and Mallegni 1978; Grifoni Cremonesi 1984, 1985, 1987-8: 377, 1988; Grifoni Cremonesi pers. comm. 1986.

iii) Excavations: Grifoni Cremonesi, 1978-1988.

Unspecified context

iv) 3 sherds with black painted lines in a zigzag motif, and sherds with rocker impressed decoration.

In front of the rock-shelter opening

iv) Pottery. Fabrics: coarse, fine, and figulina. Decoration: fingernail impressed, incised (2 parallel lines and 1 perpendicular), 3 sherds with unbordered red painted bands. Vessel forms: bowls and flasks.

Lithics: 1 non-retouched flake, 1 non-retouched bladelet, 2 trapezoidal sickle bladelets.

Obsidian: 1 non-retouched bladelet.

Bone industry: 1 awl.

Sea shell: 1 with worn edge.

Features (top to bottom): disturbed stratum (0.8 m deep), stratum comprising layers of stones alternating with shallow hearths and compacted soil (0.8 - 0.9 m deep).

v) Cave site.

vi) Middle Neolithic.

Central zone and west wall of the shelter, (and the interior cave)

Stratum 2

iv) Pottery: coarseware with scaled surfaces.

Clay weights.

Lithics: hammer-axe.

Human remains.

Features: grey compacted soil and ashes (0.2 m deep), post-holes.

v) Cave site.

vi) ? Late Copper Age - Early Bronze Age.

Stratum 3

iv) Pottery: 1 sherd of figulina.

Features: mixed stone layer (0.3 m deep), into which were dug circular mud-lined pits (1 m diameter and 0.3 m deep), and a large pit.

Faunal remains.

v) Cave site.

vi) ? Final Neolithic/early Copper Age.

Spits 24-4

iv) Pottery. Fabrics: coarse, fine, and ? early figulina. Decoration: impressed (finger, fingernail, triangular and round point), incised (short slashes, 3 parallel lines in V motif, vertical zigzag band of lines departing from rim). Vessel forms: hemispherical bowl, round-based globular vessel with cylindrical neck and 3 large pierced lug handles, globular vessel with round base and closed form with 3 holes around rim, elliptical vessel with round base and short neck, flask, flask with high wide neck and 2 horizontal strap handles, cylindrical vessel with round base and 2 large pierced lugs on rim, ovoid vessel with flat base, short neck, 4 holes around rim and 4 pierced lug handles, semi-ovoid, convex, truncoconical vessels, bases (round, flat, concave foot, heel), handles (strap, ribbon and large pierced lug), lugs.

Lithics: 5 non-retouched flakes (1 from a pebble), 4 non-retouched bladelets, 1 retouched bladelet, 1 retouched blade, 2 truncated bladelets, 1 notch, 1 beak, 1 polished stone axe.

Obsidian: 3 non-retouched bladelets, 1 non-retouched flake, 2 retouched bladelets, 1 truncated bladelet.

Sea shells: 1 fragment.

Faunal remains: Ovis and Canis.

Features: spits d-f: layers of stones alternating with ash lenses and hearths (0.9-0.95 m deep), a pit (0.3 m diameter and 0.3 m deep), and 'ritual' pits, pavements and deposits

in spit d; h: sterile stones (0.2 m deep); i: lens of soil with charcoal (0.1 m deep); sterile stones with microfaunal remains (0.1-0.2 m deep); m-o: yellow-brown soil, clay, stones, hearth with ashes and charcoal (0.2 m + deep).

Human remains and ritual deposits in spit d. In a niche along the west wall of the shelter: a group of 4 intact pottery vessels containing cremated human bones; 1 smeared with clay, containing the cremated remains of a 4 year old, and covered by 2 sherds, and another containing some red ochre and the cremated remains of a child aged 8 years; all covered by a pile of burnt bone from a female adult. Other intact vessels along this wall, and a small pile of red ochre and a little pit dug into the clay near to the wall. At a slightly higher level a vessel without a base covered by a sherd, in a pit dug into a paved area of clay and stones. Elsewhere in the cave were found: 2 child burials: 1 in a niche in the central wall, 1 in a pit near to a stone-paved area with much charcoal. Also remains of about 15 adults and 15 children from the shelter and the internal cave. Pits, a few containing sherds, 1 with clay lining and another with red ochre. The articulated remains of 2 sheep and 1 dog along the west wall and at the entrance to the interior cave. Clay-lined ditches, pits, compacted soil, pavements, hearths.

v) Cave site.

vi) Early Neolithic.

Spit 25

? sterile grey clay.

Spits 26-31

vi) Mesolithic.

vii) 152/IV/NO Trasacco 797464.

viii) Low cave with numerous stalagmites (Plate 12), at 700 m asl on the south side of the Lake Fucino basin, near to the lake edge (c. 655 m asl, 0.7 km away), on the slope of the Upper Cretaceous skeletal limestone of Monte Alto (1084 m asl, 0.8 km away), near to the point where the Rosa stream valley joins the Fucino basin (1 km away). Below a rock-face, and above a scree slope (Fig. 84, Plate 11). Extensive view over the Fucino basin. Modern land use: scrub and trees on the hill-slope, agriculture on the plain. Cave entrance was used as a sheep enclosure, and named after the shepherd. 77 km inland from the coast.

46 Grotta a Male, Assergi

i) Rellini 1938; Pannuti 1969; Peroni 1969; Barker 1975.

ii) Origini Museum (Rome) and Chieti Museum.

iii) Excavations: Rellini 1936, Pannuti 1958-1965.

iv) Human burial in area A cavity, with pottery vessels, overlying sterile deposit of stones at the base of the cave.

Human remains: a few poorly preserved bones.

Pottery. Fabric: fine black burnished/matt. Vessel forms: jug with high neck and large vertical handle between neck and shoulder, olla with slightly squashed body.

v) Cave site.

vi) Late Copper Age - Early Bronze Age.

vii) 140/III/NO Gran Sasso d'Italia 753389.

viii) Cave, at 950 m asl, above the upper Raiale stream (c. 885 m asl, 0.1 km away), and below the Jurassic dolomite Serra la Malecoste mountain (c. 1200-2421 m asl, 1-3 km away), on the southern side of the Gran Sasso mountain range. Modern land use: 67% arable/potentially arable light soils, 33% pasture/rough grazing. 52 km inland from the coast.

47 Grotta Maritza, Trasacco - Ortucchio

i) Favati Vanni 1963; Grifoni and Radmilli 1964; Barker 1975.

ii) Chieti Museum.

iii) Excavations: Grifoni, 1960-1963.

Spits 28-24

iv) Pottery. Fabrics: coarse, fine, and figulina (29%). Decoration: 1 fingernail impressed, 1 cordon, brown bichrome painted (lines and large colour-filled triangles), red and brown trichrome painted (red band bordered by band of brown lines, and red bands bordered by brown lines bordering a row of small dots, in quadrangular motifs). Vessel forms: little ollas with flared necks, single-handled carinated jugs with round bases, flasks, bases (flat, footed or round), ribbon handle, lugs (some pierced).

Lithics: 3 flakes, 2 non-retouched blades, 2 retouched bladelets, 1 ? grindstone.

Obsidian: 1 core.

Bone industry: 1 spatula, 2 awls.

Human remains: 19 scattered fragments of human bone, including: 2 temporals (1 from a woman), 1 jaw (15 years), 3 mandibles (7 years, 7-8 years, adult man), vertebra, 2

ulnae (female, adult), 2 heels.

Features (bottom to top): succession of fireplaces, and blackened soil and stone layers (0.85 - 0.9 m deep).

v) Cave site.

vi) Late Neolithic.

Spits 23-22

iv) Pottery. Fabrics: coarse and fine (notable decrease in figulina). Decoration: finger and large point impressions in a row under rim. Vessel forms: miniature round-based bowl, truncoconical bowls, ollas (1 with spool handle), beakers, flasks, convex and carinated vessels, ribbon and spool handles.

Clay weights: a few.

Lithics: 2 non-retouched blades and 1 retouched blade.

Human remains: ? a few scattered fragments.

Features: hearths, soil, and stones (0.5-0.55 m deep).

v) Cave site.

vi) Final Neolithic/early Copper Age.

Spits 21-20

iv) Pottery. Fabrics: coarse and fine dark. Vessel forms: truncoconical cups, cylindrical vessels, cylindrical necks, convex bowl, flat or heel bases, ribbon and spool handles.

Clay weights: numerous.

Lithics: 1 core, 7 flakes, 5 non-retouched blades, 4 retouched blades, 1 truncated blade, 1 point on a blade and 1 arrowhead (Fig. 49.50-51), grindstone, spindle whorl.

Human remains, ? in a pit dug into the underlying deposits: humerus and tibia (child/juvenile), radius (adult), fibula (adult), 2 heels (female 16-17 years, adult man), astragalus.

Features: hearth with stones (0.3-0.4 m deep).

v) Cave site.

vi) Middle-late Copper Age.

vii) 152/IV/NE Gioia dei Marsi 851447.

viii) At c. 685 m asl on the southern edge of the Fucino lake basin (lake edge 655 m asl, and 1.6 km away), on the

side of the Upper Cretaceous limestone Monte Praticelle (911 m asl, 0.5 km away) (Fig. 84, Plate 10). Modern land use: scrub and trees on the hillslope, crops on the plain; 40% arable/potentially arable heavy soils, 15% arable/potentially arable, light soils, 45% pasture/rough grazing. Extensive view over the Fucino basin. 77 km inland from the coast.

48 Grotta delle Marmitte, Grotte di Capranica, Ofena

- i) Grifoni Cremonesi 1969; Barker 1975.
- iii) Excavation: Grifoni Cremonesi, 1965.

Cavity AC.

iv) Pottery. 1 fine carinated and round-based bowl, 1 truncoconical bowl, 1 coarse ladle, 1 figulina sherd decorated with curvilinear grooves, 1 sherd with traces of impressions, 3 sherds.

Lithics: 2 flakes, 1 retouched blade, 1 broken trapeze.

v) Cave site.

vi) Final Neolithic/early Copper Age.

vii) 146/I/NO Capestrano 963852.

viii) At 750 m asl on the east side of Monte la Serra (1014 m asl, 0.75 km away) above the Ofena/Capestrano basin (c. 350 m asl, 0.75 km away). Modern land use: scrub and trees on the hill-slopes; 12% arable/potentially arable heavy soils, 43% arable/potentially arable light soils, 45% pasture/rough grazing. Extensive view over the Ofena/Capestrano basin. 40 km inland from the coast.

49 Grotta di Ortucchio, Ortucchio

i) Radmilli 1965a; Cremonesi 1968.

ii) Chieti Museum.

iii) Excavations: Radmilli, 1957-1960.

iv) 1 Ortucchio style decorated sherd from the disturbed upper stratum (B) with soil and stones.

v) Cave site.

vi) Late Copper Age.

vii) 152/IV/NE Gioia dei Marsi 880444.

viii) At c. 700 m asl on the south side of the Fucino lake basin (lake at c. 655 m asl, 3 km away), on the side of the Lower Cretaceous limestone Monte Pietrascritta (1330 m asl, 3 km away), and not far from the Rio di Lecce stream (0.8 km away) (Fig. 84). Good view over the eastern half of the Fucino basin. Modern land use: wooded slope, agriculture on the plain below. 77 km inland from the coast.

50 Grotta S. Nicola, Trasacco

i) Borzatti von Löwenstern 1962a and b.

ii) Chieti Museum.

iii) Excavations: Borzatti von Löwenstern, 1960.

Lower stratum A²

iv) Pottery. 2 sherds of red painted figulina, 1 from a hemispherical bowl; 1 plain figulina flat-based bowl; 1 fine black beaker with incised slashes in bands; 1 coarse sherd with combined fingernail impressions and incised lines.

v) Cave site.

vi) Middle Neolithic.

Upper stratum A²

iv) Pottery. Fabrics: black with black or red burnished surfaces and 1 sherd of figulina. Decoration: 1 fingernail incised rim. Vessel forms: large globular vessel, globular vessel with a short neck, truncoconical and carinated bowls, flat bases, ribbon, ring, tubular and spool handles, lugs on body and rim.

Features: blackish soil.

v) Cave site.

vi) Final Neolithic/early Copper Age.

General stratum A²

iv) Lithics: 1 core (blades), 3 non-retouched flakes, 1 retouched flake, 2 non-retouched blades, 6 retouched blades, grindstone.

Obsidian: bladelet.

Bone industry: 1 point, 1 awl.

Faunal remains: Ovis or Capra, Bos taurus, Cervus elaphus, Capreolus capreolus, Sus scrofa, Vulpes vulpes, Felis sylvestris, Lepus europaeus, Putorius putorius, Testudo graeca, birds, and fishes.

Human remains: 1 mandible with teeth (adult), 4 parietals, 1 tibia.

Features: blackish soil layer (0.3 m deep).

v) Cave site.

vi) Middle Neolithic - final Neolithic/early Copper Age.

vii) 152/IV/NO Trasacco 816466.

viii) At c. 700 m asl on the south side of the Fucino lake basin (lake edge 655 m asl, 0.6 km away), and on the edge of the Upper Cretaceous skeletal limestone Monte Alto (1084 m asl, 1.5 km away). Modern land use: wooded hill-slope,

agriculture on the plain below (Fig. 84, Plate 13). 77 km inland from the coast.

51 Grotta la Punta, Trasacco - Ortucchio

- i) Cremonesi 1968; Barker 1975.
- ii) Chieti Museum.
- iii) Excavation: Cremonesi: 1958-9.

Spits 12-10

iv) Pottery. Fabrics: coarse, fine, and figulina (21%). Decoration: finger and fingernail impressed (in row under rim, all over, and pairs in bands), notched and impressed rims, bi- and trichrome painted (bands of lines in zigzag motif). Vessel forms: truncoconical, cylindrical and carinated bowls, truncoconical cups, ollas, flasks, carinated jugs, ring handles and lugs.

Lithics: 1 core (flakes), 1 rejuvenation flake, 12 non-retouched blades (average 5 cm long), 4 retouched blades, 4 truncated blades, 2 end scrapers.

Bone industry: 2 awls, 1 spatula fragment, 1 pierced dog's tooth.

Faunal remains: Canis.

Features: brown soil with a few stones with hearths (0.5-0.9 m deep).

v) Cave site.

vi) Late Neolithic.

Spits 9-8

iv) Pottery: fabrics: coarse, fine black and red burnished, fine orange, and figulina (0.3%). Decoration: finger impressions and grooves in horizontal row under rim, bichrome painted (black dots, brown lines and chequerboard). Vessel forms: truncoconical and convex bowls, globular and cylindrical vessels, ollas, convex and carinated cups, cup with spool handle on rim, flat and foot bases, handles (indented ribbon, tubular, spool, 1 spool with 4 cut triangles), lugs (simple and 1 with 2 vertical holes).

Lithics: 1 core (flakes/blades), 13 flakes, 1 non-retouched blade, 1 retouched blade, 1 retouched bladelet, 2 end scrapers, 1 burin, 1 grindstone.

Bone industry: 1 awl.

Faunal remains (spits 8-12): Bos, Canis, Ovis or Capra, Sus scrofa, Capreolus capreolus, Cervus elaphus, Felis

sylvestris, Ursus arctos, Vulpes vulpes.

Features: brown soil with a few stones with hearths (0.4 m deep), sterile layer of stones in places (0.2 m deep).

v) Cave site.

vi) Later late Neolithic.

Spits 7-5

iv) Pottery. Fabrics: coarse and fine black-brown. Decoration: impressed (finger and band of points), finger-impressed cordon, 3 incised lines in undulating band. Vessel forms: truncoconical and convex bowls, truncoconical cup, flat base, ribbon handle, lugs (single and pair).

6 cylindrical clay weights, pierced longitudinally.

Lithics: 2 non-retouched blades, 3 retouched blades, 2 retouched bladelets, 6 retouched flakes, 1 end scraper, 1 arrowhead (Fig. 49.49).

Faunal remains: Ovis or Capra, Sus scrofa.

Features: succession of ash lenses, and a rock fall (0.3-0.6 m deep).

v) Cave site.

vi) Copper Age.

vii) 152/IV/NE Gioia dei Marsi 852447.

viii) Cave, at c. 700 m asl on the south side of the Fucino lake basin (lake edge c. 655 m asl, 1.65 km away), on the side of the Upper Cretaceous limestone Monte Praticelle (911 m asl, 0.45 km away) (Fig. 84, Plate 10). Modern land use: thick scrub and trees on the hill-slope, agriculture in the basin; 40% arable/potentially arable heavy soils, 15% arable/potentially arable, light soils, 45% pasture/rough grazing. Extensive view over the Fucino basin (Plate 8). 77 km inland from the coast.

52 Grotta Tronci, adjacent hillslope

i) Radmilli 1985.

iii) Surface find: Radmilli, 1980's.

iv) Pottery: 1 sherd of figulina and other sherds.

Features: the pottery came from a dark hill-slope layer, probably eroded from a cave above (not Grotta Tronci).

v) Cave site.

vi) ? Neolithic.

vii) 152/IV/NE Gioia dei Marsi 879508.

viii) At c. 725 m asl, on the east side of the Fucino lake basin (lake edge c. 655 m asl, 2 km away), below the Lower

Cretaceous limestone Pisco Muratore hill (1035 m asl, 1.25 km away), at the end of the Pleistocene deposits which surround the northern half of the basin. 71 km inland from the coast.

53 Il Mulino, Trasacco

- i) Irti 1980: 103-4; Irti 1986: 260.
- iii) Survey: Irti, 1979.
- iv) Pottery. Fabric: coarseware. Vessel forms: heel base, bowls, ollas, lug.
Clay weights: numerous.
Surface material over an area of c. 32,500 m².
- v) ? Residential site.
- vi) Copper Age - Bronze Age.
- vii) 152/IV/NO Trasacco 792473.
- viii) At 655 m asl, ? on the lake edge, on the south side of the Fucino lake basin, with the Upper Cretaceous skeletal limestone Monte Alto (c. 800-1084 m asl, 1-1.75 km away) and the Rosa stream valley (1.5 km away) behind (Fig. 84). Modern land use: vegetables on drained and irrigated alluvium. 77 km inland from the coast.

54 La Fossa, L'Aquila

- i) Radmilli 1981: 337.
- iii) Surface find: 1960/70's.
- iv) Polished stone axe (10cm long, 4.2 cm wide, 2.3 cm thick).
- v) Find-spot.
- vi) Neolithic - Bronze Age.
- vii) 146/IV/NO S. Demetrio ne'Vestini 75-83-.
- viii) Between c. 570 and 655 m asl, on the side of the Fossa stream/River Aterno valley and the Middle-Lower Miocene limestone Castello d'Ocre hill (933 m asl, 0.5 km away), on the edge of the Monte d'Ocre mountains. Modern land use: good crop (cereals, vines) agriculture on the hill-slope below Fossa and along the valley, wooded hills behind. 59 km inland from the coast.

55 La Troja

- ii) Unpublished material in Perugia museum, nos. 2673, 2675-2677, 2683.
- iii) Surface finds: 19th century.
- iv) 5 arrowheads (Fig. 130.12-16).
- v) Find spot(s).
- vi) 113/-/77,100/62,164/- = Final Neolithic/early Copper Age - late Copper Age.

56 La Valle, Tussio

- i) Mattiocco 1986: 31-7.
- iii) Survey: Mattiocco, 1982-5.
- iv) Pottery. Decoration: orderly fingernail impressed, and parallel incised lines. Vessel forms: bowls, flask, beaker, flat and concave bases.
- Lithics.
- Obsidian core.
- Faunal remains.
- v) Residential site.
- vi) Early Neolithic.
- vii) 146/IV/NE Barisciano 884803.
- viii) At c. 800 m asl on a hill-slope of Pleistocene-Pliocene deposits, above the Altipiano of Castelnuovo/Navelli (c. 750 m asl) and the Settefonti springs at the head of a stream which runs through the Altipiano (768 m asl, 1.5 km away), with a small valley behind and the Polveroso (1018 m asl), Ceraso (c. 1060 m asl), and Buscito (1169 m asl) mountains (1.25-2 km away). 50 km inland from the coast.

57 Luco dei Marsi - Trasacco

- i) Pigorini 1896; Radmilli 1981: 336-7.
- ii) Unpublished material in Perugia Museum, nos. 100-101, and the Pigorini Museum, nos. 54020-30.
- iii) Surface finds: 19th century.
- iv) 3 long retouched blades (10 - 11.5 cm long) (Fig. 147.1-3), 6 polished stone axes (Figs. 142.3-6, 143.1-2), and 4 arrowheads (Fig. 130.17-20).
- v) Lithic survey site.
- vi) Long retouched blades = final Neolithic/early Copper Age - Bronze Age; axes - 10,21,25,42 = Final Neolithic/early Copper Age - Bronze Age; arrowheads - 142/13,34,103,106,151/6 = Late Neolithic - Copper Age; = Late Neolithic - Bronze Age.
- vii) 152/IV/NO Trasacco.
- viii) Area of Holocene terraced deposits between c. 665 and 700 m asl, crossed by the Rio Carnello stream, between the southern shore of lake Fucino and the limestone Monte Romanella (1757 m asl). 83 km inland from the coast.

58 Madonna del Soccorso, Castel d'Ieri

- i) D'Ercole 1987-8: 406.
- iii) Excavation: Campanelli, 1987.
- iv) Pottery: Impressed Ware decorated in the Guadone style.
- v) Residential site.
- vi) Early Neolithic.
- vii) 146/II/NO Raiano 968623.
- viii) At 528 m asl on Pleistocene - Pliocene deposits by a stream in the Castel d'Ieri intermontane valley. 56 km inland from the coast.

59 Massa d'Albe

- i) Radmilli 1981: 380-1.
- ii) Unpublished material in the Pigorini Museum, nos. 36703-5, 36725-8.
- iii) Surface finds: 19th century.
- iv) 4 arrowheads, a long blade, and 3 polished stone axes (Fig. 143.3-5).
- v) Lithic survey site.
- vi) Arrowheads - 94,103,132,149/102,132,165/45,154/98,132,163 = final Neolithic/early Copper Age - late Copper Age; long retouched blade = final Neolithic/early Copper Age - Bronze Age; stone axes - 6,10,21,27,42 = early Neolithic - Bronze Age; = final Neolithic/early Copper Age - Bronze Age.
- vii) 145/II/NE Magliano de'Marsi 67-63-.
- viii) A small 'altipiano' at c. 800 - 900 m asl on the lower hillslopes of Monte Velino (2486 m asl, 4.5 km away), above the valley of the Rivers Salto and Imele (c. 695 m asl, and 4 km away) and the Fucino basin (c. 655 m asl, 8.5 km away). Modern land use: wooded hill-slopes, limited agriculture. 78 km inland from the coast.

60 Ortucchio

- i) Puglisi 1958: 208; Ferrara et al. 1961; Puglisi 1965b; Cremonesi 1962; Radmilli 1969: 372-3; Radmilli 1970: 424; Azzi et al. 1973; Irti 1979a; Tartaro 1979; Radmilli 1981: 353-363; Cremonesi 1985; Irti 1986.
- iii) Excavations and surface collection: Puglisi 1958, Cremonesi 1962 (4 trenches - 3 x 2 m² and 1 x 4.5 m² areas), Radmilli 1969-1970 (trenches over an area of 120 m²), Irti 1979 (surface collection).

Stratum 3 (F,G)

- vi) Mesolithic.

Stratum 3 (E)

- iv) Pottery: 2 impressed sherds (1 by fingernail), sherd of figulina with traces of red colouring in trench 13, (Diana type vessel in trench 21).
- Obsidian: 1 bladelet.
- Features: a light grey soil.
- v) Residential site.
- vi) Early Neolithic.

Stratum 2 (D-B)

- iv) Pottery. Fabrics: coarse, semi-fine, and fine black burnished (13%). Decoration: cordons (rectilinear or curved, horizontal or vertical, parallel segments), finger-impressed and notched cordons, warts placed regularly over the surface, finger-impressed (on or under rim, in rows),

circular hole impressions, little point impressions in unbordered rows or bands, some white-filled, combined impressed and incised (little points and bands of straight and zigzag lines), notched, incised (straight, undulating or zigzag bands of parallel lines, in straight, intersecting or angular, and tree motifs). Vessel forms: flat-based truncoconical bowls, miniature truncoconical bowl with concave foot base, carinated bowls (with everted to inverted rims), ribbon-handled cups (truncoconical, hemispherical with out-turned rim, baggy, convex), lug-handled cups (truncoconical, carinated with everted rim, convex), globular vessels, jugs with cylindrical necks and ribbon handles, ovoid vessels with squashed bodies and short cylindrical necks, beakers with cordons and flat heel bases, large open truncoconical vessel with flat heel base and lug, ribbon handles (some raised a little above the rim), variety of lugs (conical, discoidal, elongated, spool shaped, 1 horse-shoe shaped with 3 holes), sherds from a 'Diana type' vessel.

Clay artefacts: 30 weights (spherical and cylindrical pierced longitudinally, flat with central hole, 1 with 2 holes), and 4 spindle whorls.

Lithics: 102 cores (especially for bladelets, flakelets, and flakes), 26 rejuvenation flakes, 741 non-retouched flakes, 144 retouched flakes, 106 non-retouched blades/bladelets, 61 retouched blades, 1 long retouched blade (Fig. 75.6), 1 notch, 3 end scrapers, 2 backed bladelets, 1 backed flake, 1 backed point, 19 truncations, 14 semilunate geometrics, 1 triangle, 1 trapeze, 2 microburins, 21 notches, 6 beaks and points, 1 trapezoidal sickle element, 3 points, 4 arrowheads (Fig. 60.52-55), 2 hammer-axe fragments (Fig. 73.29-30), small polished stone axes, grindstones.

Obsidian: 1 bladelet, 1 core (bladelets), 2 flakes, 1 blade, 1 end scraper.

Bone industry: 1 awl, numerous deer antler picks, quadrangular pendant.

Shells: 1 pierced.

Faunal remains: Canis familiaris, Vulpes vulpes, Cervus elaphus, Sus scrofa, Ovis or Capra, Bos taurus.

Features: General succession of deposits (top to bottom): clayey agricultural soil (0.2 m deep); grey clayey mud, with a little sand, with Melosyra arenaria diatoms, often with layers of cobbles (? paving), and 43 small post-holes found in trench 24 (25 m² area), Copper Age artefacts; C. muddy black sand with organic matter; D. yellow sandy clay.

Area of surface material: 114,000 m².

v) Residential site.

vi) Late Copper Age. C14 - 17.

Surface find

iv) Clay figurine (7 cm long), lacking head, ? male (Fig. 149).

vii) 152/IV/NE Gioia dei Marsi 865-8 459-64.

viii) At c. 658-9 m asl on Holocene deposits on the edge of lake Fucino (c. 655 m asl, ? 0.6 km away), very close to the point where the Rio di Lecce joins the lake. 1.6 km away from the start of the mountains on southern edge of the Fucino basin (Fig. 84, Plate 9). 75 km inland from the coast.

61 Pescina

i) Radmilli 1981: 380.

ii) Unpublished material in the Pigorini Museum, no. 75980.

iii) Surface find: 19th century.

iv) Large hammer-axe with a hole (Fig. 144.1).

v) Find-spot.

vi) Axe - 39 = Copper Age - Bronze Age.

vii) 146/III/SE Pescina 88-53-.

viii) Between 680 and 800 m asl, on Pleistocene - Pliocene deposits, at the point where the River Giovenco joins the eastern side of the Fucino basin. Area of Pleistocene deposits towards the lake (c. 655 m asl, 4 km away), and the narrow Giovenco valley and Monte Ventrino behind (1507 m asl, 2-6.5 km away). Modern land use: hillslopes behind - some crops, olives, and grazing. 69 km inland from the coast.

62 Pescocostanzo

i) Radmilli 1981: 337, 380.

ii) Unpublished material in the Pigorini Museum, nos. 75981-2.

iii) Surface finds: 19th century, Pannuti 1960/70's.

iv) 2 hammer-axes with holes (Fig. 145.2-3), bladelets, and obsidian artefacts.

v) Lithic survey site.

vi) 29,30,36,39 = Copper Age - Bronze Age.

vii) 153/IV/SO Pescocostanzo 22-38-.

viii) Either on the Pleistocene deposits of the Quarto Grande 'altopiano' (1252 m asl), over which runs the Vera stream, or on the northeast slope of the Middle - Lower Miocene sandstone and marl Monte Calvario (1743 m asl). Much snow during the winter. 54 km inland from the coast.

63 Riparo Monte la Difesa, Tagliacozzo

- i) Agostini and D'Ercole 1986: 211.
- iii) Surface collection: Agostini and D'Ercole, 1972.
- iv) Pottery: figulina fabric, groove and graffiti decoration (and Bronze Age pottery).
- v) Cave site.
- vi) Final Neolithic/early Copper Age, (and Bronze Age).
- vii) 145/II/SO Tagliacozzo 55-57-.
- viii) Location. On the Middle - Lower Miocene skeletal limestone Monte la Difesa (1054 m asl) above the River Imele valley (Fig. 104). 90 km inland from the Adriatic coast, and 80 km inland from the Tyrrhenian coast.

64 Settefonti, Prata d'Ansidonia

- i) Mattiocco 1986: 37-8.
- iii) Surface collection: Mattiocco, 1982-5.
- iv) Pottery. Decoration: impressed (finger impressions in band around rim, points in multiple lines), incised (slash, fish-scale band, multiple incised lines, 1,2,3 zigzag lines, wavy lines, hatched triangles, ladder, diamonds in band around rim), applied (discs around rim in 1,2,3 rows, cordon), painted (parallel bands and lines in rectangular and V motifs, dots between 2 lines bordering fully painted zone, hatched triangular zones). Vessel forms: handles (cylindrical handle with a slash-incised cross; spool, tubular, ribbon, and pierced lug handles), lug, strainers, flat bases, neck, bowls (truncoconical, carinated, semiovoid, flat-based).
- v) Residential site.
- vi) Late Neolithic, and final Neolithic/early Copper Age.
- vii) 146/IV/NE Barisciano 877816.
- viii) At 770 m asl at the northwest end/edge of the Holocene deposits on the 'altopiano' of Castelnuovo/Navelli, by the Settefonti springs, at the head of a stream (767 m asl, 0.1 km away) which runs over the 'altopiano', with the Pleistocene - Pliocene deposits of Colle S. Giovanni (848 m asl, 1 km away) behind. Modern land use: good agriculture. 50 km inland from the coast.

65 S. Giovanni - S. Lorenzo, Tagliacozzo

- ii) Unpublished material in Perugia Museum, nos. 6737-8. Surface finds: 19th century.
- iv) 2 arrowheads (Fig. 131.1-2).
- v) Find-spot(s).
- vi) Arrowheads - 74,38 = Late Neolithic - final Neolithic/early Copper Age.

vii) 145/II/NO Sante Marie.

viii) On the northwest slope of the Middle - Lower Miocene skeletal limestone Monte Bove (1348 m asl), at the head of a stream feeding the River Imele. 90 km inland from the coast.

66 S. Ruffino, Trasacco

i) Letta 1983: 110; D'Ercole 1984: 371.

iii) Surface collection and excavation: 1984-5.

iv) Pottery (scarce): coarse fabric, ribbon handle, incised decoration.

Clay artefacts: conical clay weights and spindle whorls.

Lithics: arrowheads.

Human remains.

v) Residential site.

vi) Late Copper Age - Bronze Age (BA site near here - Irti 1986: 276-9).

vii) 152/IV/NE Gioia dei Marsi 466826.

viii) At 656 m asl on the southern edge of Lake Fucino (c. 655 m asl, 0.6 km away), below the Upper Cretaceous skeletal limestone Monte Labbrone (c. 700-1099 m asl, 0.2-2.5 km away) (Fig. 84). 77 km inland from the coast.

67 S. Sebastiano

ii) Unpublished material in Perugia Museum, no. 2591.

iii) Surface find: 19th century.

iv) Arrowhead (Fig. 131.3).

v) Arrowhead - 46,50,72 = Final Neolithic/early Copper Age - Copper Age.

vi) Find-spot.

vii) 152/I/NO Anversa degli Abruzzi.

viii) At c. 1093 m asl on the hillslope of the Middle-Lower Miocene skeletal limestone Monte Miglio (1712 m asl), above the upper River Giovenco. 71 km inland from the coast.

68 Sulmona basin

i) Mattiocco 1981.

ii) Unpublished material in the Pigorini Museum, nos. 6701-12, and Perugia Museum, nos. 28, 139, 201, 233, 434-5, 466, 602-3, 714.

iii) Surface collection: 19th century and Mattiocco during the 1970's.

iv) 22 arrowheads (Fig. 131.4-25) and a notched flint dagger (Fig. 76.4).

v) Find-spot(s).

vi) 81/53/170/BA/-/102/-80,99,130/54/BA/125,144/93/87/6,130/173/90/31,71/175/6/- = Late Neolithic - Bronze Age, but especially late Copper Age; dagger = Late Copper Age- Early Bronze Age.

vii) 146/II/SE Sulmona.

viii) Inland basin (c. 275 - 400 m asl) filled by Pleistocene terraced deposits, over which run the Rivers Gizio, Vela, and Sagittario, and numerous streams, and surrounded by mountains. Modern land use: varied agriculture, but still quite high numbers of trees. 51 km inland from the coast.

69 Tufo

i) Unpublished material in Perugia Museum, no. 4886.

iii) Surface find: 19th century.

iv) Arrowhead (Fig. 132.1).

v) Find-spot.

vi) 45,125 = Final Neolithic/early Copper Age.

vii) 145/III/NE Carsoli.

viii) At c. 812 m asl, in the Middle - Lower Miocene sandstone and marl Monti Carseolani, near to the head of a stream/valley and to a pass. 93 km inland from the Adriatic coast, and 80 km inland from the Tyrrhenian coast.

70 Villalungo

ii) Unpublished material in Perugia museum, no. 6695.

iii) Surface find: 19th century.

iv) Arrowhead (Fig. 131.26).

v) Find-spot.

vi) Arrowhead - 45,139 = Final Neolithic/early Copper Age.

TERAMO province (TE)

71 Ancarano

i) Rosa 1871: 513.

ii) Unpublished material in Perugia Museum nos. 3237-8, 3288.

iii) Surface finds: Rosa, 1860's.

iv) Small hammer-axe with hole, and 3 arrowheads (Fig. 132.2-4).

v) Find-spot(s).

vi) ? Copper - Bronze Age.

vii) 133/I/SO Monsampolo del Tronto 97-43-.

viii) On the stream-cut Pleistocene clay hills (max. 293 m asl) between the valleys of the River Tronto (c. 45 m asl, c. 2 km away) and the River Vibrata (c. 195 m asl, c. 2 km away). Modern land use: full agriculture on the hill-

slopes, and sheep kept here throughout the year. Rapid clearance of oak woodland on the hillslope down to the River Tronto since the Second World War. 16 km inland from the coast.

72 Basciano

- i) Rosa 1874: 201.
- iii) Surface finds: Rosa, 1873.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 140/I/NO Téraamo Est.
- viii) On the stream-cut Upper Miocene sandstone and clay hill slopes (max. 388 m asl) above the River Vomano (c. 3 km away), and between the River Mavone and another stream which feed into the Vomano. Higher hills behind. 25 km inland from the coast.

73 Battágliá, Campli

- i) Rosa 1874: 201.
- iii) Surface finds: Rosa, 1873.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 133/III/SE Campli 88- 30-.
- viii) Between c. 600 and 700 m asl on stream-cut Holocene colluvial deposits, between the Fosso Rinzetta (615 m asl, 0.25 km away) and the Fosso Grande (595 m asl, 0.6 km away) streams, on the edge of the Palaeogene - Upper Cretaceous limestone Montagna di Campli (c. 800-1718 m asl, 0.5-2 km away). 27 km inland from the coast.

74 Bellante

- i) Rosa 1874: 201.
- iii) Surface finds: Rosa, 1873.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 133/II/SO Bellante 02-33-.
- viii) On the stream-cut Pleistocene clay hills (max. 355 m asl) between the River Salinello (77 m asl, 3 km away) and the River Tordino (115 m asl, 5 km away). 13 km inland from the coast.

75 Canzano

- i) Rosa 1874: 201.
- iii) Surface finds: Rosa, 1873.
- iv) Arrowheads.
- v) Find-spot(s).

- vi) Late Neolithic - Bronze Age.
- vii) 140/I/NO Téramo Est.
- viii) On the stream-cut Upper Miocene sandstone and clay hills (max. 448 m asl) above the River Vomano (2.5 km away). 17 km inland from the coast.

76 Casciano, Tossica

- i) Rosa 1874: 201.
- iii) Surface find: Rosa, 1873.
- iv) Small axe.
- v) Find-spot.
- vi) Early Neolithic - Bronze Age.
- vii) 140/IV/SE Montorio al Vomano.
- viii) On Upper Miocene sandstone and clay hills (max. 599 m asl) to the side of a stream feeding the River Mavone. 36 km inland from the coast.

77 Casoli

- i) Rosa 1874: 201.
- iii) Surface find: Rosa, 1873.
- iv) Arrowhead: (14-24, 39-40, 68).
- v) Find-spot.
- vi) Arrowhead - late Neolithic - final Neolithic/early Copper Age.
- vii) 141/IV/NO Pineto.
- viii) On the Pliocene clay and marl hills (max. 186 m asl) above the River Vomano (1.5 km away). 6.5 km inland from the coast.

78 Castagna, Corropoli

- i) Rosa 1871: 491 and 508, 1874: 196.
- iii) Surface finds: Rosa, 1860's and 1873.
- iv) Lithics: cores, flakes, bladelet, side scrapers, small axe, wedge.
Obsidian.
- v) Lithic survey site.
- vi) Neolithic - Bronze Age.
- vii) 133/I/SO 03-44-.
- viii) On the stream-cut clay hill slope (c. 174-236 m asl) between the Fosso Pazzano (145 m asl, c. 0.4 km away) and the Fosso Gallarice (145 m asl, c. 0.4 km away) streams, above the River Vibrata (c. 80 m asl, 3.5 km away). 9 km inland from the coast.

79 Castagneto

- i) Rosa 1874: 201.
- iii) Surface finds: Rosa, 1873.
- iv) Arrowheads.
- v) Findspot(s).

- vi) Late Neolithic - Bronze Age.
- vii) 133/III/SE Campli 89-25-.
- viii) On the stream-cut Upper Miocene sandstone and clay hillslope (max. 572 m asl) between the Fosso Brignoli (0.3 km away) and the Fosso della Casetta (0.7 km away) streams, above the River Vezzola (1 km away), and on the edge of the Middle-Lower Miocene marl Monti delle Tre Croci (c. 800-1415 m asl, 1.5-4.5 km away). 28 km inland from the coast.

80 Castell'alto

- i) Rosa 1874: 201.
- iii) Surface finds: Rosa, 1873.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 133/II/SO Bellante 03-25-.
- viii) On the stream-cut Pliocene clay and marl hills (max. 477 m asl) between the River Tordino (115 m asl, 2 km away) and the River Vomano (6 km away). 15 km inland from the coast.

81 Castelbasso

- i) Rosa 1874: 201.
- iii) Surface find: Rosa, 1873.
- iv) Axe.
- v) Find-spot.
- vi) Early Neolithic - Bronze Age.
- vii) 140/I/NE Notaresco.
- viii) On the stream-cut Pliocene clay and marl hills (max. 326 m asl) above the River Vomano (2 km away). 14.5 km inland from the coast.

82 Cesenà, Campli

- i) Rosa 1874: 201.
- iii) Surface finds: Rosa, 1873.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 133/II/SO Bellante 96-33-.
- viii) At c. 200 m asl on a stream-cut Pliocene clay and marl hill-slope between the Fosso di Paterno (0.4 km away) and the Fosso di S. Anna (0.25 km away) streams, above the River Salinello (c. 110 m asl, 5 km away). 19 km inland from the coast.

83 Civitella del Tronto

- i) Rosa 1871; Colini 1910.
- iii) Surface finds: Rosa, 1860's.
- iv) Lithics: retouched blade (10 cm long), and a small axe

with a hole (from S. Croce).

v) Find-spots.

vi) Final Neolithic/early Copper Age - Bronze Age.

vii) 133/III/NE Civitella del Tronto 91-36-.

viii) Between c. 450 and 645 m asl on the stream-cut Upper Miocene sandstone and clay Civitella hill above the River Salinello (375 m asl, 0.5-1 km away), and c. 4 km away from the edge of the Montagna dei Fiori (c. 600-1814 m asl). Modern land use: agriculture. 22 km inland from the coast.

84 Colle, Corropoli

i) Rosa 1871: 500, 505.

iii) Found at a depth of 1 m under a house: Rosa, 1860's.

iv) Lithics: arrowheads and a long blade.

v) Lithic survey site.

vi) Late Neolithic - Bronze Age.

vii) 133/I/SO Monsampolo del Tronto 04-43-.

viii) Between 150 and 191 m asl, on a Pleistocene clay hill-slope alongside the Fosso Gallarice stream (125 m asl, 0.3 km away), which runs to the River Vibrata (100 m asl, 4.5 m away). 9 km inland from the coast.

85 Colle S. Savino, Nereto

i) D'Ercole 1988a: 2.

iii) Survey: D'Ercole, 1980's.

iv) ? Pottery.

v) ? Residential site.

vi) ? Early Neolithic.

vii) 133/II/NO Nereto 03-42-.

viii) Between c. 125 and 229 m asl on the Pleistocene clay S. Savino hill between the Fosso Cirafella (135 m asl, 0.4 km away) and the Fosso Pazzano (130 m asl, 0.5 km away), above the River Vibrata (c. 100 m asl, 2.5 km away). 10 km inland from the coast.

86 Colline di Colonnella

i) Rosa 1871: 496.

iii) Surface find: Rosa, 1860's.

iv) Small axe.

v) Find-spot.

vi) Early Neolithic - Bronze Age.

vii) 133/I/SE Colonnella 07-47-.

viii) Between c. 100 and 303 m asl on the stream-cut Pleistocene sand and conglomerate hills between the River Tronto (1 km away) and the coast (3 km away).

87 Colline di Tortoreto

i) Rosa 1871: 501 and 504, 1872a: 391.

iii) Surface finds: Rosa, 1860's and 1871.

- iv) Arrowheads and points.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 133/II/NE Tortoreto.
- viii) Between c. 100 and 239 m asl on Pleistocene clay (and sands and conglomerates in the highest parts) stream-cut hills between the Rivers Vibrata and Salinello and the coast (1.5-3 km away). Modern land use: agriculture and olives.

88 Cologna

- i) D'Ercole 1988b.
- iii) Survey: D'Ercole 1981.
- iv) Hammer-axe.
- v) Find-spot.
- vi) Copper Age - Bronze Age.
- vii) 133/II/SE Mosciano S. Angelo 14-27-.
- viii) Between 100 and 227 m on the Pleistocene clay stream-cut hills between the Rivers Tordino (30 m asl, 2 km away) and Vomano (7 km away) and the coast (4 km away).

89 Colonella

- i) Radmilli 1968: 416, 1981: 310.
- iii) Survey: Radmilli, 1960's.
- iv/v/vi) 'Neolithic material'.
- vii) 133/I/SE Colonnella 07-47-.
- viii) Between c. 100 and 303 m asl on the stream-cut Pleistocene sand and conglomerate hills between the River Tronto (1 km away) and the coast (3 km away).

90 Controguerra

- i) Rosa 1871: 503, 1872a: 393; Colini 1910.
- ii) Perugia Museum nos. 3271-2.
- iii) Surface finds: Rosa, 1860's and 1871.
- iv) Lithics: lance, long retouched blade, and 2 arrowheads (Fig. 132.5-6).
- v) Lithic survey site.
- vi) Arrowheads - 75,164/138 = Final Neolithic/early Copper Age - Copper Age.
- vii) 133/I/SO Monsampolo del Tronto 03-45-.
- viii) Between c. 100 and 270 m asl on the stream-cut Pleistocene clay hills between the Rivers Tronto (1.5 km away) and the River Vibrata (5 km away). 9 km inland from the coast.

91 Crocetta, Nereto

- i) D'Ercole 1988b.
- iii) Excavation by D'Ercole during 1986, and 19th century prehistoric finds nearby.

- iv) Pottery: fine 2-handled olla with notched rim.
Lithics: blades and a polished axe.
Faunal remains.
Features: plaster-lined pit.
- v) Residential site.
- vi) Copper Age.
- vii) 133/II/NO Nereto 03-41-.
- viii) Between c. 100 and 200 m asl on the stream-cut Pleistocene deposits, between the Fosso Flaio and the Fosso Cirafella/Carpineto streams, above the River Vibrata (100 m asl, 1.5 km away). 9 km inland from the coast.

92 Ferri, Tortoreto

- i) Radmilli et al. 1953: 80; Rozzi 1953: 114; Rozzi et al. 1955: 349.
- iii) Survey: Rozzi, 1951-5.
- iv) Pottery: brown fabric, and notch decoration.
Lithics: flakes, retouched flakes and blades, and an arrowhead.
- v) Residential site.
- vi) Late Neolithic - Bronze Age.
- vii) 133/II/NE Tortoreto 118376.
- viii) At c. 15 m asl, on the edge of the stream-cut Pleistocene clay Colle S. Pietro (c. 25-138 m asl, 0.1-1 km away) and the Holocene fluvial deposits of the River Salinello (10 m asl, 0.25 km away), between the Fosso S. Giovanni (0.15 km away) and another stream (0.15 km away) (Fig. 83). Modern land use: good agriculture. 2.5 km inland from the coast.

93 Fortress, Civitella del Tronto

- i) Rosa 1871: 496.
- iii) Chance find: Rosa, 1860's.
- iv) Little axe.
- v) Find-spot.
- vi) Early Neolithic - Bronze Age.
- vii) 133/III/NE Civitella del Tronto 909366.
- viii) At 645 m asl on the top of the stream-cut Upper Miocene sandstone and clay Civitella hill, above the River Salinello (375 m asl, 0.6 km away), and c. 4 km away from the edge of the Montagna dei Fiori (c. 600-1814 m asl) (Fig. 92). Modern land use: agriculture, but ? slightly secondary. 22 km inland from the coast.

94 Giardino, Controguerra

- i) Rosa 1874: 192.
- iii) Surface find: Rosa, 1873.
- iv) Axe.
- v) Find-spot.
- vi) Early Neolithic - Bronze Age.
- vii) 133/I/SO Monsampolo del Tronto 03-45-.

viii) Between c. 100 and 270 m asl on the stream-cut Pleistocene clay Controguerra hill, between the Rivers Tronto (1.5 km away) and the River Vibrata (5 km away). 9 km inland from the coast.

95 Giulianova

i) Rosa 1874: 200.

iii) Surface finds: Rosa, 1873.

iv) Arrowheads.

v) Find-spot(s).

vi) Late Neolithic - Bronze Age.

vii) 134/III/NO 14-33-.

viii) Between c. 0 and 100 m asl, either on the coastal slopes of the Pleistocene Colle Crocefisso (c. 50-132 m asl) or on the Holocene deposits of the coastal plain (c. 0-50 m asl).

96 Grotta Salomone, Le Ripe

i) Rosa 1871: 481-4, 497, 506, 511-2; Strobel 1886: 163-4; Colini 1910; Radmilli 1965b: 375; Grifoni 1966: 160-1; Barker 1975; Sorrentino 1978; Radmilli 1981: 276.

ii) Ancona, Chieti, and Pigorini (Rome) Museums.

iii) Excavations: Rosa 1871, Mochi and Cardini 1932, Radmilli 1965-7.

iv) Mixed pottery.

Lithics: small stone axe, blade, stone weight.

Faunal remains.

Human remains.

Pectunculus shells (pierced).

v) Cave site.

vi) Mixed Medieval, Bronze Age, Neolithic, and Upper Palaeolithic.

vii) 133/III/NE Civitella del Tronto 874345.

viii) At 600 m asl in the Palaeogene - Upper Cretaceous limestone of Colle S. Lorenzo on the edge of the Montagna dei Fiori (c. 600 - 1814 m asl), on the hill-slope directly above the upper River Salinello (507 m asl, 0.1 km away), between two streams (0.15 and 0.25 km away), and 0.5 km down-river from the point where the river emerges from a gorge between the Montagna dei Fiori and the Montagna di Campli (Fig. 92). Modern land use: wooded mountain slopes, and about 1 km up-river from the edge of the agricultural

zone on the Upper Miocene sandstone and clay hills. 100% pasture/rough grazing. 27 km inland from the coast.

97 Grotta S. Angelo, Le Ripe

i) Rosa 1871: 481-4, 497, 506, 509, 511-2; Strobel 1886: 163-4; Colini 1910; Cremonesi et al. 1965; Radmilli 1965: 375; Grifoni 1966: 160-1; Radmilli 1967: 446; Radmilli 1968: 416; Barker 1975; Radmilli 1975; Sorrentino 1978; Radmilli 1981: 276, 287, 303, 383.

ii) Ancona, Chieti, and Pigorini (Rome) Museums.

iii) Excavations:

Rosa, 1871 - in the entrance to Grotta Oscura (the back cave), at both ends of the chapel chamber, and in other places.

iv) Pottery: coarse sherds, grafitti decoration on bowls, including small rhomboidal figures around a rim (?BA).

Lithics: cores, flakes, side scraper, chisel, small axe.

Bone awls.

Faunal remains.

Human remains.

Features: pits.

Radmilli, 1965-8 - under the chapel pavement.

Stratum VI

iv) Pottery. Fabrics: coarse, fine, and figulina. Decoration: impressed, and red painted bands. Vessel forms: a handle.

Lithics: 4 blades and 35 'tools' from the pits; blades, points, end scrapers, truncated blades, burins, trapezes, triangles, axes (large and small).

Obsidian: 1 blade from pit; cores, blades, and bladelets.

Bone industry: 1 awls and 3 tools from the pits; spatulae and double points.

Faunal remains: Bos, Ovis or Capra, Sus, Capreolus capreolus, Cervus elaphus, Felis sylvestris, Lepus europaeus, Martes. Meat parts predominate in the pits, but there was a possible concentration of head parts from cattle (and also ? sheep/goat and pig head parts) in pit H.

Plant remains: about 100 carbonized Malus sylvestris pips from the bottom of pit G.

Human remains.

Pit A: scapula (burnt) and rib (male c. 19-20 years), 1

tibia fragment and 1 clavicle (c. 14 years), 1 clavicle (3-4 years), 1 clavicle (5-6 years).

Pit D: skull fragments (burnt), 3 vertebrae, 6 thoraces, 1 mandible, 6 ribs, 3 fibulae (18-20 years); 1 jaw fragment (6 years).

Pit G: 1 femur (burnt) (14-16 years), and 1 phalange (burnt) (c. 20 years).

Pit H: 1 mandible (burnt) (c. 7 years).

Surface around the pits: remains of children and juveniles. Half of the bones were burnt (no selectivity concerning which body parts were burnt).

All body parts are represented, including small bones (eg. phalange), but ? especially head parts; but only a few bones per individual were deposited in each pit.

Ritual deposits and pits.

9 pits (0.4-0.8 m diameter, and 0.2-0.8 m depth), located at the back of the central chamber, with their lower parts filled with stones, and then with burnt human and animal bones, and pottery, lithic, and bone artefacts. Burnt human and animal bones and pottery sherds were also found on the compacted surface around the pits, and a few sherds from this surface were refitted to some found in the pits. Not all of the pits were strictly contemporary, because one pit was dug into the fill of another. There is some distinction between the pits with and without human remains. The 4 pits with them contained a wide range of artefacts, and faunal and plant remains, and also higher numbers of pottery sherds; but the 5 without human remains contained more specialized deposits (for example, Pit I contained only pig bones, and Pit E contained only sherds of 'figulina' pottery).

v) Caves site.

vi) (? later) Early Neolithic.

Stratum V

iv) 1) Catignano style red band painted and incised pottery, middle Neolithic; 2) Ripoli style painted pottery, late Neolithic; 3) Diana style pottery, final Neolithic/early Copper Age.

Stratum IV

iv) Scarse and 'atypical' pottery, a few sherds similar to pottery from Ortucchio.

Features: a pit (0.7 m diameter, 0.8 m deep), at the top of which lay an intact biconical vessel covered by a slab of stone.

v) Cave site.

vi) Copper Age.

vii) 133/III/NE Civitella del Tronto 874345.

viii) At 600 m asl in the Palaeogene - Upper Cretaceous limestone of Colle S. Lorenzo on the edge of the Montagna dei Fiori (c. 600-1814 m asl), on the hill-slope directly above the upper River Salinello (507 m asl, 0.1 km), between two streams (0.15 and 0.25 km away), and 0.5 km down-river from the point where the river emerges from a gorge between the Montagna dei Fiori and the Montagna di Campi (Fig. 92, Plates 23-25). Modern land use: wooded mountain slopes, and about 1 km up-river from the edge of the agricultural zone on the Upper Miocene sandstone and clay hills. 100% pasture/rough grazing. 27 km inland from the coast.

98 La Badia, Corropoli

- i) Rosa 1871: 503, 1874: 190-2.
- iii) Excavation: Rosa, 1873.
- iv) Artificial cavity with opening from above (? tomb), containing a chert 'lance'.
- v) ? Human burial site.
- vi) ? Copper - Bronze Age.
- vii) 133/II/NE 053432.
- viii) Dug into the Pleistocene deposits at c. 160 m asl on the east side of the l'Abbadia hill (182 m asl), between the Fosso Fonte Accippo (0.4 km away) and the Fosso dell'Abbadia (0.2 km away) streams, which run to the Gallarice stream (75 m asl, 1.5 km away), which eventually joins the River Vibrata (50 m asl, 3 km away). The Pleistocene clay Colle Porcino lies behind (215 m asl, 1.5 km away). 8 km inland from the coast.

99 La Torretta, Controguerra

- i) Radmilli 1979: 323.
- iii) Excavation: De Pompeis and Gandolfo, 1979 (trenches of 2 m², 36 m², and 18 m²).
- iv) Much pottery.
Features: dark surface stains.
- v) Residential site.
- vi) ? Neolithic.
- vii) 133/I/SO Monsampolo del Tronto 03-45-.
- viii) Between c. 100 and 270 m asl on the stream-cut Pleistocene clay Controguerra hill, between the Rivers Tronto (1.5 km away) and the River Vibrata (5 km away). 9 km inland from the coast.

100 Mindoli, Corropoli

- i) Rosa 1871: 492-3, 500-1, 504-8, 511, 513; Rosa 1872a: 386, 389, 391, 393, 395, 398; Rosa 1874: 196-7; Colini 1910.
- iii) Excavation: Rosa, 1860's-1873.
- iv) Pottery: a spool handle.
Lithics: small core, blades, bladelets, long denticulated

blade, side scrapers, oval scraper, lunate and tang and fin arrowheads, javelin, 2 axes.

Obsidian.

Sea shells: pierced Pectunculus shells.

Features: 8 cavities.

v) Residential site.

vi) Late Neolithic - Final Neolithic/early Copper Age.

vii) 133/II/NE Tortoreto 04-40-.

viii) At c. 90-100 m asl, either on the Pleistocene deposits or the Holocene fluvial deposits flanking the River Vibrata. Modern land use: vines. 9 km inland from the coast.

101 Nereto

ii) Unpublished material in Perugia Museum, nos. 2159-2162, 2169-71, 2440-1.

iii) Surface find: 19th century.

iv) 9 arrowheads (Fig. 132.7-15).

v) Find-spots(s).

vi) Arrowheads - 125/-/173/53,72/10,175/30,98/122/108,158/- = Late Neolithic - Copper Age.

vii) 133/II/NO Nereto 03-41-.

viii) Between c. 100 and 200 m asl on a stream-cut Pleistocene terrace hill-side flanking the River Vibrata (c. 100 m asl), between the Flaio stream and the Fosso Carpineto stream. 10 km inland from the coast.

102 Notaresco

i) Rosa 1874: 201.

iii) Surface finds: Rosa, 1873.

iv) Lithics: arrowheads and a blade.

v) Find-spot(s).

vi) Late Neolithic - Bronze Age.

vii) 140/I/NE Notaresco.

viii) At c. 250 m asl on a Pliocene clay and marl hill-side flanking a stream which runs to the River Vomano (4 km away). 10 km inland from the coast.

103 Padule, Cortino

i) D'Ercole 1987-8: 405; D'Ercole 1988b.

iii) Survey: D'Ercole, 1986.

iv) 3 arrowheads.

v) Find-spot(s).

vi) Late Neolithic - Bronze Age.

vii) 140/IV/NO Cortino.

viii) Between c. 1500 and 2000 m asl, on pasture land, in the area of Monte Bilanciere (1258 m asl), above the upper section of a stream which runs to the River Tordino (8 km away). 39 km inland from the coast.

104 Pianaccio, Tortoreto Lido

i) Rozzi and Radmilli 1951-2; Radmilli et al. 1953: 78-80; Rozzi 1953; Rozzi et al. 1955; Radmilli 1959; Barker 1975; Radmilli 1981: 310-11; and unpublished material in the Pigorini Museum.

iii) Excavations: Rozzi 1944 and 1952.

iv) Pottery. Fabrics: coarse brown; fine red, grey and black; and figulina (50%). Decoration: yellow and red paint, point-impressed band around rim, applied (cordon, stylized human faces and figures, discs), incised (internal line parallel to rim), grafitti, and hatching. Vessel forms: oval vessel, flat-based ovoid vessel with small handle, flat-based bowl, bowl, high necks, carinated flask with narrow neck, ribbon handles, Serra'd Alto style curled handle, handle with little horns, small handle on rim, pinched lug handle.

Clay weights: 2 elliptical with a hole at one end; 2 cylindrical, 1 spherical, 1 elliptical longitudinally pierced.

Lithics: 17 cores (15 blades, 2 flake), flakes, 4 retouched flakes, 44 blades, 1 bladelet, 1 end scraper, 7 large side scrapers, 1 beak, 3 notched flakes, 2 burins, 3 awls, 3 points, 4 arrowheads, 1 hammer stone, 1 polished stone axe.

Obsidian: 1 bladelet, 5 blades.

Bone industry: 1 bone with a hole.

Sea shells: 2.

Faunal remains: Bos, Ovis, Sus, Cervus elaphus.

Features: 80 surface stains; cavities (28) circular 1.75 x 1.6 x 0.6 m; (35) 2 adjacent cavities 2.25 x 1.5 m and 3.25 and 2.4 m; (42) elliptical 3 x 1.6 x 0.25 m; (43) elliptical 2.6 x 1.6 x 0.25; (52) elliptical 3.8 x 2.2 x 0.5 m; (55) oval 2.3 x 1.7 x 0.45 m; (80) elliptical 2.3 x 1.5 x 0.35 m; each containing a hearth of stones at the bottom, and a fill of black soil, charcoal, animal bones, and artefacts.

Surface material extended over an area of 27,000 m².

Plaster, some with branch impressions (5-6 cm diameter).

v) Residential site.

vi) Late Neolithic.

vii) 133/II/NE Tortoreto 104383.

viii) At c. 60 m asl on the end of a Pleistocene clay hill, flanked by the Fosso Cavatassi stream (0.2 km away) and the

River Salinello (23 m asl, 0.5 km away) which meet nearby (0.7 km away). Pizzotondo hill behind (max. 169 m asl, 2.5 km away) (Fig. 83, Plate 28). Modern land use: vegetables and good agriculture; 37% arable/potentially arable, heavy soils; 63% arable/potentially arable, light soils. 3.5 km inland from the coast.

105 Pianvallello

- i) Rosa 1874: 201.
- iii) Surface finds: Rosa, 1873.
- iv) Arrowhead and a bladelet.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.

106 Pizzotondo, Tortoreto - Alba Adriatica

- i) Rosa 1872a: 389 and 1872b.
- iii) Excavation: Rosa, 1872.
- iv) Pottery: "many primitive sherds".
Lithics: flakes and a retouched blade.
Features: 6 cavities.
- v) Residential site.
- vi) ? Neolithic.
- vii) 133/II/NE Tortoreto 08-40-.
- viii) Between c. 100 and 169 m asl, on a Pleistocene clay hillside above the River Vibrata (c. 35 m asl, 1 km away) (Fig. 83). Modern land use: crops (including vegetables) and olives. 4.5 km inland from the coast.

107 Ripoli, Tortoreto

i) Capellini 1871; Rosa 1871, 1872a, 1874; Colini 1910; Pigorini and Pettazzoni 1911; Dall'Osso 1915; Rellini 1934; Parenti 1957; Radmilli and Cremonesi 1963; Cremonesi 1965; Alessio et al. 1971; Evett and Renfrew 1971; Azzi et al. 1973; Barker 1975; Hallam et al. 1976; Tanda 1977: 136-7; Bigazzi and Radi 1981: 232-3; Radmilli 1981.

ii) Chieti/Atri Museum.

iii) Excavations: Rosa 1865-1873, Mosso 1910, Messina 1913-1915, Cremonesi 1960-1964.

Cavity 12

iv) Pottery (Figs. 27-31). Fabrics: coarse, fine, and figulina (62%). Decoration: trichrome painted (most with a wide band separating decorated zones, themselves bordered by a band of dots, (i) obliquely hatched squares and free squares, (ii) obliquely hatched half squares and free half squares, (iii) obliquely hatched triangles and diamonds and free areas, (iv) filled half squares and free or hatched half squares, (v) filled triangles, (vi) parallel line

River Salinello (23 m asl, 0.5 km away) which meet nearby (0.7 km away). Pizzotondo hill behind (max. 169 m asl, 2.5 km away) (Fig. 83, Plate 28). Modern land use: vegetables and good agriculture; 37% arable/potentially arable, heavy soils; 63% arable/potentially arable, light soils. 3.5 km inland from the coast.

105 Pianvallello

- i) Rosa 1874: 201.
- iii) Surface finds: Rosa, 1873.
- iv) Arrowhead and a bladelet.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.

106 Pizzotondo, Tortoreto - Alba Adriatica

- i) Rosa 1872a: 389 and 1872b.
- iii) Excavation: Rosa, 1872.
- iv) Pottery: "many primitive sherds".
Lithics: flakes and a retouched blade.
Features: 6 cavities.
- v) Residential site.
- vi) ? Neolithic.
- vii) 133/II/NE Tortoreto 08-40-.
- viii) Between c. 100 and 169 m asl, on a Pleistocene clay hillside above the River Vibrata (c. 35 m asl, 1 km away) (Fig. 83). Modern land use: crops (including vegetables) and olives. 4.5 km inland from the coast.

107 Ripoli, Tortoreto

i) Capellini 1871; Rosa 1871, 1872a, 1874; Colini 1910; Pigorini and Pettazzoni 1911; Dall'Osso 1915; Rellini 1934; Parenti 1957; Radmilli and Cremonesi 1963; Cremonesi 1965; Alessio et al. 1971; Evett and Renfrew 1971; Azzi et al. 1973; Barker 1975; Hallam et al. 1976; Tanda 1977: 136-7; Bigazzi and Radi 1981: 232-3; Radmilli 1981.

ii) Chieti/Atri Museum.

iii) Excavations: Rosa 1865-1873, Mosso 1910, Messina 1913-1915, Cremonesi 1960-1964.

Cavity 12

iv) Pottery (Figs. 27-31). Fabrics: coarse, fine, and figulina (62%). Decoration: trichrome painted (most with a wide band separating decorated zones, themselves bordered by a band of dots, (i) obliquely hatched squares and free squares, (ii) obliquely hatched half squares and free half squares, (iii) obliquely hatched triangles and diamonds and free areas, (iv) filled half squares and free or hatched half squares, (v) filled triangles, (vi) parallel line

filled geometric areas and free geometric areas, (vii) parallel line filled areas without free spaces, (viii) parallel bands of lines); bichrome painted; incised; impressed; cordons. Vessel forms: large hemispherical, hemispherical cups, carinated jugs, flasks (some with handles on rim of neck), globular closed vessel with pourer lip, small bowl, truncoconical bowls and cups, ollas, handles (ring, ring with appendages, anthropomorphic, ribbon), lugs.

v) Residential site.

vi) Late Neolithic. C14 - 7.

Cavity 6

iv) Pottery (Fig. 32). Fabrics: coarse, fine, and figulina (38%). Vessel forms: miniature bowl, truncoconical bowls and cups, truncoconical vessels, handles (ring, ribbon with raised edges, tubular, strap), lugs.

v) Residential site.

vi) Late Neolithic. C14 - 8.

Cavity 3

iv) Pottery (Fig. 39). Fabrics: coarse, fine, and figulina (18%). Decoration: impressed, incised lines, grooves, little discs in rows, plain and impressed cordons. Vessel forms: miniature bowl, truncoconical bowls and cups, truncoconical vessels, olla, globular and ovoid vessels, handles (ring, ribbon, ribbon with out-turned edges, anthropomorphic), lugs.

v) Residential site.

vi) Earlier final Neolithic/early Copper Age. C14 - 13.

Cavity 21

vi) Earlier final Neolithic/early Copper Age. C14 - 12.

General

iv) Pottery. Fabrics: coarse, fine red and black burnished, and figulina. Decoration (categories from Cremonesi 1965): bichrome red or brown painted (I, II and III) square, bordered by red bands and bands filled by a row of points, and containing hatched or empty triangles or rectangles, (V) bordered square containing band of brown zigzag lines, (VI) hatched or empty diamonds, (VII) little brown triangles pointing downwards from the upper side of a bordered square, (VIII) bands of brown oblique or vertical lines forming angles, (IX) horizontal zones containing bands of oblique lines, (X) bands of oblique lines bordering a diamond, (XII) groups of oblique lines

converging at acute angles, rectangle formed by oblique vertical brown lines, (XIV) brown triangles joined at the vertices, (XV) chequerboard of small rhomboids alternately brown-filled and empty, (XVI) rectangles alternately filled by hatching and empty areas crossed by oblique lines, (XVII) band filled by a row of points forming a curve around a handle, (XVIII) band filled by a row of points in association with bands of brown lines or hatched and free triangles, (XIX) 2 superimposed bands containing 2 rows of brown triangles which meet at the vertices, (XX) single or bands of brown lines ending in an oval or large brown point, (XXI) little vertical lines with a triangle containing a point at the summit and lines leaving radially from the top of the diamond, all placed between bands of oblique or converging lines bordered by a band filled with points, (XXIII and XXIV) bands of red triangles, vertical, angular or intersecting, (XXV) wide red or brown lines leaving the rim vertically, obliquely, in zigzag or in semicircular festoons, (XXVI) horizontal row of brown downturned triangles, (XXVII) internal vertical wide red band bordered by bands filled with points, to the side of which is a wide red vertical undulating line; trichrome red and brown painted (I) square bordered by brown lines, red bands and bands filled by a row of points containing hatched or empty triangles, square bordered by red bands and bands filled by a row of points and containing bands of oblique or vertical brown lines, (XI) red bands bordered by a band filled with a row of points, forming angular motifs, and delimiting a second triangular band from which leave radially groups of converging brown lines or vertical bands of parallel brown lines, (XXII) horizontal red band bordered by a wide line from which leaves other brown lines forming semi-circular festoons; cordons (finger-impressed, undulating, 2 flat cordons superimposed, 1 with applied discs on top); applied small discs and lugs in rows below rims (especially between rim and carination on carinated plate/bowl); finger and rectangular impressions (in single or double rows on or below rims, rarely on body); rows of impressed little circles (3 converging on a lug); notched rims; impressed little points in multiple lines; incised triangles filled with impressed points; incised and graffiti lines (single, hatched, multiple straight or curved, fish-scale in band, obliquely hatching in band either side of a triangle, cross, concentric circles, incised rims and handle); short grooves. Vessel forms: bowls (vertical straight sided, slightly convex and convex walled, truncoconical with flat base, hemispherical and spherical with round bases, miniature, carinated, shallow slightly convex and convex sided bowls on tall hollow pedestal base), carinated bowls/plates, cups (hemispherical, slightly convex, convex, truncoconical, carinated - round-based and straight or truncoconical sided, semi-ovoid on pedestal base, with single or double ribbon handles or horn spool handles), ollas (1 with truncoconical V shaped neck, flat base and 2 handles), globular vessels (with handle, with pourer lip, with short neck and handle), necked and flat-based vessel with wide

sharp shoulders carrying lug handles, 2-handled truncoconical and semi-ovoid vessels, flasks, deep straight-sided vessel with handle on a pedestal base, deep carinated vessel, strainer, ladles with cylindrical handles, necks (especially with strongly everted rim, cylindrical or slightly concave, some with small handles on rim), standard ring handles, ring handles with appendages (conical, cylindrical, rib, double, anthropomorphic with flattened appendage with little conical nose-like lug in the centre and eye-like semi-circular impressions or lugs or associated painted decoration), standard ribbon and ribbon handles with central hollow and projecting edges, ribbon handles with appendages (1 or 2 little lugs on the summit, refolded with protruding elbow, anthropomorphic with central lug and 2 semi-circular impressions or lugs), standard tubular and spool handles, spool handles with horn or triangular appendages on both ends, pan-pipe handles (multiple small vertical tubular applications), semi-circular strap handle placed vertically on rim, internal ring or ledge handles with corresponding external 2 lugs, ledge handle with deeply incised lines and 2 vertical holes, lugs and pinches (conical, pierced, triangular, double).

Clay artefacts: 8 triangular-sectioned rings (similar to the lithic rings), 1 painted with oblique brown lines; 26 weights - lenticular, cylindrical, conical, and ovoid, with round or rectilinear sides, a few with incised lines or fingernail impressions; 2 spindle whorls; little cylinder of clay covered with impressed points.

Lithics: 374 cores (mostly on pebbles, for flakes and bladelets), rejuvenation flakes, long blades (Fig. 75.2-3), retouched blades and bladelets, retouched flakes, 35 notched pieces, 19 beaks, 53 truncated blades, 16 geometrics - rhomboids and trapezes, 20 end scrapers on blades, points, awls, 36 arrowheads (especially asymmetric) (Fig. 58), 20 sickle bladelets, flaked tranchet, pick, small flaked axe, 3 small polished axes (Fig. 71.9-11), lithic rings, 2 spherical mace heads with biconical holes, flat disks with a central hole, grindstones.

Obsidian: 97 pieces - rare cores, flakes, non-retouched bladelets, rare truncated bladelets, 1 end scraper. Group I cavities - 4 pieces, group II = 3, group III = 90 (59 from cavity 9, which also contained a human ulna).

Bone industry: points, awls, spatulae, ? sickle handle, 2 antler picks (from the ditch), smoothed boar's tusk flakes, fish hook.

Sea shells: many Pectunculus violacescens (with smoothed edges or holes), 1 Patella (with 2 holes), Cardium (pierced), Arca (pierced), Triton, Ostrea.

Faunal remains: Bos, Ovis or Capra, Sus scrofa, Capreolus capreolus, Cervus elaphus, Glis glis, Lepus europaeus, Martes foina, Testudo, Vulpes vulpes, Arvicola terr.

Eltomys quercinus, Felis sylvestris, Meles meles, Talpidae,
Ursus arctos.

Plant remains: Triticum dicoccum, Hordeum, straw impressions.

Human remains:

Cemetery. A line of ditches running from northeast to southwest across the centre of the settlement, containing the remains of 1 child and over 45 adults. Pottery dates to both the late Neolithic and the final Neolithic/early Copper Age. The late Neolithic ditches (1 and 10, with red coarseware and figulina) contain large numbers of individuals, whereas the final Neolithic/early Copper Age ditches (4 and 7, with only black burnished pottery) contain fewer individuals.

Ditch 1. Triangular, 7 m long and 0.5 m deep, containing a minimum of 10 individuals. 3 crouched adult skeletons placed along the eastern side of the ditch at 0.45 m depth: i) on its left side, head pointing to the south, feet to the north, arms folded on the chest, hands near to the mouth; ii) on left side, head to the south, feet to the north; iii) legs and thighs underlying the head of (ii), on left side, head to the south, feet to the north. Skeleton near to the north wall of the ditch, on its right side. 4 skeletons in the centre of the ditch: i) disarticulated; ii-iv) articulated lower body parts (femurs, tibiae, pelvis). 2 other groups of skeletal remains. An oval pit (1.8 m long) filled with dark soil, charcoal, pottery (ordinary, and plain/red painted figulina), cattle bones and boars' teeth, grindstones. Ditch 2. Rectangular (10 x 2.1 x 0.8 m), containing a minimum of 8 individuals. Crouched skeleton lying on its side, head to the south, feet to the north. At a lower level and near to the wall, the crouched skeleton of an adult woman, lying on her left side, the head to the south and the feet to the north, with the articulated skeleton of a dog lying at her feet. 2 groups of disarticulated skeletal remains, one including a skull. A flexed skeleton, with head to the north and feet to the south. Lower, at 0.4 m depth, 2 crouched skeletons, one placed on its side, with its head to the south, touching the head of the other skeleton.

Ditch 3. Oval ditch (5 x 2.9 x 0.35 m), with a skeleton placed near to the wall, lacking the legs.

Ditch 4. Circular cavity (2.5 m diameter, 0.85 m deep), with a disarticulated skeleton near to the wall, much black burnished pottery, and large grindstone fragments.

Ditch 5. Circular cavity (2.6 m diameter and 0.4 m deep), containing a disarticulated and incomplete skeleton at the base in the centre, and 2 stone discs and arrowheads in the fill.

Ditch 7. Cavity with a group of 3 crouched skeletons. One lay on its right side, another on its left side, and one lay above another. A black fabric cup was found near to the bones. Ditch 9. Cavity with 4 skeletons, 2 of which were crouched, and 2 supine. Light and black sherds and 2

arrowheads were found in the fill above.

Ditch 10. Ditch (15 m long and 2.5 m wide) containing 14 skeletons placed at different depths. Some were crouched, but one was supine, and there were sherds of ordinary red and figulina fabric pottery. Ditch 11. Oval pit (4 m x 2.5 m) containing 2 poorly preserved adult skeletons, and, at the bottom, the skeleton of a child. Also 3 sherds of ordinary pottery.

Cavity XXV. A human tibia, associated with: lithics (flakes and blades, arrowheads, 2 mace heads), pottery sherds (much coarseware, figulina high cylindrical cups and large plates, and 2 sherds of dark fabric pottery), 3 bone awls, and sea shells (many pierced Pectunculus, Triton, Ostrea).

Cavity 8 - 2 fragments of a temporal; cavity 9 - a metacarpal; cavity 11 - an ulna and a fragment of a mandible.

Features.

Ditch (Figs. 98). 7.2 - 7.5 m wide at the top, 4.5 - 4.8 m deep. Cuts and fill (bottom to top): initial cut into the Pleistocene terrace, ? recutting both deeper and wider, then filled by (1) clay, a few sherds and bones, 0.15 - 0.6 m, (1a) yellow sand mixed with grey soil, few artefacts, 0.6 m, (2) yellow sand mixed with grey soil, few artefacts, 0.5 m, (3, 3a, 3a') black soil, many sherds and bones, 0.6 - 1.5 m; (3'') clay mixed with a little black soil, few artefacts, 0.4 - 0.8 m; (3a''', 4) yellow-brown soil mixed with a little clay (very similar to the topsoil), few artefacts, 0.4 - 2 m.

Cavities (Figs. 97 and 99A). Small bell-shaped pits, eg. cavity 7. Deep flat-based cavities, eg. cavity 12: 7 m wide and 2.8 m deep, flanked by two shallow cavities (c. 3 m diameter), filled by (bottom to top) mixed greyish soil, with large and well preserved sherds, mixed and sandy blackened soil, with large sherds (1 m), clayey blackened soil (1 m), and covered by a compacted layer of blackish clay with few artefacts (0.3 m). Shallow cavities, eg. cavity 13: oval with a flat base (3 x 2.3 x 0.5 m), contained very few artefacts. Groups of shallow cavities, eg. cavity 9.

Extent of surface remains: 35,000 m².

Plaster: branch impressions (2.5 cm diameter).

v) Residential site.

vi) Late Neolithic - final Neolithic/early Copper Age.

vii) 133/II/NE Tortoreto 093423.

viii) At 36 m asl, on the end of a Pleistocene fluvial terrace, flanking the River Vibrata (25 m asl, 0.2 km away), and cut by the Fosso Rigliano stream to the north (30 m asl, 0.4 km away), which joins the River Vibrata

below the site (0.3 km away) (Fig. 83, Plate 27). Modern land use: cereals; 94% arable/potentially arable, heavy soils; 6% arable/potentially arable, light soils. 4 km inland from the coast.

108 Rocciano

- ii) Unpublished material in the Pigorini Museum, nos. 13035-7G, 13392G.
- iii) Surface finds: 19th century.
- iv) A polished greenstone axe (Fig. 145.1); and 3 arrowheads (Fig. 132.16-18).
- v) Find spot(s)
- vi) Axe - 15 and 32; arrowheads - 117, 128/13, 34/75, 90 = Late Neolithic - late full Copper Age, but especially final Neolithic/early Copper Age.
- vii) 140/IV/NE Tèramo Ovest.
- viii) At c. 400 m asl on the Upper Miocene sandstone and clay hills above the River Tordino. 28 km inland from the coast.

109 Scendella, S. Omero

- i) Rosa 1871: 492, 1872a: 389, 476.
- iii) Excavation: Rosa, 1860's.
- iv) Pottery.
- Lithics: cores, flakes, large blades, small denticulated blades, side scrapers, a few arrowheads.
- Features: 4 cavities.
- v) Residential site.
- vi) Late Neolithic - Bronze Age.
- vii) 133/II/NE Tortoreto 04-39-.
- viii) Between 100 and 105 m asl on the edge of broad and gently sloping stream-cut Pleistocene clay terrace flanking the River Vibrata (80 m asl, 0.6 km away), and only 1.75 km away from the River Salinello, which is located on the other side of the hill. Modern land use: good agriculture, with various crops, including cereals, and a few vines. 9 km inland from the coast.

110 S. Domenico, Corropoli

- i) D'Ercole 1988a: 4.
- iii) Survey: D'Ercole, 1980's.
- iv) ? Ripoli style painted pottery.
- v) ? Late Neolithic.
- vi) Residential site.
- vii) 133/II/NE Tortoreto 04-42-.
- viii) Between c. 80 and 190 m asl on the stream-cut Pleistocene deposits flanking the River Vibrata (c. 60 m asl, 2-3 km away). 8 km inland from the coast.

111 S. Donato, Tortoreto

- i) Radmilli et al. 1953: 80; Rozzi 1953: 114-5; Rozzi et al. 1955: 349.
- iii) Survey: 1951-5.
- iv) Pottery: brown and figulina fabrics (similar to Pianaccio).
- Lithics: 2 cores, 48 flakes, 3 non-retouched blades, 1 retouched blade, 2 bladelets, a sickle element, 3 side scrapers.
- Features: 3 cavities.
- v) Residential site.
- vi) Late Neolithic.
- vii) 133/II/NE Tortoreto 129373.
- viii) At 12 m asl between the edge of a Pleistocene terrace and Holocene deposits flanking the River Vibrata (7 m asl, 0.3 km away), below Colle S. Donato (88 m asl, 0.75 km away) (Fig. 83). Modern land use: good agriculture. 1.5 km inland from the coast.

112 S. Giorgio, Castiglione Messer Raimondo

- i) Pigorini 1902: 252.
- iii) Surface finds: 19th century.
- iv) Lithics: arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 140/I/SE Castiglione Messer Raimondo.
- viii) At c. 150 m asl, on Holocene deposits near to the River Fino, 18 km inland from the coast.

113 S. Giuseppe, Corropoli

- i) Rosa 1871: 491, 1872a: 389, 394; Dall'Osso 1910.
- iii) Surface finds: 19th century.
- iv) Lithics: cores, flakes, axe fragment.
- Features: 13 cavities.
- v) Residential site.
- vi) Early Neolithic - Bronze Age.
- vii) 133/II/NE Tortoreto 05-42-.
- viii) At c. 110 m asl, on the stream-cut side of Pleistocene deposits above the River Vibrata (55 m asl, 2 km away), between the Fosso Gallarice and the Fosso dell'Abbadia streams, which meet nearby. 7 km inland from the coast.

114 S. Maria a Vico, S. Omero

- i) Rosa 1874: 194; D'Ercole 1988a.
- iii) Surface finds: Rosa, 1873.
- iv) ? Ripoli style pottery.
- Features: 5 cavities.
- v) Residential site.
- vi) ? Late Neolithic.

- vii) 133/II/NO Nereto 01-40-.
- viii) At c. 132 m asl on Holocene deposits in the Vibrata valley next to the River Vibrata (118 m asl, 0.2 km away), and 1.5 km away from the Pleistocene clay hills along the edge of the valley (c. 150-217 m asl). Modern land use: good cereal agriculture, a few vines and olives. 12 km inland from the coast.

115 Torricella

- i) Rosa 1874: 201.
- iii) Surface finds.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Early Neolithic - Bronze Age.
- vii) 133/IV/SO Tèramo Ovest.
- viii) At c. 450 m asl on the Upper Miocene sandstone and clay hills above the River Vezzola (c. 1 km away) which joins the River Tordino (2 km away). 28 km inland from the coast.

116 Valle del Salinello

- i) Pigorini Museum nos. 6737-8.
- iii) Surface finds: 19th century.
- iv) 2 arrowheads (Fig. 132.19-20).
- v) Find-spots.
- vi) Arrowheads - 79,99,153,160/
52,45,80,77,97,124,132,149,175 = Final Neolithic/early
Copper Age - late Copper Age.

117 Valle del Vomano

- ii) Unpublished material in the Pigorini Museum nos. 6732-4.
- iii) Surface finds: 19th century.
- iv) 3 arrowheads (Fig. 132.21-3).
- v) Find-spots.
- vi) Arrowheads - 39/35,163/?165 = late Neolithic - late Copper Age.

118 Viale Kennedy, Garrufo, S. Egidio alla Vibrata

- i) D'Ercole 1988a.
- iii) Survey: D'Ercole, 1979.
- iv) Pottery: plain figulina fabric, and notched rims and scaled decoration.
- Lithics: arrowheads.
- Obsidian: blades.
- v) Residential site.
- vi) ? Late Neolithic - final Neolithic/early Copper Age.
- vii) 133/II/NO Nereto 98-39.
- viii) At c. 180 m, on the edge of terraced Holocene fluvial

deposits above the River Salinello (145 m, 0.5 km away), with the River Vibrata behind (145 m, 0.75 km). 15 km inland from the coast.

119 Villaggio Colli, Castelli

- i) Rosa 1874: 201.
- iii) Surface find: Rosa 1873.
- iv) Small polished axe.
- v) Find-spot.
- vi) Early Neolithic - Bronze Age.
- vii) 140/II/NO Castelli 94-05-.
- viii) Between 400 and 600 m asl, on an Upper Miocene sandstone and clay hillside, near to the point where 3 streams converge at the head of a stream which runs to the River Mavone (5 km away), on the north-eastern side of the Gran Sasso mountain range (4 km away). 32 km inland from the coast.

120 Villa Ripa

- i) Rosa 1871: 503; Colini 1910.
- iii) Surface find: Rosa, 1860's.
- iv) Notched flint dagger (Fig. 76.3).
- v) Find-spot.
- vi) Late Copper Age - Early Bronze Age.
- vii) 133/III/NE Civitella del Tronto 88-34-.
- viii) Between c. 500 and 650 m asl on a stream-cut Upper Miocene sandstone and clay hillside above the River Salinello (470 m asl, 0.25 km away), on the edge of the Montagna dei Fiori (c. 800 - 1814 m asl, 1 - 3 km away). Modern land use: agriculture. 26 km inland from the coast (Fig. 92, Plate 26).

ASCOLI PICENO

121 Acquasanta

- ii) Unpublished material in the Pigorini Museum, nos. 6459 and 6488, and Bologna Museum.
- iii) Surface finds: 19th century.
- iv) Lithics: 2 axes - one large with notches (Fig. 145.3), one small with the start of a drill hole (Fig. 145.2); and arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 132/II/NE Acquasanta.
- viii) At c. 411 m asl on the Middle - Lower Miocene marl hills flanking the River Tronto, near to the point where a major stream joins the river (c. 0.75 km away), with Monte Téglia behind (1136 m, c. 4.5 km away). Thermal springs

here. 43 km inland from the coast.

122 Acquedotto, Treazzano, Monsampolo del Tronto

i) Lucentini 1984-6: 457-8.

iii) Surface collection: Lucentini, 1977.

iv) Pottery. Fabrics: coarse, fine dark burnished, and figulina. Decoration: point impression (all over, and 2 single rows meeting perpendicularly. Vessel forms: carinated vessels, convex wall with out-turned rim, ? beaker.

Lithics: bladelets.

v) Residential site.

vi) Final Neolithic/early Copper Age.

vii) 133/I/SO Monsampolo del Tronto 017491.

viii) At 70 m asl on the stream-cut Pleistocene clay hill-slope flanking the River Tronto (2 km away), between the Fiobbo stream and another stream (both 0.4 km away). 9 km inland from the coast.

123 Arquata

ii) Unpublished material in Bologna Museum.

iii) Surface finds: Capellini, 19th century.

iv) Arrowheads and polished axes.

v) Find-spot(s).

vi) Late Neolithic - Bronze Age.

vii) 132/II/NO Arquata del Tronto.

viii) At c. 777 m asl, on the Upper Miocene sandstone hills above the River Tronto (0.6 km away), on the edge of the Monti Sibillini, with Monte Vettore behind (2476 m asl, 6 km away). 52 km inland from the coast.

124 Buscalferri, Trocco, Offida

i) Lucentini 1984-6: 477.

iii) Excavation: Allevi, c. 1889.

iv) Pottery: hemispherical vessel in figulina fabric, with 4 perforated ear handles under the rim.

Lithics: an arrowhead.

Features: a cavity.

v) Residential site.

vi) Final Neolithic/early Copper Age.

vii) 133/I/NO Ripatransone 949542.

viii) At 174 m asl on the side of the Pleistocene clay Colle Tafone (402 m asl, 2 km away), close to the head of the Fosso del Lago stream, which runs down to the River Tronto (50 m asl, 8.5 km away). 14 km inland from the coast.

125 Castel Trosino, Ascoli Piceno

- ii) Unpublished material in the Pigorini Museum, no. 6469.
- iii) Surface find: 1876.
- iv) Arrowhead (Fig. 133.1).
- v) Find-spot.
- vi) Late Neolithic - Bronze Age.
- vii) 133/III/NO Castel Trosino 81-42-.
- viii) Between c. 325 and 500 m asl, on the stream-cut Middle - Lower Miocene marl hill-slopes of Monte Giammatura (1034 m asl, 2.5 km away), close to the Castellano stream (300 m asl, 0.3 km away), which runs to the River Tronto (5 km away). 31 km inland from the coast.

126 Castignano

- ii) Unpublished material in Bologna Museum.
- iii) Surface finds: 19th century.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 133/IV/NE Offida.
- viii) At c. 473 m asl on a Pliocene clay and marl hill between two streams, one leading to the River Tesino (2 km away), and the other, the Chifente stream (1 km away), leading to the River Tronto (10 km away). 21 km inland from the coast.

127 Ciafone, Offida

- i) Lollini 1954-5: 337; Lucentini 1984-6: 489-490.
- iii) Excavation: Allevi, c. 1889.
- iv) Pottery. Fabric: figulina. Vessel forms: plate with a rim almost at right angles to the body, decorated with 3 rows of applied impressed discs, little ear handles near rim, conical vessel covered with holes (? strainer).
Lithics: arrowheads.
Obsidian: lunate point.
- v) Residential site.
- vi) Final Neolithic/early Copper Age.
- vii) 133/I/NO Ripatransone 983530.
- viii) At 125 m asl, on a limb of the Pleistocene clay S. Filippo hill (221 m asl, 1.5 km away), between the Fosso S. Filippo (0.2 km away) and the Fiobbo stream (0.3 km away), which meet nearby (0.4 km away), the latter running to the River Tronto (20 m asl, 7 km away). 11 km inland from the coast.

128 Colle Appeso, Monte Prandone - Acquaviva Picena

- i) Lucentini 1984-6: 454-5; unpublished material in Ancona Museum.
- iii) Excavation: Baldelli, 1980 (limited soundings).
- iv) Pottery. Fabric: coarse and figulina. Decoration:

impressed (large points in lines forming bands, fingernail). Vessel forms: ribbon handles, some with raised edges, flattened round lugs and tongue lugs.

Lithics: 2 arrowheads, rhomboidal arrowhead, retouched bladelets.

V) Residential site.

vi) Final Neolithic/early Copper Age.

vii) 133/I/NO Ripatransone 035531.

viii) At 197 m asl on Pleistocene clays/sands near to the top of Colle Appeso (202 m asl, 0.2 km away), above the Fosso Ragnola stream (95 m asl, 0.8 km away), which runs to the coast, and at the head of the Fosso S. Anna stream (0.3 km away), which runs to the River Tronto (20 m asl, 5 km away). 7 km inland from the coast.

129 Colli del Tronto

ii) Unpublished material in the Pigorini Museum, nos. 6411-30, 6435-40.

iii) Surface finds: 19th century.

iv) 26 arrowheads (Fig. 133.2-27).

v) Find-spot(s).

vi) Arrowheads - 90/46, 50, 165/175/-/88, 104/144/25, 28, 56, 57/-/-/72/53, 148/105, 116/38, 67/112/77, 175/53, 79, 143/-/33, 128, 104, 153, 157, 158/174/6 = Late Neolithic-late Copper Age, but especially final Neolithic/early Copper Age.

vii) 133/I/SO Monsampolo del Tronto 97-48-.

viii) Between c. 50 and 175 m asl on the stream-cut Pleistocene terraced deposits flanking the River Tronto (40 m asl, 2 km away). 13 km inland from the coast.

130 Fermo, Ascoli Piceno

ii) Unpublished material in the Pigorini Museum, nos. 13341-2G, and in Perugia Museum, no. 6734.

iii) Surface finds: 19th century.

iv) 3 arrowheads (Fig. 134.1-3).

v) Find-spot(s).

vi) Arrowheads - 89, 92/163/97, 132 = Copper Age - late Copper Age.

vii) 125/II/NO Fermo 95-79-.

viii) Between c. 100 and 319 m asl on the stream-cut Pleistocene clay hills between the River Tenna (3 km away) and the River Ete Vivo (25 m asl, 3 km away). 7.5 km inland from the coast.

131 Fondo Alessandrini, cimitero, Offida

i) Lucentini 1984-6: 480-3.

iii) Excavation: Messina, 1915.

iv) Pottery. Fabric: coarse reddish, and 'ordinary'. Decoration: large 'stick' impressions. Vessel forms: ollas, flat cylindrical base, ring handle with a small button

appendage.

Lithics: a trapeze, flakes, 7 bladelets, arrowhead, a double-awl, grindstones.

Faunal remains.

Features: a cavity.

Plaster.

v) Residential site.

vi) Copper Age - Bronze Age.

vii) 133/IV/NE Offida 938551.

viii) At 340 m asl on the stream-cut side of the Pleistocene clay Colle Tafone (402 m asl, 0.5 km away), near to the head of the Lava stream (1 km away) which runs to the River Tronto (60 m asl, 10 km away), and also above the River Tesino (140 m asl, 2.75 km away). Modern land use: vineyard. 15 km inland from the coast.

132 Gran Caso, Ascoli Piceno

ii) Unpublished material in the Pigorini Museum, no. 6476.

iii) Surface find: 1876.

iv) Arrowhead (Fig. 134.4).

v) Find-spot.

vi) Arrowhead - 80,132,166 = Copper Age - late Copper Age.

133 Lisciano del Tronto

ii) Unpublished material in the Pigorini Museum, no. 6470.

iii) Surface find: 19th century.

iv) Small greenstone axe with the start of a drill hole on one face (Fig. 145.4).

v) Find-spot.

vi) Early Neolithic - Bronze Age.

vii) 133/III/NE Civitella del Tronto 85-43-.

viii) Between c. 200 and 500 m asl on the stream-cut Upper Miocene sandstone and clay hill-side of Monte Giammatura (1034 m asl, 3 km away), above the River Tronto (95 m asl, 2 km away). 26 km inland from the coast.

134 Montalto Marche

ii) Unpublished material in Bologna Museum, and in Perugia Museum, no. 7633.

iii) Surface finds: Capellini 1895.

iv) Polished axes and arrowheads (Fig. 134.5).

v) Find-spot(s).

vi) Arrowheads - 73 = Final Neolithic/early Copper Age - Bronze Age.

vii) 133/IV/NE Offida 86-60-.

viii) Between c. 300 and 580 m asl on the stream-cut Pliocene sand and conglomerate Monte Carpineto (580 m), between the River Aso (205 m asl, 2.5 km away) and the River Tesino (260 m asl, 2 km away). 21 km inland from the coast.

135 Monte dell'Ascensione

- ii) Unpublished material in Bologna Museum.
- iii) Surface finds: Capellini, 1895.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 133/IV/NO Force 82-53-.
- viii) Between c. 700 and 1103 m asl on the stream-cut Pliocene sand and conglomerate Monte dell'Ascensione above the upper River Tesino (360 m asl, 3km away), with streams running from it to the River Tronto (7.5 km away). 27 km inland from the coast.

136 Monte Calvario, Montalto

- ii) Unpublished material in Ancona Museum.
- iii) Excavations: Silvestrini, 1980's (2 soundings).
- iv) Pottery. Fabrics: coarse, fine, and figulina. Vessel forms: tubular and spool handles, flat and concave bases.
- v) Residential site.
- vi) Final Neolithic/early Copper Age.
- vii) 125/III/SE Petritoli 84-62-.
- viii) Between 225 and 300 m asl, on the side of the Pliocene clay and marl Monte di S. Lucia (483 m asl, 1.5 km away), and flanking the River Aso (220 m asl, c. 0.25 km away). 24 km inland from the coast.

137 Montecalvo

- ii) Unpublished material in Bologna Museum.
- iii) Surface finds: Capellini, 1895.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 133/IV/SE Ascoli Piceno Est 89-52-.
- viii) Between c. 200 and 508 m asl on the southeastern slope of the Pliocene sand and conglomerate Colle Cilestrino (552 m asl), flanked by the Chifene, Fosso di S. Francesco, and Fosso Volubile streams, which meet nearby (1-2 km away) and run to the River Tronto (60 m asl, 7 km away). 20 km inland from the coast.

138 Montegallo

- ii) Unpublished material in Bologna Museum.
- iii) Surface finds: Capellini, 1895.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 132/I/SE Montegallo.
- viii) Between c. 600 and 1347 m asl on the Upper Miocene sandstone and clay hillslopes flanking the River Fluvione, on the east side of the Sibillini mountains (c. 8 km away).

46 km inland from the coast.

139 Monte Granaro

- ii) Unpublished material in the Pigorini Museum, no. 6468.
- iii) Surface find: Tombolini, 1876.
- iv) Arrowhead (Fig. 134.6).
- v) Finds-spot.
- vi) Arrowhead - 47,98,BA = Final Neolithic/early Copper Age - Bronze Age.
- vii) 125/IV/SE S. Elipido a Mare 89-87-.
- viii) Between c. 100 and 279 m asl on the stream-cut Pleistocene clay Monte Granaro hill, between the River Ete Morto (40 m asl, 2.5 km away) and the River Chienti (4 km away). Modern land use: good agriculture of crops and vines. 11 km inland from the coast.

140 Monte Prandone

- ii) Unpublished material in Bologna Museum.
- iii) Surface finds: Capellini, 1895.
- iv) Arrowheads and polished axes.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 133/I/NE S. Benedetto del Tronto 04-52-.
- viii) Between c. 100 and 266 m asl on the stream-cut Pleistocene sand and conglomerate Monte Prandone hill, between the Ragnola stream (70 m asl, 1 km away) and the River Tronto (15 m asl, 4 km away). 5.5 km inland from the coast.

141 Monte Tinello, Acquaviva Picena

- i) Silvestrini Lavagnoli 1983.
- iii) Excavations: Silvestrini, 1983-4.
- iv) Pottery. Fabrics: coarse, fine, and much figulina. Decoration: bands of horizontal incised lines, a few traces of red paint, 1 combined. Vessel forms: flasks, flat-based bowls (truncoconical, hemispherical, carinated), olla, cups, and handles (ribbon, ring, tubular with horn appendages).

Clay weights: 1 sub-discoidal, 1 sub-rectangular.

Lithics: bladelets, denticulated bladelets, truncations, double end scraper on a blade, 2 arrowheads, 1 small polished stone axe, numerous grindstones.

Obsidian: 1 bladelet and 1 flake.

Bone industry: 1 awl.

Features (Fig. 99B): 5 cavities of varying shapes and sizes (7.7 x 3 m - 1 x 1 m). The large cavity 4 contained a large area of plaster, traces of hearths, and many grindstones.

Plaster.

v) Residential site.

vi) ? Late Neolithic - final Neolithic/early Copper Age.

vii) 133/I/SO Monsampolo del Tronto 02-51-.

viii) Between c. 100 and 183 m asl on a Pleistocene sand and conglomerate or clay hill, flanked by the Fosso di S. Mauro and the Fosso S. Anna streams, and between the Fosso Ragnola (120 m asl) and the River Tronto (15 m asl, 2 km to the south). Modern land use: vineyard. 7 km inland from the coast.

142 Mozzano

ii) Unpublished material in Bologna Museum.

iii) Surface finds: Capellini, 1895.

iv) Arrowheads.

v) Find-spot(s).

vi) Late Neolithic - Bronze Age.

vii) 133/III/NO Castel Trosino 78-43-.

viii) At c. 200 m asl, on the Upper Miocene sandstone and clay Colle Carbonara (478 m asl, c. 0.6 km away) and next to the River Tronto (195 m asl, c. 0.2 km away), c. 1 km downstream from the point where the Fluvione stream joins the River Tronto. 33 km inland from the coast.

143 Pagliari del Tronto

ii) Unpublished material in Perugia Museum, nos. 3249-54, 3260.

iii) Surface finds: 19th century.

iv) 7 arrowheads (Fig. 134.7-13).

v) Find-spot(s).

vi) Arrowheads: -/-/172/-/97,132,149,166/-/- = Final Neolithic/early Copper Age - late Copper Age.

vii) 133/I/SO Monsampolo del Tronto 99-47-.

viii) At c. 40 m asl on the Holocene deposits flanking the River Tronto (30 m asl, c. 1 km away), with Pleistocene terraced deposits behind (c. 75-270 m asl, 0.75 km away). 12 km inland from the coast.

144 Pedaso

ii) Unpublished material in Perugia Museum, nos. 345, 1901, 2209, 2211, 3266, 5232.

iii) Surface finds: 19th century.

iv) 6 arrowheads (Fig. 134.14-19).

- v) Find-spot(s).
- vi) Arrowheads - 33,90,125,149/130/-/-/-/148 = Late Neolithic - late Copper Age, but especially final Neolithic/early Copper Age.
- vii) 125/II/N0-E Fermo 05-72-.
- viii) Location. Next to the point where the River Aso meets the coast, either on the Holocene fluvial deposits at the river mouth (c. 10 m asl), or on the Pleistocene sand and conglomerate Monte Scirone (25-165 m asl) which flanks the river and the coast. 0-1 km inland from the coast.

145 Poggio di Bretta

- ii) Unpublished material in Bologna Museum.
- iii) Surface finds: Capellini, 1895.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 133/IV/SE Ascoli Piceno Est 89-46-.
- viii) Between 100 and 237 m asl on an Upper Miocene sandstone and clay hill flanked by the Bretta stream (0.75 km away) and the Fosso Riccione stream (0.5 km away), and above the River Tronto (80 m asl, 1.25 km away). 22 km inland from the coast.

146 Ponte, near Ascoli Piceno

- ii) Unpublished material in Perugia Museum, no. 3223.
- iii) Surface find: 19th century.
- iv) Arrowhead (Fig. 134.20).
- v) Find-spot.
- vi) Arrowhead - 35,116 = late Neolithic - final Neolithic/early Copper Age.

147 Ripetta

- ii) Unpublished material in Bologna Museum.
- iii) Surface finds: Capellini, 1895.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.

148 Sambuco, Castel di Lama

- ii) Lucentini 1984-6: 467.
- iii) Surface collection: Archeoclub of Lama dei Peligni.
- iv) Pottery. Fabric: coarse. Decoration: impressed, and a cordon. Vessel forms: ? plate, lugs, convex vessel with short neck.
- Lithics: oval point.
- v) Residential site.
- vi) Final Neolithic/early Copper Age.
- vii) 133/I/SO Monsampolo del Tronto 954473.

viii) At 145 m asl, on the edge of the Pleistocene terraced deposits (c. 75-203 m asl) above the River Tronto (50 m asl, 1.5 km away), and flanked by the Lama stream (0.4 km away). 16 km inland from the coast.

149 S. Benedetto del Tronto

- ii) Unpublished material in the Pigorini Museum, nos. 6473-4, and in Perugia Museum, no. 3259.
- iii) Surface finds: Lamponi, 1876.
- iv) 3 arrowheads (Fig. 134.21-23).
- v) Find-spot(s).
- vi) ?BA/134/45,122 = Final Neolithic/early Copper Age - ? Bronze Age.
- vii) 133/I/NE S. Benedetto del Tronto 08-56-.
- viii) Near to the point where the Albula stream meets the coast. The Pleistocene sand and conglomerate Colle Sgariglia (187 m asl) and Colle Barattelle (283 m asl) hills flank the stream and the 1 km wide coastal plain. 0-2 km inland from the coast.

150 Servigliano

- ii) Unpublished material in the Pigorini Museum, nos. 6478-6481.
- iii) Surface finds: Lamponi, 19th century.
- iv) 4 arrowheads (Fig. 135.1-4).
- v) Find-spot(s).
- vi) Arrowheads - 104,158,BA/-/76,175/133 = Final Neolithic/early Copper Age - Bronze Age, but especially Copper Age.
- vii) 125/III/SO S. Vittoria in Matenano 77-71-.
- viii) Between c. 200 and 350 m asl on the edge of the stream-cut Pliocene clay and marl hills flanking the River Tenna (180 m asl). 27 km inland from the coast.

151 S. Lazzaro, Offida

- i) Lucentini 1984-6: 476.
- iii) Excavation: Allevi c. 1889.
- iv) Pottery. Coarseware. Decoration: scaled, finger impressions, applied discs/rustication.
Lithics: 15 arrowheads, chert dagger with notched base.
Features: 7 cavities.
- v) Residential site.
- vi) Late Copper Age - Early Bronze Age.
- vii) 133/I/NO Ripatransone 943527.
- viii) At 250 m asl on the east side of the Pleistocene clay S. Lazzaro hill above the Fosso del Lago stream (105 m asl, 0.75 km away) which eventually leads to the River Tronto (55 m asl, 7.5 km away). 15 km inland from the coast.

152 S. Vittoria in Matenano

- ii) Unpublished material in the Pigorini Museum, nos. 6461-5, and in Perugia Museum, 4590-1.
- iii) Surface finds: Lamponi, 1876.
- iv) 7 arrowheads (Fig. 135.5-11).
- v) Find-spot(s).
- vi) Arrowheads - 47, 52, 67, 79/102, 165/BA/?BA/?92/115, 132/81, 175 = final Neolithic/early Copper Age - Bronze Age, but especially late Copper Age.
- vii) 125/III/SO S. Vittoria in Matenano 77-64-.
- viii) Between c. 350 and 626 m asl on the Pliocene clay and marl S. Vittoria hill, above the River Tenna (260 m asl, 3 km away), and near to the heads of the River Ete Vivo (1.5 km away) and the Fosso Malascio stream which runs to the River Aso (4 km away). 29 km inland from the coast.

153 Torrente Marino

- ii) Unpublished material in Bologna Museum.
- iii) Surface finds: Capellini, 1895.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 133/III/NE Civitella del Tronto 88-43-.
- viii) A 3 km long stream which cuts into the Upper Miocene sandstone and clay hills (100-387 m asl) flanking the River Tronto. 22 km inland from the coast.

154 Valle Aso

- ii) Unpublished material in Bologna Museum.
- iii) Surface finds: Capellini, 1895.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- viii) River Aso valley.

155 Valle S. Martino, Appignano del Tronto

- i) Lucentini 1984-6: 474.
- iii) Surface find: Archeoclub of Castel di Lama, 1979.
- iv) 1 sherd of figulina.
- Lithics: 1 triangular arrowhead with a triangular tang.
- v) ? Residential site.
- vi) ? Late Neolithic - final Neolithic/early Copper Age.
- vii) 133/IV/SE Ascoli Piceno Est 922499.
- viii) At 196 m asl on a small spur on the end of a Pliocene clay and marl hill above the Chifente stream (115 m asl, 0.5 km away) which leads to the River Tronto (65 m asl, 5 km away). 18 km inland from the coast.

156 Valle del Tronto

- ii) Unpublished material in the Pigorini Museum, nos. 6395-6401, and in Bologna Museum.
- iii) Surface finds: Rosa, 19th century.
- iv) 7 arrowheads and polished axes (Fig. 135.12-18).
- v) Find-spot(s).
- vi) Arrowheads - 129,130,148/-/4,9/-/-/-/- = Late Neolithic - Final Neolithic/early Copper Age.
- viii) River Tronto valley.

157 Venarotto / Vindola

- ii) Unpublished material in the Pigorini Museum, no. 6467.
- iii) Surface find: 1876.
- iv) Arrowhead (Fig. 135.19).
- v) Find-spot.
- vi) Arrowhead - 104,158 = Copper Age.
- vii) 133/IV/SO Ascoli Piceno Ovest - 132/I/SE Montegalfo.
- viii) Between c. 400 and 600 m asl on the stream-cut Upper Miocene sandstone and clay hills between the River Aso and the River Fluvione. 33-40 km inland from the coast.

158 Villa Panezia, Ascoli Piceno

- i) Lucentini 1984-6: 474; unpublished material in Ancona Museum.
- iii) Excavations: Silvestrini and Zarattini, 1977.
- iv) Pottery: Diana and Serra d'Alto style handles.
- v) Residential site.
- vi) Final Neolithic/early Copper Age.
- vii) 133/IV/SE Ascoli Piceno Est 921457.
- viii) At 82 m asl on Holocene terraced fluvial deposits flanking the River Tronto (62 m asl, 0.75 km away), below the Pliocene clay and marl hills (c. 100-272 m asl, 0.3-1.75 km away). 19 km inland from the coast.

MACERATA province (MC)

159 Acquafresca, Serralta

- i) Piangatelli 1970; unpublished material in S. Severino Museum.
- iii) Surface finds: 19th century.
- iv) Pottery: 5 coarse sherds.
Clay spindle-whorl with incised decoration.
Lithics: arrowheads, points/side scrapers, bladelets, awls.
- v) Residential site.
- vi) Final Neolithic/early Copper Age - late Copper Age.
- vii) 124/IV/NE Castel S. Pietro.
- viii) At c. 546 m asl on a Middle - Lower Miocene marl

hill, above and near to the head of the Fosso Grande stream which runs to the River Potenza (14 km away). 41 km inland from the coast.

160 Appignano

- ii) Unpublished material in the Pigorini Museum, nos. 63278-81.
- iii) Surface finds: De Rossi, 19th century.
- iv) 4 arrowheads (Fig. 136.1-4).
- v) Find-spots.
- vi) Arrowheads - 133/136/33/163 = Late Neolithic - late Copper Age.
- vii) 117/II/SE Montecassiano.
- viii) At c. 199 m asl, on a Pliocene clay and marl hill above the Monocchia stream, which runs to the River Potenza. 26 km inland from the coast.

161 Area Guzzini East, Fonte Noce, Recanati

i) Lollini 1977: 336; Percossi Serenelli and Silvestrini Lavagnoli 1984-6: 382; Percossi Serenelli and Silvestrini Lavagnoli 1988; and unpublished material in Ancona Museum.

iii) Excavations: Silvestrini, 1984-5.

iv) Pottery. Fabric: coarse, and fine black burnished. Decoration: applied lugs and cordons, notched rims, finger impressions. Vessel forms: little cups, little jars, carinated bowls with finger impressions on the carination, elongated lug handles.

Lithics: numerous arrowheads (Fig. 136.5-13) and bifacially flaked points, a broken retouched blade (7.5 cm long); also grindstones.

Bone industry: awls.

Human remains: crouched human skeleton, with its head to the west and feet to the east, hands in front of its face, lying on its left side, with 2 pottery vessels placed next to it, in an oval pit with straight sides and a flat base, and an adjacent empty pit. Grave good pottery: 2-handled globular vessel with neck and 2 vertically pierced lug handles, carinated vessel with round base.

Features: layer containing archaeological remains (0.4 m deep), and 3 post-holes in line.

v) Residential site.

vi) Copper Age.

vii) 118/III/SO Recanati 783019.

viii) At 63 m asl on a Holocene terrace between the Monocchia stream (60 m asl, 0.25 km away) and the River Potenza (55 m asl, 0.6 km away), below the Pleistocene deposits and Pliocene clay and marl hills flanking the river (c. 100-217 m asl, 1.5 km away) (Fig. 161). Modern land use: cereal crops, good agriculture. 15 km inland from the coast.

162 Area Guzzini West, Fonte Noce, Recanati

i) Lollini 1977: 336; Percossi Serenelli and Silvestrini Lavagnoli 1984-6: 380; Percossi Serenelli and Silvestrini Lavagnoli 1988; unpublished material in Ancona Museum.

iii) Excavations: Lollini and Silvestrini, 1976 and 1984-5.

iv) Pottery. Decoration: incised rims, 2 rows of finger impressions under rim, finger-impressed rim and cordon. Handles: spool, and ? Serra d'Alto style tubular with white-filled excised decoration.

Features: a little circular ditch (? drainage), 2 cobbled areas (one over 0.85 x 4.5 m), a sub-circular cavity, a few post-holes.

Clay spindle-whorl with a central hole.

Lithic industry: especially end scrapers on the ends of blades and microburins, also Ripabianca burins, truncated blade, retouched flakes, a core, a retouched blade/side scraper.

Bone industry: a broken flat bone plate (2.7 cm wide) with a hole drilled at one end.

Sea shells: 9 pierced white bivalves.

v) Residential site.

vi) Final Neolithic/early Copper Age.

vii) 118/III/S0 Recanati 782018.

viii) At 65 m asl on a Holocene terrace between the Monocchia stream (60 m asl, 0.25 km away) and the River Potenza (55 m asl, 0.6 km away), below the Pleistocene deposits and Pliocene clay and marl hills flanking the river (c. 100 - 217 m asl, 1.5 km away) (Fig. 162). Modern land use: cereal crops, good agriculture. 15 km inland from the coast.

163 Borgo S. Lorenzo, Cingoli

i) Percossi and Silvestrini 1986: 22-24.

iii) Surface finds: Silvestrini, 1977-80.

- iv) Lithics: an arrowhead, flakes, and a bladelet fragment.
- v) Lithic survey site.
- vi) Late Neolithic - Bronze Age.
- vii) 117/II/SO Cingoli 561044.
- viii) At 500 m asl on Middle - Lower Miocene marl on the side of the Cingoli hill, between the heads of the S. Flaviano stream (0.75 km away) and the Fumicello stream (1 km away), which runs to the River Musone (22 km away). 35 km inland from the coast.

164 Bovara, Camerino

- ii) Unpublished material in Perugia Museum, no. 812.
- iii) Surface find: 19th century.
- iv) Arrowhead (Fig. 136.14).
- v) Find-spot.
- vi) Arrowhead - 32 = Late Neolithic - final Neolithic/early Copper Age.

165 Cagnore, S. Severino Marche

- i) Piangatelli 1970.
- iii) Surface finds: 19th century.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 124/IV/NE Castel S. Pietro.
- vii) ? Between c. 400 and 500 m asl on the stream-cut Upper Miocene sandstone and clay hills above the Fosso Grande stream. 43 km inland from the coast.

166 Campilunghi, S. Vittore

- i) Percossi and Silvestrini 1986: 39.
- iii) Survey: 1983.
- iv) Pottery: straight rims.
- Lithics: bifacial points, arrowheads, 3 cores (1 blade, 1 flake, 1 bladelet), end scraper on flake, notches, retouched blades, bifacially flaked tool.
- v) Residential site.
- vi) ? Final Neolithic/early Copper Age - Copper Age.
- vii) 117/II/NO S. Maria Nuova 562102.
- viii) At 225 m asl on the edge of Pleistocene deposits and Pliocene clay and marl hills (225-296 m asl) flanking the River Musone (200 m asl, 0.2 km away), between the Fosso Breccione stream (0.25 km away) and the Fosso Campilunghi stream (0.2 km away). 32 km inland from the coast.

167 Campo Sportivo, Pieve Torina

- i) Lollini 1979: 67; Barker 1975.
- iii) Surface finds: Cancellieri, 1967.
- iv) Pottery. Decoration: fingernail impressed, in lines and

pairs. Vessel forms: heel base.

v) Residential site.

vi) Early Neolithic.

vii) 124/III/SO Pieve Torina 409673.

viii) At 474 m asl on Cretaceous - Upper Jurassic micritic limestone and clayey micrites near to the point where a minor stream joins the upper River Chienti (2 km from the point where 3 streams converge at its head), below the Palaeogene - Upper Cretaceous limestone Monte Giove (825 m asl) and Monte della Croce (711 m asl) (Fig. 86). 62 km inland from the coast.

168 Capannacce, Serrapetrona

i) Rellini 1934: 44-5; Piangatelli 1970.

iii) Excavations: Rellini.

iv) Pottery: very abundant; coarse, blackish, and figulina fabrics; a truncoconical vessel decorated with a notched band on the inside just under the rim, some impressions under the rim on the exterior of another vessel, lugs with lateral cornets.

A clay disc-shaped spindle-whorl.

Lithics: arrowheads, a fragment of a limestone macehead.

Obsidian bladelets.

v) Residential site.

vi) Final Neolithic/early Copper Age

vii) 124/IV/SE Serrapetrona 53-82-.

viii) At c. 450 m asl on or below the Upper Miocene sandstone and clay hills which flank the Cesolone stream (c. 400 m asl) which runs to the River Chienti (4-5 km away) (Fig. 102). 47 km inland from the coast.

169 Casone, Tolentino

i) Pigorini 1879: 198-9, 1880: 29; Piangatelli 1970; Massi Secondari c. 1974.

ii) Unpublished material in Tolentino Museum, and the Pigorini Museum, nos. 101993-4.

iii) Excavation: Gentiloni, c. 1880.

iv) Pottery.

Lithics: cores, blades and flakes, microliths, bladelets, arrowheads (Fig. 136.15-16), polished stone axes.

Faunal remains, including 1 Helix rotundata shell.

Human remains.

v) Residential site.

vi) Arrowheads - 70,133,167/101,117 = final Neolithic/early Copper Age - late Copper Age, but especially Copper Age.

vii) 124/I/SE Urbisaglia 64-87-.

viii) Between 185 and 200 m asl, on Pleistocene deposits near to the River Chienti, in the middle of the wide river valley. Modern agriculture: good agricultural area, with cereals, and a few olives and vines. 34 km inland from the coast.

170 Castellano, Serripola, S. Severino Marche

- ii) Unpublished material in S. Severino Museum.
- iii) Surface finds: Pascucci, 19th century.
- iv) Lithics: blades, flakes and 5 arrowheads.
- v) Lithic survey site.
- vi) Arrowheads - 32/104,161/75/85/- = Final Neolithic/early Copper Age - Copper Age.
- vii) 124/IV/SE S. Severino Marche 516896.
- viii) At 418 m asl on the side of the Middle - Lower Miocene marl Monte Gagliumano (538 m asl, 1.5 km away), above the Fosso Grande stream (235 m asl, 0.9 km away) and the River Potenza (225 m asl, 1.5 km away). 44 km inland from the coast.

171 Castello di Pitino

- i) Piangatelli 1970.
- iii) Surface finds: 19th century.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 124/I/NO Treia 58-92-.
- viii) Between c. 250 and 275 m asl above the River Potenza (165 m asl, 1 km away), on Pleistocene terraced deposits on the stream-cut hillside of the Pitino hill (602 m asl, 1.75 km away). 38 km inland from the coast.

172 Cava Koch, Fonte Noce, Recanati

- i) Galli 1941; Rellini 1941; Galli 1947-50.
- iii) Excavations and surface collections: Galli, 1940 and 1942 (c. 50 m² excavated area).
- iv) Pottery. 2 large truncoconical flat-based bowls (1 with a pierced lug handle), truncoconical vessel with a pierced lug handle, ovoid vessel, 2 single-handled jugs (1 with a round base and 2 lugs, 1 with a wide ribbon handle and a flat base), 2 biconical/baggy vessels with flat bases (1 with 12 lugs, 1 of which was pierced).

Lithics: 3 flakes, 1 broken blade (10.5 cm long), 9 side scrapers, 2 arrowheads.

Stratigraphy: burials dug into a compact grey-yellowish clayey soil and overlain by a burnt layer containing charcoal.

Human remains. Burials in at least 7 deep pits (about 1.5 m deep), and a minimum of 14 individuals.

a) Pit (1.04 x 0.74 m) containing: an adult male, lying on his right side, with the right hand under the cheek and the left hand down the side of the body, and the head pointing to the east; a broken conical coarseware bowl placed near

to the head.

b) Pit (1.3 x 0.5 m) containing: a female adult, lying on her left side, with the hands in front of the face, and the head pointing to the east; sherds from an ovoid vessel in a blackish fabric placed near to the head.

c) Pit containing: 2 juvenile males placed 0.2 m apart, one lying on his right side with his arms flexed and hands placed together under the chin, and the other on his right side, with his left hand under the cheek and the right hand extended down the side of the body; 2 coarseware vessels (single-handled flask and a biconical vessel) placed near to the head of one of the bodies.

d) Pit containing: a pile of bones, with the long bones at the bottom, then the pelvis and mandible, and the skull almost at the centre of the pile; an adult ? male placed on his right side, with his legs flexed, head pointing to the east, and hands placed under the chin, with a truncoconical bowl (containing a side scraper) placed near to his head, and an arrowhead placed under his mandible; a smaller ? juvenile skeleton with flexed legs and the face against the ground; a broken truncoconical coarse blackish ware vessel.

e) Pit containing: a ? juvenile female placed on its right side with its head pointing to the east and legs flexed; a biconical pottery vessel placed near to the head. f) Pit containing: a flexed adult skeleton with its head pointing to the east; a round-based coarseware vessel with a handle.

g) Pit, found at about 0.6 m above the others, containing: an adult with its head pointing to the north-east and its legs to the east - south-east, with its left hand touching the head and its right hand placed over the left arm.

h) Many other human bones, including 4 skulls from unspecified contexts.

v) Human burial site.

vi) Copper Age.

vii) 118/III/SO Recanati 800028.

viii) At 58 m asl on Holocene deposits by the Fosso del Matto stream (0.1 km away), which meets the Monocchia stream nearby (0.4 km away) and then joins the River Potenza (50 m asl, 1 km away), and below the Pleistocene hills which flank the river valley (c. 75-217 m asl, 0.5-5 km away) (Fig. 101). Modern land use: cereals, vegetables, a few vines, and trees. 13.5 km inland from the coast.

173 Cerreto Monnece, Strada

i) Percossi and Silvestrini 1986: 42.

iii) Surface finds: 1976-7.

iv) Pottery: coarse.

Lithics: cores, non-retouched flakes and blades, and arrowheads.

- v) Residential site.
- vi) Late Neolithic - Bronze Age.
- vii) 117/III/SE Apiro and 117/II/SO Cingoli 54-07-.
- viii) Between 250 and 275 m asl on Pleistocene deposits near to the River Musone (225 m asl, 0.2-0.5 km away), below the Cingoli hill (c. 300-630 m asl, 0.3-4 km away). 35 km inland from the coast.

174 Codardone, Marzo, Pozzo

- i) Percossi and Silvestrini 1986: 37.
- iii) Surface collection.
- iv) Pottery: cordon with smoothed ribbing.
Lithics: 2 flake cores, flakes, side scraper, 2 arrowheads.
- v) Residential site.
- vi) Copper Age - Bronze Age.
- vii) 117/III/SE Apiro 526060.
- viii) At 300 m asl, on Pleistocene deposits, by the point where the Fosso di S. Bonfiglio stream meets the River Musone (270 m asl, 0.1 km away), below the Pian de' Conti hill (c. 325-790 m asl, 0.5-3.5 km away). 38 km inland from the coast.

175 Colle Argento, Parolito, S. Severino Marche

- i) Colini 1892: 160-1; Piangatelli 1970; unpublished material in S. Severino Museum.
- iii) Surface finds: 19th century.
- iv) Lithics: arrowheads, bladelets, blades, flakes, perforated axe-hammer.
- v) Lithic survey site.
- vi) Final Neolithic/early Copper Age - Early Bronze Age.
- vii) 124/I/SO Tolentino 56-86-.
- viii) Between c. 350 and 450 m asl, on an Upper Miocene stream-cut sandstone and clay hill-slope above the River Potenza (205 m asl, c. 2 km away). 42 km inland from the coast.

176 Colle di Collicelli, Strada

- i) Percossi and Silvestrini 1986: 42.
- iii) Surface finds: 1972-1980.
- iv) Lithics: cores (blade and flake), end scrapers on blades and flakes, arrowheads, small bifacially flaked axes.
- v) Lithic survey site.
- vi) Late Neolithic - Copper Age.
- vii) 117/II/SO Cingoli 548075.
- viii) At 265 m asl, on Pleistocene deposits near to the River Musone (225 m asl, 0.6 km away), below the Cingoli hill (c. 300-630 m asl, 0.1-3 km away). 35 km inland from the coast.

177 Colle Montanari, S. Elena, S. Severino Marche

- i) Piangatelli 1970.
- ii) Unpublished material in S. Severino Museum.
- iii) Excavation: Pascucci, late 19th/early 20th century.
- iv) Pottery. Fabrics: coarse, and blackish. Decoration: deeply incised bands meeting transversely, finger-impressed cordons, little point impressions. Vessel forms: carination, tongue lug.
Lithics: cores, blades, flakes, side scrapers, arrowheads.
- v) Residential site.
- vi) Late Copper Age.
- vii) 124/IV/NE Castel S. Pietro.
- viii) ? Between c. 400 and 500 m asl on the stream-cut Upper Miocene sandstone and clay hills above the Fosso Grande stream which leads to the River Potenza (5 km away). 43 km inland from the coast.

178 Colle Morico, Serrone, S. Severino Marche

- i) Pigorini 1902; Piangatelli 1970.
- ii) Unpublished material in S. Severino Museum.
- iii) Excavation: Pascucci, 1901.
- iv) Pottery. Fabrics: coarse, plain figulina. Decoration: wide cordon cut by deep transverse slashes. Vessel forms: ribbon handle.
Lithics: 4 small cores, blades and flakes, bladelets, small side scrapers, arrowheads, polished axes, a pierced pebble.
Faunal remains.
Features: cavities.
Bone industry: a horn with 2 holes.
- v) Residential site.
- vi) Final Neolithic/early Copper Age.
- vii) 124/IV/NE Castel S. Pietro.
- viii) ? c. 400-500 m asl on the stream-cut Upper Miocene sandstone and clay hills above the Fosso Grande stream, which leads to the River Potenza (5 km away). 44 km inland from the coast.

179 Crispiero, Castel Raimondo

- ii) Unpublished material in the Pigorini Museum, no. 81532.
- iii) Surface find: 19th century.
- iv) Arrowhead (Fig. 136.17).
- v) Find-spot.
- vi) Arrowhead - 13,93,107 = Full Copper Age.
- vii) 124/IV/SE S. Severino Marche 45-84-.
- viii) Between c. 300 and 610 m asl on the Middle - Lower Miocene marl Crispiero hill, above the River Potenza (260 m asl, 2.5 km away). 52 km inland from the coast.

180 Fiastra, Camerino

- ii) Unpublished material in Perugia Museum, no. 2269.
- iii) Surface find: 19th century.
- iv) Arrowhead (Fig. 136.18).
- v) Find-spot.
- vi) 71,?BA = Copper Age - ? Bronze Age.
- vii) 124/III/SE Fiastra.
- viii) At c. 700 m asl, above the River Fiastra which leads to the River Chienti, and on the edge of the Monti Sibillini. 54 km inland from the coast.

181 Gaglianovo, S. Severino Marche

- i) Piangatelli 1970; S. Severino Museum.
- iii) Surface finds: 19th century.
- iv) A notched chert dagger and 11 arrowheads.
- v) Find-spot(s).
- vi) Arrowheads: -/80,81/80,83 /80,83/80/128,136/93,141/-/167/-/- = final Neolithic/early Copper Age - late Copper Age, but especially late Copper Age, and particularly close similarities to the late Copper Age arrowheads from Colle Montanari.
- vii) 124/IV/NE Castel S. Pietro.
- viii) Between ? c. 300 and 400 m asl on a Palaeogene calcareous marl hill above the Fosso Grande stream (c. 1 km away) and the River Potenza (c. 5 km away). 40 km inland from the coast.

182 Il Colle, S. Venanzio

- ii) Unpublished material in the Pigorini Museum, no. 6134.
- iii) Surface find: 19th century.
- iv) Polished axe (Fig. 145.5).
- v) Find-spot.
- vi) Axe - 6,10,21,42 = Early Neolithic - Bronze Age.
- vii) 124/IV/SE S. Severino Marche 50-82-.
- viii) Between c. 400 and 600 m asl on Palaeogene - Upper Cretaceous limestone by the Cesolone stream, which runs to the River Chienti (9 km away) (Fig. 102). 27 km inland from the coast.

183 La Maddalena, Muccia

- i) Lollini 1965; Corrain and Capitano 1968; Alessio et al. 1970; Evett and Renfrew 1971; Evett 1973; Barker 1975, 1981; Lollini 1979; Wilkens 1989: 4.
- iii) Excavations: 1962-5.
- ii) Ancona Museum.
- iv) Pottery (Fig. 7). Fabrics: coarse, fine, and very fine. Decoration: impressed (fingernail, finger, round point, all

over or in parallel lines), incised (parallel lines in V motif). Vessel forms: beaker with an oval body, heel base, and a small internal ledge handle; small bowl; flasks; carinated vessels; rare little stick handles; lugs.

Lithics: cores (from river pebbles), small blades, notched and denticulated blades, end scrapers on blades, geometrics, microburins, backed blades, truncations, burins, awls, points, grindstones.

Obsidian: scarce.

Bone industry: awls and points.

Plaster: very rare.

Faunal remains: Bos, Canis familiaris, Ovis or Capra, Sus, Cervus elaphus.

Plant remains: straw impressions in the plaster.

Human remains, from various parts of the site: skull (lacking the face), mandible, 4 vertebrae, sacrum fragment, rib fragments, scapula fragments, right humerus, right coxal bone, femurs, tibiae; belong to adult/s.

Features: cavities

v) Residential site.

vi) Earlier early Neolithic. C14 - 18.

vii) 124/III/SO Pieve Torina 425711.

viii) At 424 m asl on Middle - Lower Miocene marl by the River Chienti di Galagna (422 m asl, 0.1 km away), 1 km upstream from the point where it meets the River Chienti, and at the bottom of the Pieve Torina valley, surrounded by mountains, eg. Monte di Pietralata (c. 500-915 m asl, 0.6-4 km away) (Fig. 86, Plate 29). Modern land use: 35% arable/potentially arable, heavy soils, 65% arable/potentially arable, light soils; not very fertile soil, cereals and grazing in the valley, cereals, grazing and woodland on the adjacent hills. 60 km inland from the coast.

184 Lanciano, Castel Raimondo

ii) Unpublished material from the Pigorini Museum, no. 45253.

iii) Surface finds: 19th century.

iv) Arrowheads and a retouched blade.

v) Find-spot(s).

vi) Late Neolithic - Bronze Age.

vii) 124/IV/SO Castelraimondo.

Location. At c. 306 m on Pleistocene deposits or Upper

Miocene sandstone and clay at the head of the River Potenza. 54 km inland from the coast.

185 La Pisciarella, Serrapetrona

- i) Pigorini and Gnoli 1888.
- iii) Excavations: 19th century.
- iv) Pottery: a large quantity.
- Lithics: 100's of artefacts including - 4 arrowheads, 6 long retouched blades, a point, an awl, a side scraper, a retouched blade.
- Faunal remains.
- v) Residential site.
- vi) Late Neolithic - Copper Age.
- vii) 124/IV/SE S. Severino Marche 53-82-.
- viii) A little distance from Serrapetrona near to the small La Pisciarella spring, below Monte di Colleluce and 20-30 m above the Cesolone stream (Fig. 102). 47 km inland from the coast.

186 Laverino

- ii) Unpublished material in the Pigorini Museum, no. 6135.
- iii) Surface find: 19th century.
- iv) Polished stone axe (Fig. 146.1).
- v) Find-spot.
- vi) Axe - 10,27,42 = Early Neolithic - Bronze Age.
- vii) 123/II/NE Monte Pennino.
- viii) At c. 650 m asl on Palaeogene - Upper Cretaceous limestone, by a stream which feeds the River Potenza, and below Monte Pennino (1571 m asl, 3 km away) and Monte Vermenone (1364 m asl, 3 km away). 70 km inland from the coast.

187 Lucciano, Pieve Torina

- i) Lollini 1970: 422; Barker 1975; Lollini 1979: 47-8.
- ii) Ancona Museum.
- iii) Excavation: Lollini, 1970-1972.
- Stratigraphy: Iron Age cemetery, final Neolithic/early Copper Age deposits, Mesolithic deposits (lithics and faunal remains).
- iv) Pottery: tubular handles.
- Lithics: flakes.
- v) Residential site.
- vi) Final Neolithic/early Copper Age.
- vii) 124/III/SO Pieve Torina 416685.
- viii) At 461 m asl on Middle - Lower Miocene or Palaeogene marl by the River Chienti (445 m asl, 0.2 km away), between the Fosso Fontanello stream and another stream (both 0.2 km away), and below Monte di Pietralata (c. 500-915 m asl, 0.2-2.25 km away) (Fig. 86). Modern land use: 17% arable/potentially arable, heavy soils, 10% arable/potentially arable, light soils, 73 % pasture/rough

grazing; only a few cereals in the bottom of the Chienti valley, mainly grazing and wooded hillslopes. 62 km inland from the coast.

188 Madonna dell'Ospedale, Rio, Cingoli

- i) Silvestrini 1984: 345; Percossi and Silvestrini 1986: 28-29.
- ii) Unpublished material in Cingoli Museum.
- iii) Surface collection and excavation: 1975 and 1984.
- iv) Pottery. Fabric: coarseware. Vessel forms: flat base and a ring handle.
Lithics: points.
Faunal remains.
Features: a small sub-circular cavity and post-holes.
Plaster.
- v) Residential site.
- vi) Final Neolithic/early Copper Age.
- vii) 117/II/SO Cingoli 578001.
- viii) At 395 m asl on the end of Pleistocene terraced deposits at the junction of the Acquaviva stream with the Rudielle stream (0.1 km away), which becomes the Rio Chiaro stream and joins the River Potenza (14 km away), and below the Cima Mastro Luca (c. 400-716 m asl, 0.25-1.5 km away). 35 km inland from the coast.

189 Masciotto, Avenale - Rio

- i) Percossi and Silvestrini 1986: 28.
- iii) Surface collection: 1982.
- iv) Pottery: coarseware.
Lithics: cores, non-retouched flakes and blades, side scraper/point, bifacially flaked point, 2 denticulates, a little greenstone axe.
- v) Residential site.
- vi) Early Neolithic - Bronze Age.
- vii) 117/II/SO Cingoli 590005.
- viii) At 324 m asl on Pleistocene terraced deposits by the Rudielle stream (320 m asl, 0.2 km away) which becomes the Rio Chiaro stream and runs to the River Potenza (14 km away), and below the Cima Mastro Luca hill (c. 400-716 m asl). 34 km inland from the coast.

190 Matèlica

- i) Pigorini and Gnoli 1888: 46.
- ii) Unpublished material in Perugia Museum, nos. 309, 1612, 1778, 4715-6.
- iii) Surface finds: Gnoli, 1882-8.
- iv) 5 arrowheads (Fig. 137.1-5).
- v) Find-spot(s).
- vi) Arrowheads - 110/125, 153/-/89, 107, 153/- = final Neolithic/early Copper Age - late Copper Age, but especially final Neolithic/early Copper Age.

- vii) 124/IV/NO Matèlica 39/42-92-.
- viii) Between c. 360 and 500 m asl on Upper Miocene sandstone and clay alongside the Fosso di Braccano stream, which joins the River Esino (1-3 km away), and below the Colpaola hill (c. 400-590 m asl, 0.5-2 km away). 54 km inland from the coast.

191 Monteleone

- ii) Unpublished material in Perugia Museum, nos. 129, 6620, 6622.
- iii) Surface finds: 19th century.
- iv) 3 arrowheads (Fig. 137.6-8).
- v) Find-spot(s).
- vi) 38,62/-/79 = late Neolithic - late Copper Age.

192 Monte S. Angelo, Avenale

- i) Percossi and Silvestrini 1986: 30.
- iii) Surface finds: 1970's - 80's.
- iv) Lithics: including 1 arrowhead.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 124/I/NO Treia 562993.
- viii) At 525 m asl above the Rudielle stream on the side of the Jurassic limestone and marl Monte di S. Angelo (c. 400-709 m asl, 0.2-0.6 km away). 33 km inland from the coast.

193 Mummiola, Cingoli

- ii) Unpublished material in Cingoli Museum.
- iii) Surface finds: 1970's and 80's.
- iv) Pottery: 1 coarse sherd.
- Lithics: 1 arrowhead.
- v) Residential site.
- vi) Arrowhead - 14-17,39,43 = ? late Neolithic - final Neolithic/early Copper Age.
- vii) 117/II/SO Cingoli 54-06-.
- viii) Between 250 and 350 m asl on a Middle - Lower Miocene marl hill-slope above the River Musone (225 m asl, 1.25 km away), and below the Cingoli hill (630 m, 2.5 km away). 35 km inland from the coast.

194 Pantaneta, Camerino

- ii) Unpublished material in Perugia Museum, no. 4907.
- iii) Surface find: 19th century.
- iv) Arrowhead (Fig. 137.9).
- v) Find-spot.
- vi) Late Neolithic - Bronze Age.

195 Penna S. Giovanni

- ii) Unpublished material in the Pigorini Museum, no. 6177.
- iii) Surface find: 19th century.
- iv) Arrowhead (Fig. 137.10).
- v) Find-spot.
- vi) Arrowhead - 132 = Copper Age.
- vii) 124/II/SE Monte S. Marino 71-68-.
- viii) On the Upper Miocene sandstone and clay Penna S. Giovanni hill (c. 300-672 m asl), above and between the River Tennacola (255 m asl) and the Salino stream (235 m asl). 33 km inland from the coast.

196 Piampalente, Castel Raimondo

- i) Boccanera 1983: 43.
- ii) Unpublished material in Camerino Museum.
- iii) Surface finds: 19th century.
- iv) 42 arrowheads.
- v) Find-spot(s).
- vi) Arrowheads - 13,106,114/13,105/104,108,153,155,157
/80/47/13,160/84,85,93/78,96/147/84,85,93/-/-/40,44 /-
/84,85,95,106/34,37/-/-/79/47,53,143/73/-/144/158/-/-
/140/-/109,153/47/174/-/-/-/61/-/31,113/31,113/46,112/
31,113/31,113 = late Neolithic - final Neolithic/early
Copper Age, and Copper Age - late Copper Age.
- vii) 124/III/NO Camerino 40-79-.
- viii) Between c. 400 and 420 m asl on a Middle - Lower
Miocene marl hill-slope between the Rio di Palente stream
(which leads to the River Potenza 8 km away) and another
stream. 59 km inland from the coast.

197 Pian delle Mure, Serrapetrona

- i) Pigorini 1888; Boccanera and Corradini 1970: 79.
- ii) Unpublished material in the Pigorini Museum, no. 85095.
- iii) Surface finds: Gnoli, 1873.
- iv) Lithics: cores, a retouched blade, an end scraper, a
retouched flake/side scraper, and 2 arrowheads (Fig.
137.11-12).
- v) Lithic survey site.
- vi) Late Neolithic - Bronze Age.
- vii) 124/I/SO Tolentino 54-84-.
- viii) Between c. 425 and 500 m asl on the side of the Upper
Miocene sandstone and clay Colle Bonosa (c. 400-513 m asl),
and above the Cesolone stream (310 m, 0.5 km away) which
runs to the River Chienti (4.75 km away) (Fig. 102). 46 km
inland from the coast.

198 Podere del Tufo, Serrapetrona

- ii) Unpublished material in the Pigorini Museum, no. 85099-
100.
- iii) Surface finds: Gnoli, 19th century.

- iv) 2 arrowheads (Fig. 137.13-14).
- v) Find-spot(s).
- vi) Arrowheads: -/114,150 = final Neolithic/early Copper Age.
- vii) 124/IV/SE S. Severino Marche 52-82-.
- viii) Between c. 300 and 500 m asl on the Upper Miocene sandstone and clay hills flanking the Cesolone stream (310 m asl), which runs to the River Chienti (4-5 km away). 47 km inland from the coast.

199 Polverina, Camerino

- ii) Unpublished material in Perugia Museum, nos. 2281, 2283-4, 2286-8.
- iii) Surface finds: 19th century.
- iv) 6 arrowheads (Fig. 137.15-20).
- v) Find-spot(s).
- vi) Arrowheads - 39/45, 98, 125, 139//108, 132, 172 /-/170 = Late Neolithic - late Copper Age.
- vii) 124/III/NE Polverina 46-72-.
- viii) Between c. 375 and 500 m asl on the Middle - Lower Miocene marl Colle di Sentino hill-side, flanking the River Chienti (370 m asl). 55 km inland from the coast.

200 Porto Recanati

- ii) Unpublished material in the Pigorini Museum, no. 85117, and Perugia Museum, no. 3735.
- iii) Surface finds: 19th century.
- iv) 2 arrowheads (Fig. 137.21-2).
- v) Find-spot(s).
- vi) Arrowheads - 13, 156/- = Final Neolithic/early Copper Age - earlier full Copper Age.
- vii) 118/III/NE Loreto 91-09-.
- viii) Near to the point where the River Potenza joins the coast, either on the narrow coastal plain (0-5 m asl) or on the Holocene/Pleistocene clay hills flanking the coast (c. 5-122 m asl). 0-3 km inland from the coast.

201 Rangore, Strada

- i) Percossi and Silvestrini 1986: 41.
- iii) Surface collection: 1975 and 1978.
- iv) Lithics: core (flakes), blades, bladelets, flakes, side scraper, bifacial point, arrowhead.
- v) Lithic survey site.
- vi) Final Neolithic/early Copper Age - Copper Age.
- vii) 117/II/NO S. Maria Nuova 576098.
- viii) At 215 m asl on the Pleistocene terraces by the Marcianello stream (0.1 km away) and above the River Musone (200 m asl, 0.5 km away), and below the Colle di Catafolle (c. 275-345 m asl, 1-2 km away). 31 km inland from the coast.

202 Rocchetta, Parolito, S. Severino Marche

- i) Piangatelli 1970.
- ii) Unpublished material in S. Severino Museum.
- iii) Surface finds: Pascucci, 19th century.
- iv) Lithics: bladelets, blades, flakes, and arrowheads.
- v) Lithic survey site.
- vi) Final Neolithic/early Copper Age - Copper Age.
- vii) 124/I/SO Tolentino 55-87-.
- viii) Between 250 and 325 m asl on an Upper Miocene sandstone and clay hill-slope at the head of a stream which leads to the River Potenza (205 m asl, 1 km away), and below and surrounded by Colle Argento (450 m asl), Colle la Rocca (355 m asl) and Colle Sileoni (353 m asl). 42 km inland from the coast.

203 Serrone, S. Severino Marche

- i) Piangatelli 1970.
- iii) Surface finds: 19th century.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Copper Age.
- vii) 124/IV/NE Castel S. Pietro.
- viii) ? c. 400-500 m asl on stream-cut Upper Miocene sandstone and clay hills above the Fosso Grande stream which leads to the River Potenza (5 km away). 44 km inland from the coast.

204 S. Ginesio

- ii) Unpublished material in the Pigorini Museum, no. 6142.
- iii) Surface find: Tombolini, 1876.
- iv) Arrowhead.
- v) Find-spot.
- vi) Arrowhead - 166 = Copper Age - late Copper Age.
- vii) 124/II/NO S. Ginesio 63-74-.
- viii) Between c. 400 and 683 m asl on the stream-cut Upper Miocene sandstone and clay S. Ginesio hill. 40 km inland from the coast.

205 S. Maria del Rango, Avenale

- i) Percossi and Silvestrini 1986: 26-27.
- iii) Surface finds: 1972-1980.
- iv) Pottery.
- Lithics: cores, non-retouched flakes, a point, 2 end scrapers on flakes, a polished stone axe.
- 2 pierced shells.
- Plaster.
- v) Residential site.
- vi) ? Neolithic.
- vii) 117/II/SO Cingoli 584012.
- viii) Between 325 and 425 m asl on Pleistocene deposits on

the side of the Cima Mastro Luca hill (c. 400-716 m asl, 0.2-2 km away), and above the Rudielle stream (325 m asl, 1 km away), which becomes the Rio Chiaro stream and runs to the River Potenza (14 km away). 34 km inland from the coast.

206 S. Maria in Selva, Treia

i) Lollini 1965; Evett and Renfrew 1971; Barker 1975; Hallam et al. 1976; Wilkins 1989.

iii) Excavations: Lollini, 1961-2.

iv) Pottery. Fabrics: coarse, fine, and figulina (well represented). Decoration: 1 or 2 incised parallel rows comprising mostly triangles running horizontally under rims on interior of open bowls/plates, incised points, white-filled graffiti hatched triangles on interiors, applied little discs in row, a few sherds with traces of painting. Vessel forms: necked vessel with rim turned inside-out, globular jar with 2 vertically and doubly perforated lugs, spool handle with raised horn-like edges, truncoconical vessel with flat base and 2 horn handles, wide open truncoconical bowls/plates (with interior decoration), carinated bowls, 1 with Pan-pipe handle, little olla with globular body and small interior horizontal ring handle with corresponding pair of exterior lugs, ladles, spouts, ribbon handles.

Clay artefacts: disc-shaped spindle-whorls and weights.

Lithics: irregular blades, end scrapers on blades and flakes, oval bifacially flaked points, arrowheads, small polished stone axes, pebbles with drill holes, grindstones.

Obsidian. 2 small cores, and many other pieces.

Bone industry: awls, points, spatulae, needles, pierced animal teeth.

Shell industry: ornaments.

Copper: a few pieces.

Faunal remains: Bos taurus, Canis familiaris, Capra hircus, Ovis aries, Ovis or Capra, Sus scrofa domesticus, Bos primigenius, Capreolus capreolus, Cervus elaphus, Lepus europaeus, Lynx lynx, Meles meles, Sus scrofa scrofa, Testudo, Ursus arctos, birds.

Plant remains: Triticum aestivum, Hordeum.

Plaster: much.

Features. Group of about 15 cavities, and a round cavity located about 40 m away (3 m diameter).

v) Residential site.

vi) Final Neolithic/early Copper Age.

vii) 124/I/NE Macerata Ovest 690980.

viii) At 230 m asl on the top of the Pliocene clay and marl S. Maria in Selva hill (232 m asl), between the Rio Chiaro stream (125 m asl, 1 km away) and the Fosso Manocchietta stream (110 m asl, 1 km away), and above the River Potenza (100 m asl, 2 km away). Modern land use: 22% arable/potentially arable, heavy soils, 78% arable/potentially arable/heavy soils; olives (especially), cereals, and a few beans. Extensive views in all directions. 25 km inland from the coast.

207 Tavignano

i) Percossi and Silvestrini 1986: 47.

iii) Surface collection: 1964.

iv) Pottery: spool handle.

Lithics: 3 bladelet cores and 1 small awl.

Features: surface soil stain.

v) Residential site.

vi) ? Late Neolithic - Copper Age.

vii) 117/II/NO S. Maria Nuova 58-13-.

viii) Between c. 200 and 275 m asl on the side of a Pliocene clay and marl hill, above and between the River Musone (160 m asl, 0.75 km away) and the Fosso Umbricara stream (170 m asl, 0.5 km away), which meet 2 km away. 29 km inland from the coast.

208 Torre Beregna, Camerino

i) Pigorini and Gnoli 1888; Piangatelli 1970.

iii) Surface finds: Gnoli, 1882; excavations 1917: Ancona Museum.

iv) Pottery: a few coarse sherds.

Lithics: 100's; many blades, side scrapers, flakes, a stone 'amulet', and a triangular polished stone axe.

Hollows in the ground - probably chert quarrying pits.

v) Lithic survey site.

vi) Early Neolithic - Bronze Age.

vii) 124/IV/SE S. Severino Marche 472827.

viii) At 755 m asl on a Palaeogene calcareous marl hill at the head of numerous streams (eg. the Fosso di Lefegge, the Fosso la Vena, the Fosso di S. Eustachia, and the Cesolone), and between the River Potenza (270 m asl, 5 km away) and the River Chienti (320 m asl, 5 km away) (Fig. 102). 51 km inland from the coast.

209 Torrone, Troviggiano

- i) Percossi and Silvestrini 1986: 43-4.
- iii) Surface collection: Mosca, 1982.
- iv) Lithics: 2 cores (blades), blades, non-retouched flakes, a side scraper, and 2 arrowheads.
- v) Lithic survey site.
- vi) Late Neolithic - Bronze Age.
- vii) 117/II/SO Cingoli 594048.
- viii) At 225 m asl on Pleistocene deposits flanking the Fiumicello stream which runs to the River Musone (20 km away). 32 km inland from the coast.

210 Valle del Cesolone, Serrapetrona

- ii) Unpublished material in the Pigorini Museum, nos. 102839, 102840/1-10, 85105, 85108.
- iii) Surface finds: Gnoli, 19th century.
- iv) Lithics: cores (blades), 1123 flakes and blades, bladelets, an end scraper, and an arrowhead (Fig. 137.23).
- v) Lithic survey site.
- vi) Arrowhead - 47,52,67,148 = Final Neolithic/early Copper Age - late Copper Age, but especially final Neolithic/early Copper Age.
- vii) 124/IV/SE S. Severino Marche 479834 - 124/I/SO Tolentino 597837.
- viii) 12 km long stream which runs from Torre Beregna (700 m asl) to the River Chienti (200 m asl), across Palaeogene - Upper Cretaceous limestone, Middle - Lower Miocene marl, and Upper Miocene sandstone clay.

211 Valle di Lapidoso, Castel Raimondo

- ii) Unpublished material in the Pigorini Museum.
- iii) Surface finds: Santori, 19th century.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 124/IV/SO Castelraimondo.

212 Valle Potenza

- ii) Unpublished material in the Pigorini Museum.
- iii) Surface finds: Beri, 19th century.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age
- viii) River Potenza valley.

213 Via Duomo, 109, La Svolta, Recanati

i) Lollini 1968: 413; Lollini and Capitanio 1970.

ii) Ancona Museum.

iii) Chance find: 1968.

iv) Human remains. Burial of 2 adult males, placed with their heads to the east, in a pit (oval plan and concave base, 1.75 x 1.14 x 0.31 m) with pottery vessels, 1 retouched blade (13.6 cm long), and 4 arrowheads; and second pit (oval with a flat base, 1.28 m long x 0.46 m deep) containing brown soil, a few animal bones, and 1 piece of worked flint.

Pottery. Fabric: fine dark burnished ware. Vessel forms: globular vessel with neck and 2 vertical tubular handles, large slightly convex-walled vessel (? beaker).

Lithics: 4 arrowheads and 1 retouched blade.

Faunal remains: Capra, Canis lupus or familiaris.

v) Human burial site.

vi) Copper Age.

vii) 118/III/SO Recanati 809045.

viii) At 121 m asl on a Pliocene clay and marl hill (c. 75-206 m asl) between the S. Antonio stream (0.4 km away) and the Fosso Ricale stream (0.75 km away), and above the River Potenza (45 m asl, 1.75 km away) (Fig. 101). Extensive view over the River Potenza valley. 12 km inland from the coast.

214 Villa Potenza

ii) Unpublished material in Bologna Museum.

iii) Mattozzi, 19th century.

iv) Tomb.

2 arrowheads (Fig. 137.24-5) and a polished stone axe (Fig. 146.2).

v) Human burial site.

vi) Arrowheads - 65,77,81,132,175/ 33,85,106; axe - 26 = Final Neolithic/early Copper Age - late Copper Age.

vii) 124/I/NE Macerata Ovest 72-98-.

viii) Between c. 85 and 200 m asl by the River Potenza, either on the Holocene fluvial deposits, or on the Pliocene clay and marl hills either side of the River. 22 km inland from the coast.

ANCONA

215 Appurano, Arcevia

- i) Brizio 1899b: 621.
- iii) Surface finds: Moriconi, 1890's.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 117/III/NO Serra S. Quirico 355158.
- viii) At c. 600 m asl on the side of the Palaeogene - Upper Cretaceous limestone Colle Casanuvola (710 m asl, 1 km away), and above the Fosso di Colle di Corte stream (385 m asl, 0.3 km away), which eventually runs to the River Misa (9 km away) (Fig. 103). 34 km inland from the coast.

216 Aquatina, Attiggio, Fabriano

- i) Lollini 1959: 320; Lollini 1965; Barker 1975; Lollini 1978: 96; Wilkens 1989.

ii) Ancona Museum.

iii) Excavations: Lollini, 1958-9.

Stratigraphy (bottom to top): Stratum 6 - Final Neolithic/early Copper Age, 5 - sterile, 4 - Late Copper Age.

Stratum 6

iv) Pottery. Fabrics: coarse and fine dark burnished. Decoration: applied (little discs and lugs in row under rim, cordons), impressed (finger under rim or in rows on body, fingernail-impressed rim, small triangular points in rows), cordon with vertical incisions/impressions, graffiti (on interior and exterior of bowls/plates, hatched triangles, hatched bands forming V's), horizontal grooves, ? all over red paint/slip. Vessel forms - bowls (truncoconical, spherical, carinated), bowl/plate, little globular jar with short neck, cylindrical vessel with rim turned inside-out, pouring lips, flat bases, spool handles, ribbon handles with small holes, lugs, some vertically pierced.

Lithics: numerous cores (bladelets), bladelets and regular blades (maximum length 8 - 9 cm), end scrapers, awls, bifacially flaked points, arrowheads, a transverse arrowhead, one small polished axe, a hammer stone, grindstones, and a disk-shaped spindle whorl.

Bone industry: awls and points, pierced teeth, boar's tusk pendants, cylindrical necklace elements.

Ochre: relatively abundant.

Shell pendant: crescentic, with 2 holes at each end.

Copper: 1 fragment.

Plaster, some with impressions (2 cm diameter).

Faunal remains: Bos taurus, Canis familiaris, Capra hircus, Ovis aries, Ovis or Capra, Sus scrofa domesticus, Capreolus capreolus, Cervus elaphus, Lepus europaeus, Martes, Sus scrofa scrofa.

v) Residential site.

vi) Later final Neolithic/early Copper Age. C14 - 22.

Central level

iv) Pottery. Fabric: fine dark. Decoration: fingernail-incised cordon, point impression. Vessel forms: short-necked ovoid vessel, bowl with out-turned rim, spool handle, carinated bowls, lugs.

Lithics: blades and bladelets, arrowheads, polished axe, and a spindle whorl.

Bone industry: awls, a fragment with parallel incised lines.

Shell pendant: crescentic, with a hole at each end.

v) Residential site.

vi) Later final Neolithic/early Copper Age.

Stratum 5 - sterile.

Stratum 4

vi) Pottery. Fabrics: coarse, finer, and fine blackish. Decoration: applied scales of clay, impressed (fingernail and finger), scratched, incised lines. Vessel forms: flasks (handled jug), carinated vessels with tongue lugs, spouts, strainers, ribbon handles, lugs (some vertically pierced).

Lithics: blade fragments, 3 arrowheads, and grindstones.

Bone industry: awls and a boar's tusk pendant.

Faunal remains: Bos taurus, Canis familiaris, Capra hircus, Ovis aries, Ovis or Capra, Sus scrofa domesticus.

v) Residential site.

vi) Copper Age.

vii) 123/I/NE Esanatoglia 313968.

viii) At 404 m asl on Palaeogene - Upper Cretaceous limestone and marly limestone between the Fosso di Argignano stream (0.1 km away) and another stream (0.1 km away), which meet by the site (0.2 km away), at the head of a valley below and between Monte Fano (889 m asl) and Monte Alto (921 m asl). The Fosso di Argignano eventually joins the River Esino (9 km away). Modern land use: 90% arable/potentially arable, light soils, 10% pasture/rough grazing. 52 km inland from the coast.

217 Avacelli, Arcevia

- i) Brizio 1899b: 621.
- iii) Surface finds: Moriconi, 1890's.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 117/III/NO Serra S. Quirico 368149.
- viii) At 440 m asl on Palaeogene - Upper Cretaceous limestone and marly limestone in a hollow between Colle Busco (575 m asl, 0.6 km away) and the Castello hill (489 m asl, 0.7 km away), and between the Fosso del Fossato stream (0.4 km away) and the Fosso di Fugiano stream (0.25 km away). 34 km inland from the coast.

218 Belvedere Ostrense - Ostra

- ii) Unpublished material in the Pigorini Museum.
- iii) Surface find: 19th century.
- iv) Polished stone axe (Fig. 146.6).
- v) Find-spot.
- vi) Early Neolithic - Bronze Age.
- vii) 117/IV/SE Belvedere Ostrense - 117/IV/NE Ostra.
- viii) Between 85 and 251 m asl on Pliocene clay and marl hills. 12-15 km inland from the coast.

219 Berbentina, Sassoferrato

- i) Lollini 1965; Barker 1975; Lollini 1978: 98.
- ii) Ancona Museum.
- iii) Excavation: Lollini, 1961.

Stratigraphy: stratum 2 - Final Neolithic/Early Copper Age, stratum 1 - Full Copper Age, with continuity between them.

Stratum 1

- iv) Pottery decoration: applied scales of clay. Copper Age.

Unspecified context

iv) Pottery. Fabrics: coarse and fine dark burnished. Decoration: deep vertical incisions/impressions on cordons, finger- and fingernail-impressed cordons, applied folded cordons in 2 rows, bands of finger impressions, groups of lugs under rims. Forms: carination, lugs (1 vertically pierced, tongue), ribbon and ring handles.

Lithics: small core, bladelets, retouched blades (1 long), flakes, end scrapers, points, borer, arrowheads, spindle-whorls.

Bone industry: an awl.

Faunal remains: Bos, Ovis or Capra, Sus scrofa.

v) Residential site.

vi) Final Neolithic/early Copper Age - full Copper Age.

vii) 116/II/SE Fabriano 262086.

viii) At 322 m asl on the edge of a wide and flat Pleistocene fluvial terrace by the Marena stream (0.1 km away), which runs to the River Sentino (2.4 km away) (Plate 30). Modern land use: 31% arable/potentially arable, heavy soils, 69% arable/potentially arable, light soils; cereals, vines, and grazing. 46 km inland from the coast.

220 Borgo Tufico, Fabriano

i) Silvestrini 1977; Alianiello 1982-3.

iii) Surface collection and rescue excavation (32 m² area), Silvestrini, 1976.

iv) Pottery. Coarseware: truncoconical bowls, ovoid and cylindrical vessels with finger impressions. Fineware: red and black burnished, ribbon and ear handles.

Lithics: "an exceptional quantity of debitage", blades, bladelets, flakes, denticulates, side scrapers, end scrapers, bifacially flaked points, arrowheads, hammer stones. Possible chert quarry nearby.

Faunal remains.

Human remains: scattered.

Features: 2 circles of stones (both 0.5 m external diameter, 0.25 internal diameter).

v) Residential site.

vi) Final Neolithic/early Copper Age.

vii) 117/III/SO Albacina 37-01-.

viii) At c. 250 m asl on Middle - Lower Miocene marl near to the point where the Giano stream meets the River Esino, and below Monte le Cone (607 m asl). 53 km inland from the coast.

221 Bosimano

- i) Brizio 1899b: 621.
- iii) Surface find: Anselmi, 1890's.
- iv) Coarseware sherds.
An arrowhead.
- v) ? Residential site.
- vi) Late Neolithic - Bronze Age.
- vii) 117/III/NO Serra S. Quirico 353154.
- viii) At 650 m asl on the side of the Palaeogene - Upper Cretaceous limestone Colle Casanuvola (710 m asl), and above the Fosso di Colle di Corte stream (425 m asl, 0.4 km away) (Fig. 103). 34 km inland from the coast.

222 Buzzetto, Castelplanio

- i) Unpublished material in the Pigorini Museum, no. 30730.
- iii) Surface find: 19th century.
- iv) Arrowhead (Fig. 138.1).
- v) Find-spot.
- vi) Arrowhead - 163 = Copper Age - late Copper Age.
- vii) 117/III/NE Cupramontana 45-17-.
- viii) Between c. 125 and c. 400 m asl on stream-cut Pliocene sand and conglomerate hills above the River Esino (115 m asl, c. 1.5 km away). 26 km inland from the coast.

223 Campograsso, Castelfidaro

- i) Percossi Serenelli and Silvestrini Lavagnoli 1984-6: 375, 382.
- iii) Excavation: Silvestrini, 1985.
- iv) Pottery: coarse with scaled decoration.
Faunal remains.
Features: numerous dark surface soil stains, and a cavity.
Plaster.
- v) Residential site.
- vi) Copper Age - Bronze Age.
- vii) 118/III/NO Osimo 822117.
- viii) At 32 m asl at the point of junction of a minor stream and the Fosso Vallato stream, which runs along the edge of the River Musone floodplain (25 m asl, 1 km away), and below the Castelfidaro hill (199 m asl, 2 km away).
Modern land use: vineyard. 8 km inland from the coast.

224 Cartiere Miliani, Fabriano

- i) Dall'Osso 1915: 17.
- iii) Surface finds: 19th - early 20th century.

iv) Pottery: similar to that from S. Biagio.

4 spindle-whorls.

Lithics: flakes, blades, arrowheads.

v) Residential site.

vi) ? Final Neolithic/early Copper Age.

vii) 116/II/SE Fabriano 317038.

viii) At c. 424 m asl, on the side of the Middle - Lower Miocene marl Colle S. Lucia (506 m asl, 0.6 km away), above a stream (320 m asl, 0.4 km away) which runs to the Giano stream (280 m asl, 1.4 km away). 57 km inland from the coast.

225 Cava Giacometti, S. Giovanni Battista, Arcevia

i) Puglisi 1965a: 373; Alessio et al. 1967; Lollini 1978: 95; Moscoloni 1987.

ii) Ancona Museum.

iii) Excavations: Puglisi, 1964-5, 2 soundings.

Stratigraphy: Level 6 - Full Copper Age, 7 - Final Neolithic/early Copper Age.

Level 7

iv) Pottery vessel forms: bowls (carinated, truncoconical, slightly convex), carinated vessels, lugs (vertically pierced, double).

4 clay weight fragments (1 conical with a transverse hole, 3 disk-shaped).

Lithics: retouched blades, side scrapers, end scrapers, burins, beaks, awls, points, backed points, arrowheads, transverse arrowhead, little flaked axes and chisels.

2 bone awls.

Faunal remains: Ovis or Capra, Bos, Cervus elaphus.

v) Residential site.

vi) Final Neolithic/early Copper Age.

Level 6

iv) Pottery. Fabrics: coarse and fine. Decoration: scaled, fingernail and square impressions. Vessel forms: truncoconical bowls, semiovoid vessels, flasks with biconical bodies.

Lithics: blades, end scrapers, burins, beaks, awls, arrowheads, bifacially flaked little axes.

Faunal remains: Bos, and wild species.

v) Residential site.

vi) Copper Age.

vii) 116/I/SE Pèrgola 340197.

viii) At 350 m asl on the edge of a Jurassic limestone and marly limestone hill (676 m asl, 1.3 km away) between two small streams above the Fosso delle Grazie stream (310 m asl, 0.1 km away), which runs to the River Névola (12 km away) (Fig. 103). 34 km inland from the coast.

226 Caverna di Frasassi

i) Strobel 1880; Pigorini 1895; Brizio 1899b: 636-640; Dall'Osso 1915; Rellini 1931b: 171-6, 224-8.

ii) Ancona Museum.

iii) Excavations: Pigorini, 1872; Scarabelli, 1879; Rellini 1903 and 1910; Lollini, 1962 and 1968.

No stratigraphy established.

iv) Pottery. Wide curving red painted band on a straight-walled vessel with 5 drill holes.

v) Cave site.

vi) Middle - late Neolithic.

vii) 117/III/SO Albacina 346079.

viii) At 380 m asl on the side of the Jurassic limestone Monte di Frasassi (708 m asl, 0.3 km away) above the Sentino stream (215 m asl, 0.2 km away) and gorge, and 1.5 km away from the point where the Sentino stream joins the River Esino (Fig. 85). 40 km inland from the coast.

227 Cerreto, Fabriano

ii) Unpublished material in Perugia Museum, nos. 2268, 5338.

iii) Surface finds: 19th century.

iv) 2 arrowheads (Fig. 138.2-3).

v) Find-spot(s).

vi) Arrowheads - BA/45,98,172 = final Neolithic/early Copper Age - Bronze Age.

vii) ? 116/II/SE Fabriano.

228 Col d'Api, Sassoferrato

i) Rellini 1909-10: 46, 22.

iii) Surface finds.

iv) Lithics: cores, blades, bladelets, 3 arrowheads, dagger/blade fragment.

v) Lithic survey site.

vi) Final Neolithic/early Copper Age - Copper Age.

vii) 116/II/NE Sassoferrato 30-14-.

viii) At c. 436 m asl on the stream-cut Middle - Lower Miocene marl hillslope of Colle Beccaceci (517 m asl, 1 km away), by the Fosso Niegola stream (360 m asl, 0.3 km

away), and above the River Sentino (250 m asl, 2.7 km away). 38 km inland from the coast.

229 Coppetella, Jesi

i) Lollini 1963: 322; Barker 1975; Wilkens 1989.

ii) Ancona Museum.

iii) Excavation: Lollini, 1963.

iv) Pottery: coarseware sherds.

A 'pintadera' fragment.

Lithics.

Obsidian.

Bone industry.

Faunal remains: Bos taurus, Canis familiaris, Capra hircus, Ovis aries, Ovis or Capra, Sus scrofa domesticus, Bufo, Capreolus capreolus, Cervus elaphus, Chamelea gallina, Lepus europaeus, Lynx lynx, Meles meles, Testudo/Emys, small ruminants, Sus scrofa scrofa, Ursus arctos.

v) Residential site.

vi) Final Neolithic/early Copper Age.

vii) 117/I/SO Jesi 63/4-24/5-.

viii) At c. 35 m asl on Holocene deposits by the River Esino, with Pleistocene terraces then the Pliocene sand and conglomerate Monte S. Vito hills (c. 75-173 m asl, 5 km away) behind. Modern land use: 100% arable/potentially arable, heavy soils; cereals, beans and a few vines. 10 km inland from the coast.

230 Donatelli, Colleponi, Genga

i) Tongiorgi 1956: 536; Lollini 1956: 250; Puglisi 1959; Lollini 1965; Barker 1975; Wilkens 1987.

ii) Ancona Museum.

iii) Excavations: Puglisi, 1954 (trench) and 1956.

iv) Pottery. Fabric: coarse and fine blackish. Decoration: finger impressions around rims. Vessel forms: spool handles, spool handles with horn appendages, narrow neck on a globular vessel, spool lug pierced vertically by 2 holes, carinated bowl.

Lithics: cores, flakes and blades, truncated blades, bladelets, rhomboids, points, end scrapers, arrowheads.

Obsidian bladelets.

Bone industry: flint blade hafted in a bone handle.

Faunal remains: Bos taurus, Canis familiaris, Ovis aries, Ovis or Capra, Sus scrofa, Bos primigenius, Capreolus capreolus, Cervus elaphus, Meles meles, Ursus arctos.

Features: cavities.

v) Residential site.

vi) Final Neolithic/early Copper Age.

vii) 116/II/NE Sassoferrato 30-11-.

viii) At c. 316 m asl on Pleistocene deposits by the Sentino stream (245 m asl, 0.5 km away), and below Colle Casaloppa (745 m asl, 1.5 km away) (Fig. 85). Modern land use: 47% arable/potentially arable, heavy soils, 53% arable/potentially arable, light soils. 40 km inland from the coast.

231 Fabriano

ii) Unpublished material in the Pigorini museum, no. 63299, and Perugia Museum, nos. 2007, 2367.

iii) Surface finds: De Rossi, 19th century.

iv) Lithics: polished stone axe (Fig. 146.3), and 3 arrowheads (Fig. 138.4-5).

v) Find-spot(s).

vi) Axe - 14; arrowheads - 75/158/34,93 = Late Neolithic-late Copper Age.

vii) 116/II/SE Fabriano.

viii) Location. At c. 300 m near to the Giano stream. 49 km inland from the coast.

232 Fienili, Castelplanio

ii) Unpublished material in the Pigorini Museum, nos. 6119-6121, 6124.

iii) Surface finds: Colini, 19th century.

iv) Lithics: 2 small polished axes (one with a hole) (Fig. 146.4-5) and 4 arrowheads (Fig. 138.6-9).

v) Find-spot(s).

vi) Arrowheads - 112,113,127/124/116,143/- = Final Neolithic/early Copper Age, with particularly close similarities to arrowheads from stratum 6 at Aquatina.

vii) 117/III/NE Cupramontana 45-17-.

viii) Between c. 125 and c. 400 m asl on stream-cut Pliocene sand and conglomerate hills above the River Esino (115 m asl, c. 1.5 km away). 26 km inland from the coast.

233 Filetto, Ostra

- i) Rellini 1923: 385.
- vi) Neolithic - Copper Age site.
- viii) At c. 150 m asl on a Pliocene clay and marl hill-slope flanking the River Misa. 8 km inland from the coast.

234 Fondo Argentini, Pianello, Genga

- i) Rellini 1931a and b, 1933; Lollini 1978: 96; and unpublished material in Ancona Museum.
- iii) Excavations: Rellini, 1930 (12 m² area), and Lollini, 1962.
- iv) Pottery. Fabrics: red and grey. Decoration: cordons. Vessel forms: ollas, tongue and ring handles, little lugs (linked to pottery from Fondo Coccia lower IV). Lithics: cores, flakes, small side scrapers, and an arrowhead. Faunal remains. Features: cavities.
- v) Residential site.
- vi) Final Neolithic/early Copper Age.
- vii) 116/II/SE Fabriano 33-08-.
- viii) At c. 235 m asl on Palaeogene - Upper Cretaceous limestone and marly limestone by the Sentino stream (230 m asl, 0.1 km away), on the edge of the Colle S. Angelo (558 m asl, 0.8 km away). 41 km inland from the coast.

235 Fondo Coccia, Pianello, Genga

- i) Rellini 1931a and b, 1933; Lollini 1978: 96.
- ii) Unpublished material in Ancona Museum.
- iii) Excavations: Rellini: 1912-3 and 1930 (15 m² area), Lollini 1962 and 1965.

Stratigraphy: stratum I and II - Bronze Age; sterile layer; stratum III, thin black layers with charcoal and ashes and minute stones, 0.45-1.0 m thick - later final Neolithic/early Copper Age; sterile layer of hill-slope material, 0.8-2.35 m thick; stratum IV, sand and clay soil, pebbles and charcoal, 0.6-1.1 m thick - earlier final Neolithic/early Copper Age.

Stratum III

- iv) Pottery. Fabrics: coarse (especially) and blackish finer ware. Vessel forms: a small cup with an inverted mouth, truncoconical bowls, carinated bowls, globular vessels with inverted mouths, small ring handles, tubular ring handles, tongue lugs. Decoration: finger-impressed cordon placed under the rim, pleated and incised ribbon of clay applied under the rim, applied lugs. Lithics: 3 arrowheads (Fig. 50.70-72), 4 points, 1 awl, 2

bladelet cores, bladelets, thin blades, 1 limestone ring, 2 maceheads, 1 piece of grey pumice, 1 grindstone.

Bone industry: awls, spatulae.

v) Residential site.

vi) Later final Neolithic/early Copper Age.

Stratum IV

iv) Pottery. Grey-brown and reddish coarseware (especially), 3 sherds of plain figulina.

Lithics: especially white chert, cores (many), flakes, non-retouched bladelets, truncated bladelets, 1 arrowhead, 1 small ground limestone axe, 1 piece of dark grey pumice.

Plaster.

Faunal remains.

v) Residential site.

vi) Earlier final Neolithic/early Copper Age.

vii) 116/II/SE Fabriano 333082.

viii) At 232 m asl on Palaeogene - Upper Cretaceous limestone and marly limestone by the Sentino stream (230 m asl, 0.2 km away), on the edge of the Colle S. Angelo (558 m asl, 0.8 km away) (Fig. 85). 41 km inland from the coast.

236 Fosso Betellico

i) Bevilacqua 1874: 9.

iii) Surface finds: Bevilacqua, 1872.

iv) Lithics: including 'large weapons'.

v) Find-spot.

vi) Copper Age - Bronze Age.

vii) 118/IV/SO Camerano - 118/IV/SE Numana.

viii) Major stream which runs from 350 m asl on the Monte Conero (476 m asl), around the edge of Monte Conero and Monte Colombo (247 m asl), to the River Aspigo (10 m asl) (Fig. 85). 1-4 km inland from the coast.

237 La Gradina, Monte Colombo

i) Bevilacqua 1874: 11.

iii) Surface find: Bevilacqua, 1873.

iv) Arrowhead.

v) Find-spot.

vi) Late Neolithic - Bronze Age.

vii) 118/IV/SO Camerano and 118/IV/SE Numana 84/5-20/22-.

viii) Between c. 100 and 212 m asl on the Middle - Lower Miocene marl La Gradina hills, which lie on both sides of the Betellico stream. 3-4 km inland from the coast.

238 Genga

ii) Unpublished material in the Pigorini Museum, 6173-4, 80324.

- iii) Surface finds: 19th century.
- iv) 3 arrowheads (Fig. 138.10-12).
- v) Find-spot(s).
- vi) Arrowheads - 64,89,160/94,138,162/- = Final Neolithic/early Copper Age - late Copper Age.
- vii) 116/II/NE Sassoferrato 32-10-.
- viii) At c. 300 m asl on Palaeogene - Upper Cretaceous limestone and marly limestone above and between the Fosso S. Francesco stream and the major Sentino stream, which meet nearby (240 m asl, 0.4 km away) (Fig. 85). 40 km inland from the coast.

239 Grotta dei Baffoni, S. Vittore di Frasassi

- i) Radmilli 1953; Radmilli 1956a; Barker 1975.
- ii) Ancona Museum.
- iii) Excavations: Radmilli, 1951-2 and 1954.

Stratigraphy: Stratum E (spits 15 - 17, 2.3 - 2.8 m) = Copper Age; F (spits 18 - 21) = ? final Neolithic/early Copper Age.

Stratum E

iv) Pottery. Fabrics: coarse and black burnished. Decoration: horizontal cordon, finger impressions placed horizontally under the rim. Vessel forms: flat and small foot bases, some strongly flared walls, flattened or pairs of lugs, strap and ribbon handles.

Lithics: 1 blade core, 8 flakes, 2 retouched flakes, 2 bladelets.

Irregular baked clay piece with small hollow containing a fragment of copper.

Faunal remains: Sus, Bos, Ovis or Capra, Capra ibex, Capreolus capreolus.

Human remains.

Features: greyish soil and stones, frequent stalagmitic crusts, and a few hearths.

v) Cave site.

vi) Copper Age.

Stratum F

iv) Pottery. 5 sherds of a fine red/grey fabric.

Lithics: 4 cores (2 bladelets, 1 flake, 1 large), end scraper, 2 retouched blades.

Faunal remains (in spits 18-19): Bos, Ovis or Capra, Sus scrofa, Canis lupus, Capra ibex.

Human remains.

v) Cave site.

vi) ? Final Neolithic/early Copper Age.

vii) 117/III/SO Albacina 352076.

viii) At 280 m asl on the side of the Jurassic limestone Monte di Frasassi (708 m asl, 0.9 km away), at the start of the Sentino gorge, 1 km away from the point where the Sentino stream meets the River Esino (Fig. 85). Modern land use: 2% arable/potentially arable, heavy soils; 13% arable/potentially arable, light soils; 85% pasture/rough grazing. 40 km inland from the coast.

240 Grotta del Mezzogiorno, Frasassi

i) Puglisi 1956; Tongiorgi 1956; Barker 1975.

ii) Ancona Museum.

iii) Excavations: Puglisi, 1954.

Stratigraphy: Stratum IIb (spit 6) = Bronze Age (and ? late Copper Age); (spit 7) = ? sterile; stratum I (spits 8-12).

Stratum I

iv) Pottery. Fabric: coarse. Vessel forms: flat or raised bases, ring handles, lugs (single or pairs).

Lithics: cores, blades and flakes, side scraper on a blade, end scraper, points, disc with a central hole.

Faunal remains: Bos, Ovis, ? Canis.

Features: a shallow layer of grey soil and crushed limestone.

v) Cave site.

vi) Copper Age.

vii) 117/III/SO Albacina 351078.

viii) At 475 m asl on the side of the Jurassic limestone Monte di Frasassi (708 m asl, 0.9 km away), at the start of the Sentino gorge, and 1 km away from the point where the Sentino stream meets the River Esino. Modern land use: 11% arable/potentially arable, light soils; 89% pasture/rough grazing. 40 km inland from the coast.

241 Grotta del Prete, Pianello

- i) Alessio et al 1970: 602.
- iii) Excavations: 1913; Lollini 1962, 1966.
- iv) 'Sub-Eneolithic' pottery found in the debris outside the cave; stratified and radiocarbon-dated Mesolithic deposits in the cave.
- v) Cave site.
- vi) 116/II/SE Fabriano 336080.
- viii) At c. 228 m asl at the western end of the Sentino gorge and at the bottom of Monte Civitella (Fig. 85). 41 km inland from the coast.

242 I Fossi, Pianacci, Genga

- i) Lollini 1964: 308; Lollini 1968: 414.
- ii) Ancona Museum.
- iii) Excavations: Lollini, 1964 and 1968.

Stratigraphy: upper level, central stratum, lower level.

Lower level

iv) Pottery. Fabrics: coarse and fine. Decoration: applied discs around rim, finger and fingernail impressions on and under rims. Vessel forms: double lug, lugs, tongue lug, ring handle with 2 vertical grooves, wide ribbon handle, flat base.

Lithics: cores, flakes, points, and numerous arrowheads (Fig. 55).

Pierced shell pendant.

Features: numerous cavities.

v) Residential site.

vi) Final Neolithic/early Copper Age.

Central stratum

iv) Pottery: ring handle and a carinated sherd in a finer fabric.

Lithics: flakes, a blade, and arrowheads (Fig. 56.158-60).

Plaster.

Features: numerous cavities.

v) Residential site.

vi) Copper Age.

vii) 116/II/NE Sassoferrato 340128.

viii) At 354 m asl on a Palaeogene calcareous marl hill-slope between two streams which run to the Fosso S. Francesco stream (300 m asl, 0.6 km away), which in turn joins the River Sentino (2.6 km away), and below Monte Piano (628 m asl, 1 km away) and Colle Ameno (793 m asl, 1.4 km away). 37 km inland from the coast.

242 Le Conce, Arcevia

i) Brizio 1899b: 622; Ornella Acanfora 1944-5.

iii) Surface finds: Brizio, 19th century.

iv) Pottery.

Lithics: blades, scrapers, arrowheads, small bifaces, a macehead, broken hammers with holes, and 1 disc-shaped spindle-whorl.

Bone industry.

Features: soil stains.

v) Residential site.

vi) Copper Age - Bronze Age.

vii) 116/I/SE Pèrgola 34-19-.

viii) At 300-400 m asl below the Jurassic limestone and marl Arcevia hill (553 m asl, 0.5 km away), by a stream (0.1 km away) which runs to the River Misa (200 m asl, 2.25 km away) (Fig. 103). 33 km inland from the coast.

243 Le Conelle, Arcevia

i) Pigorini 1879; Brizio 1891; Colini 1892: 159-160; Colini 1896: 9; Brizio 1899b: 623-631; Dall'Osso 1915: 25-6, 422; Rellini 1916: 524-5; Ornella Acanfora 1944-5; Puglisi 1959: 36; Cornaggia Castiglione 1962-3: 33; Lollini 1964: 307; Puglisi 1965b; Barker 1975; Cazzella 1987; Wilkins 1987.

ii) Ancona Museum.

iii) Surface collection and excavations: Monti and Anselmi, 1879 (Bronze Age settlement); Dall'Osso, 1909 (Copper Age vessel); Mosso, 1910 (Bronze Age settlement); Rellini, c. 1910; Puglisi, 1958-1969 (Copper Age ditch).

Ditch (general)

iv) Pottery. Fabrics: coarse and fine black burnished. Decoration: finger impressions, cordons, applied rosettes, denticulated rims, bands of points without lines converging at angles and leaving empty spaces, large points, curving bands, white encrustation.

Vessel forms: jug (brocca), 2 ribbon handles with lunate apex, lugs (rectangular, dentellated), truncoconical bowls, ovoid/cylindrical vessels with inturned rims, askoidal vessels with pourers on the rims, cylindrical spouts, jugs with oblique rims, pierced tongue lugs on bowl rims, ring handles on truncoconical cup rims, bowl with a very wide

ribbon handle with a hole (? ladle).

Clay artefacts: spindle-whorls decorated with radial motifs of lines, points and circles.

Lithics: blades, bladelets, flakes, arrowheads (Figs. 67.161-5 and 68), a dagger, c. 10 hammer axes (Fig. 74.32-41), a mace-head.

Bone industry: a wrist-guard, awls, spatulae, deer horn adzes, pierced boars' teeth.

Copper fragment.

Faunal remains: Bos taurus, Canis familiaris, Capra hircus, Ovis aries, Ovis or Capra, Sus scrofa domesticus, Bufo, Corvus corone cornix, Lepus, Canis lupus, Capreolus capreolus, Cervus elaphus, Martes, Meles meles, Sus scrofa scrofa, Ursus arctos, Vulpes vulpes, Rumina decollata, Monacha cartusiana, Cernuella virgata.

Features: a ditch (Fig. 107) (6 m deep and 130 m long), which runs across the neck of the Conelle hill, from the Acquaviva stream to the Fosso di Monte Fortino stream. Ditch stratigraphy: 11 layers which were recorded as 5 main phases: A and B (upper), and C, D, and E (middle and lower). A - soil with a little clay; B - mixed deposit with little clay; C - soil with little clay; D - much clay; E - clay.

Lower levels (phases E-D)

iv) Pottery. Fabrics: coarse (83%), fine grey and yellow (11%), and fine black burnished (6%). Decoration: finger-impressed rims, cordons and bodies; impressed lugs and rosettes; segmented cordons. Vessel forms: cups (straight sided and inturned, with handles, including high ribbon, or lugs, truncoconical with pourers), truncoconical bowls with lugs, ovoid jugs and vessels, closed asymmetric askoidal form.

v) Residential site.

vi) Earlier full Copper Age.

Middle and upper levels (phases C-A)

iv) Pottery. Fabric: coarse (73%), fine grey and yellow, fine black burnished (14%). Decoration: impressed rims and cordons (increase), finger impressed walls (decrease), impressed lugs, applied rosettes (decrease), segmented cordons (decrease), point-impressed (new) (in bands, metope, triangle, single row, bordered by incised lines). Vessel forms: straight-sided and truncoconical cups (increase), inturned carinated cups (decrease), truncoconical cups with wide raised slab handle with hole, hemispherical bowls, ovoid jugs (decrease), increased range

of closed forms: closed asymmetric askoidal form, wide-bodied ollas, small globular or biconical ollas with short necks, wide vessel with high cylindrical neck, ovoid jug with cut mouth, conical lids, lugs (increase).

v) Residential site.

vi) Late Copper Age.

vii) 117/IV/SO Montecarotto 353215.

viii) At 270 m asl on the end of a flat-topped and steep-sided limb of a Pliocene sand and conglomerate hill between the Acquaviva stream and the Fosso di Monte Fortino stream, which meet directly below the site (250 m asl), 1.4 km across from the River Misa, and 9 km upstream (along the Acquaviva stream) from the River Névola (Fig. 103). Modern land use: cereals and grazing. 30 km inland from the coast.

245 Madonna delle Spinelle, Arcevia

i) Brizio 1899: 621b; Ornella Acanfora 1944-5.

iii) Surface find: Anselmi, 19th century.

iv) Hammer-axe with shaft-hole.

v) Find-spot.

vi) Copper Age - Bronze Age.

vii) 117/IV/SO Montecarotto 349226.

viii) At 260 m asl on Middle - Lower Miocene marl by a small stream which joins the major Acquaviva stream, which runs to the River Névola (8 km away) (Fig. 103). Also 2 km across from the River Misa. 30 km inland from the coast.

246 Moje, Jesi

i) Strobel 1881: 130; Colini 1892: 157-8; Annibaldi 1951-2: 111; Puglisi 1959, Fig. 9.

ii) Unpublished material in the Pigorini Museum, nos. 6175-6.

iii) Surface finds: 19th century.

iv) Polished and perforated knobbed axe-hammer, polished axes, a dagger (19 cm long), and 2 arrowheads (Fig. 138.13-14).

v) ? Human burial site.

vi) Arrowheads: -/109,137,172 = Late Copper Age - Bronze Age.

vii) 117/IV/SE Belvedere Ostrense 48-18-.

viii) At c. 115 m asl by the River Esino. Modern land use: cereals and vines. 23 km inland from the coast.

247 Monte Cappone, Jesi

i) Lollini 1977.

iii) Excavation: 1976.

iv) Pottery: impressed.

Lithics: Ripabianca burins.

v) Residential site.

vi) Early Neolithic.

vii) 117/IV/SE Belvedere Ostrense 543/4196/7.

viii) At 90 m asl on Pleistocene/Holocene deposits by the Vallato stream (0.2 km away) and the River Esino (75 m asl, 1 km away), and below the flat and extensive Pleistocene terrace of Monte Cappone (c. 100-186 m asl, 0.2-1.5 km away). 21 km inland from the coast.

248 Monte Colombo, Numana

i) Dall'Osso 1915: 15-17; Rellini 1931b.

ii) Ancona Museum.

iii) Excavation: 1909.

iv) Pottery: impressed (finger/fingernail).

Lithics.

v) Residential site.

vi) Early Neolithic.

vii) 118/IV/SE Numana 86-20-.

viii) Between 100 and 247 m asl on the Middle - Lower Miocene marl Monte Colombo. Modern land use: cereals, scrub and woods. 2 km inland from the coast.

249 Montesecco, Arcevia

i) Colini 1892: 94; Colini 1896: 7; Ornella Acanfora 1944-5.

iii) Surface find: 19th century.

iv) Spherical macehead with shaft-hole.

v) Find-spot.

vi) Late Neolithic - Bronze Age.

vii) 116/I/SE Pèrgola 30-26-.

viii) At c. 430 m asl on the Middle - Lower Miocene marl Montesecco hill (456 m asl) between the Nèvola stream (200 m asl, 1.75 km away) and the River Cesano (c. 200 m asl, 1.3 km away). 30 km inland from the coast.

250 Monticello dei Frati, Osimo

i) Gentili 1958.

iii) Surface finds: Gentili, 1950.

iv) Pottery: 1 small coarse vessel.

Lithics: 2 arrowheads.

v) ? Human burial site.

vi) Arrowheads - 13,106,156/32,105 = Final Neolithic/early Copper Age - Copper Age.

vii) 118/III/NO Osimo 780166.

viii) At c. 200 m on the small Monticello hill located on the side of the Pliocene clay and marl Osimo hill (c. 50-265 m asl), above the Fosso di S. Valentino (50 m asl, 1.2 km away) and the River Musone (50 m asl, 4 km away). 11 km inland from the coast.

251 Murazzano, Sassoferrato

- i) Rellini 1904.
- iii) Surface find: 1903.
- iv) Little axe.
- v) Find-spot.
- vi) Early Neolithic - Bronze Age.
- vii) 116/II/SE Fabriano 27-07-.
- viii) At c. 525 m asl on the side of the Piano della Croce hill (736 m asl, 1 km away), and above the Marena stream (310 m asl, 1.7 km away), which runs to the River Sentino (3.75 km away). Modern land use: agriculture (cereals and vines), grazing and scrub, and woodland and scrub above. 46 km inland from the coast.

252 Névola river, Arcevia

- i) Colini 1892: 94, 159.
- iii) Surface find: 19th century.
- iv) Hammer with shaft-hole.
- v) Find-spot.
- vi) Copper Age - Bronze Age.
- viii) A 30 km long river which runs from c. 50 to 500 m asl, between 10 and 38 km inland from the coast.

253 Novali, Castelplanio

- ii) Unpublished material in the Pigorini Museum, no. 6131.
- iii) Surface find: 19th century.
- iv) Arrowhead (Fig. 138.15).
- v) Find-spot.
- vi) Arrowhead - 170 = Copper Age - late Copper Age.
- vii) 117/IV/SE Belvedere Ostrense 45-19-.
- viii) Between c. 275 and 350 m asl on the north side of the Pliocene sand and conglomerate Castelplanio hill (377 m asl), above the Fosso Balciana stream, which runs down to the Fossato stream (1.25 km away), which in turn joins the River Esino (115 m asl, 2 km away). 26 km inland from the coast.

254 Osimo

- ii) Unpublished material in Perugia Museum, no. 1781, 2997, 2999.
- iii) Surface finds: 19th century.
- iv) 3 arrowheads (Fig. 138.16, 139.1-2).
- v) Find-spot(s).
- vi) Arrowheads - 163/73,114/- = Final Neolithic/early Copper Age - late Copper Age.
- vii) 118/III/NO Osimo.
- viii) On the Pliocene clay and marl Osimo hill (c. 50-265 m asl), above and between the Fosso di S. Valentino (50 m asl) and the River Musone (50 m asl). 11 km inland from the coast.

255 Pèrgola to Sassoferrato

- ii) Unpublished material in Perugia Museum, nos. 5667-8, 5671.
- iii) Surface finds: 19th century.
- iv) 3 arrowheads (Fig. 139.3-5).
- v) Find-spot(s).
- vi) Arrowheads - 114/-/47,76 = Final Neolithic/early Copper Age.
- vii) 116/I/SE Pèrgola - 116/II/NE Sassoferrato.
- viii) Between c. 250 and 600 m asl, 34-44 km inland from the coast.

256 Piaggessa, Monte S. Angelo, Arcevia

- i) Brizio 1899b: 622.
- iii) Surface finds: 19th century.
- iv) Polished stone axe and arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 116/I/SE Pèrgola 31-19-.
- viii) Between c. 500 and 752 m asl on the Palaeogene-Upper Cretaceous limestone and marly limestone Monte S. Angelo, between the Fenela stream (285 m asl, c. 1.5 km away) and the Fosso delle Grazie stream (360 m asl, c. 1.5 km away). 34 km inland from the coast.

257 Pian del Monte, Monte S. Angelo, Arcevia

- i) Brizio 1899b: 622.
- iii) Surface find: 19th century.
- iv) Long arrowhead.
- v) Find-spot.
- vi) Late Neolithic - Bronze Age.
- vii) 116/I/SE Pèrgola 31-19-.
- viii) Between c. 500 and 752 m asl on the Palaeogene-Upper Cretaceous limestone and marly limestone Monte S. Angelo, between the Fenela stream (285 m asl, c. 1.5 km away) and the Fosso delle Grazie stream (360 m asl, c. 1.5 km away). 34 km inland from the coast.

258 Pianetti, Montefortino

- i) Brizio 1899b: 622.
- ii) Unpublished material in Bologna Museum.
- iv) Pottery.
- Lithics: blades and bladelets, flakes, and arrowheads.
- Faunal remains.
- v) Residential site.
- vi) Final Neolithic/early Copper Age - Copper Age.
- vii) 116/I/SE Pèrgola 344212.
- viii) At 334 m asl on a hill between the Fosso di Monte Fortino stream (275 m asl, 0.2 km away) and the Fosso Acquaviva stream (270 m asl, 0.5 km away) (Fig. 103). 31 km

inland from the coast.

259 Ponte Manarini, Palombina

- i) Lollini 1976: 310.
- iii) Excavation: 1976.
- v) Residential site.
- vi) Final Neolithic/early Copper Age.
- vii) 117/I/NE Falconara Marittima 752300.
- viii) Between c. 0 and 15 m asl on Pliocene clay and marl at the point where the Fosso delle Casette stream meets the coast, 5 km west of the Ancona headland. Modern land use: cereal agriculture all over the hills, and sea fishing from the shore.

260 Prosano, Arcevia

- i) Brizio 1899b: 621.
- iii) Surface finds: Moriconi, 19th century.
- iv) Arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 117/III/NO Serra S. Quirico 368164.
- viii) At c. 315 m asl on the Pliocene clay and marl lower slope of Monte S. Giovanni (567 m asl, 1 km away), by the Fosso del Fossato stream (280 m asl, 0.2 km away), which runs into the Fosso di Colle di Corte (1 km away) (Fig. 103). 33 km inland from the coast.

261 Protonara, Arcevia

- i) Colini 1896: 7-8, Tav. II.2; Brizio 1899: 621.
- iii) Surface find: Anselmi, 19th century.
- iv) Broken hammer.
- v) Find-spot.
- vi) Copper Age - Bronze Age.
- vii) 117/III/NO Serra S. Quirico 355156.
- viii) At c. 625 m asl on the Palaeogene - Upper Cretaceous limestone Colle Casanuvola (710m asl, 0.8 km away), above the Fosso di Colle di Corte stream (400 m asl, 0.5 km away) and at the head of a small stream (575 m asl, 0.2 km away) which runs to join the Fosso del Fossato stream (Fig. 103). 34 km inland from the coast.

262 Ripabianca, Monterado

- i) De Sanctis 1961; Broglio and Lollini 1963; Lollini 1964: 307, 1965; Corrain and Capitanio 1968; Alessio et al. 1970; Evett and Renfrew 1971; Evett 1973; Barker 1975.
- ii) Fano and Ancona Museums.
- iii) Excavations: Lollini, 1962-4.

iv) Pottery (Figs. 15-16). Fabrics: coarse, fine, and early figulina. Decoration: impressed (fingernail and point in bands and zones), incised (notches, segments and slashes, lines - parallel, V, zones, zigzag, ladder and fish-scale), and 1 simple red band painted. Vessel forms: flasks, beakers, bowls, carinated vessel, flat heel base, ring, ribbon, spool and ledge handles, and lugs.

Clay artefacts: ? a figurine.

Lithics: 30 cores (bladelets), 6 rejuvenation flakes, 695 bladelets and blades (generally max. 5 cm long), 28 truncated blades, 5 notched bladelets, rhomboids, 1 triangle, 4 end-scrapers, 3 side-scrapers, 11 burins, awls, 3 polished stone axes (Fig. 59.7-8), and grindstones.

Obsidian: 1 small core fragment, 8 bladelets (1 retouched) and 2 flakes.

Bone industry: spatulae, awls and points.

Sea shells: Cardium and Pectunculus, and 1 Murex trunculus (cut and perforated).

Faunal remains: Bos, Canis familiaris, Ovis or Capra, Sus scrofa, Sus scrofa scrofa, Capreolus capreolus, Cervus elaphus, Ursus arctos, Felis sylvestris, Vulpes vulpes, Putorius putorius.

Plant remains: traces of straw in daub samples.

Human remains. 3 graves with a total of 4 individuals, and also the scattered remains of a juvenile. Grave SO: a few skull fragments, a mandible fragment, almost all of the vertebral column, the clavicles, scapula fragments, large part of the coxal bones, fragments of the sternum and the ribs, the humeri, radii, and ulnae, femurs, patellae, tibiae, fibulae; an old adult male. Grave SE: cranium fragments, facial bones, mandible, numerous vertebrae, ribs, clavicles, scapulae, incomplete coxal bones, humerus fragments, radii, ulnas, femurs, patellae, tibia and fibula fragments, hand and foot bones; an adult female. Third grave: fragmented cranium, fragments of all of the long bones, vertebrae, ribs, shoulder bones, hand and foot bones, including two intact astragali; adult male; also cranial fragments from another individual. Remains of a juvenile aged 8 - 10 years: cranium fragments, mandible and jaw fragments, humerus fragments, ulnae and radii, femur fragments, shoulder bones, ribs and vertebrae.

Features: a large cavity (8 m diameter, 1.5 m deep), with a smaller cavity inside this.

Plaster (some with impressions).

v) Residential site.

vi) Later early Neolithic. C14's - 19-21.

vii) 110/III/SE S. Antonio.

viii) At c. 45 m asl on a Holocene fluvial terrace by the River Cesano (0.6 km away), and below Pliocene clay and marl hills. Modern land use: 96% arable/potentially arable, heavy soils, 4% arable/potentially arable, light soils. 9 km inland from the coast.

263 Rocchetta

i) Brizio 1899b: 621.

iii) Surface finds: Moriconi, 19th century.

iv) Arrowheads.

v) Find-spot(s).

vi) Late Neolithic - Bronze Age.

vii) 116/II/NE Sassoferrato 337143.

viii) At 525 m asl on the side of the Palaeogene calcareous marl Colle Ameno (793 m asl, 0.6 km away), by a stream at the head of the Fosso S. Francesco stream, which runs to the major Sentino stream (240 m asl, 4 km away). 36 km inland from the coast.

264 Saline, Senigallia

i) Lollini 1963: 322; Barker 1975.

ii) Ancona Museum.

iii) Excavation: Lollini, 1963.

iv) Pottery.

Lithics.

Features: isolated cavities.

v) Residential site.

vi) Final Neolithic/early Copper Age.

vii) 110/II/SO Senigallia.

viii) Near to the mouth of the River Misa.

265 Senigallia

i) Strobel 1881: 130; Colini 1892: 170.

ii) 19th century find.

iv) Perforated knobbed stone battle axe.

v) Find-spot.

vi) Late Copper Age - Bronze Age.

vii) 110/II/SO Senigallia.

viii) At the mouth of the River Misa.

266 S. Giovanni, Camerano

i) Lollini 1974: 250-1; Lollini 1975: 385; Lollini 1978: 95-6.

ii) Unpublished material in Ancona Museum.

iii) Excavations: Lollini, 1974-8.

Lower level

- iv) Pavement of stones.
- v) Residential site.
- vi) Final Neolithic/early Copper Age.

Upper level

- iv) 5 cavity burials with access slopes, containing human remains, 2 flasks with lug handles, round bases, and high necks, and 4 carinated round-based bowls.
- v) Human burial site.
- vi) Copper Age.

vii) 118/IV/SO Camerano 824208.

viii) At c. 187 m asl on a spur on the side of the Pliocene clay and marl Camerano hill (c. 25-231 m asl), above the River Aspio (25 m asl, 1.4 km away). Extensive views. 4.5 km inland from the coast.

267 S. Giovanni, Sassoferrato

- i) Rellini 1904.
- iii) Surface finds: Rellini, 1903.
- iv) 2 arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 116/II/NE Sassoferrato 28-15-.
- viii) At c. 465 m asl on a Middle - Lower Miocene marl hill (553 m asl), at the head of two streams which run to the major Sentino stream. Modern land use: cereals, pasture, a few vines, and small patches of woodland. 39 km inland from the coast.

268 S. Lorenzo, Fabriano

- i) Pigorini 1911: 198-9; Rellini 1912.
- iii) Excavation: 1910 (2 trenches).
- iv) Pottery. Fabric: coarse. Decoration: cordon (1 finger impressed), 1 nail-impressed. Vessel forms: truncoconical and ovoid vessels, little ear handles, tubular (1 with appendage), ring handles.

Clay spindle-whorls.

Lithics: flakes, blades, end scraper, points, 8.5 and 16 cm long blades/daggers, 2 arrowheads.

Faunal remains: Bos, Ovis or Capra, Sus, deer.

Features: cavities (3 - 7 m diameter), each with a central hearth.

Plaster.

v) Residential site.

vi) Final Neolithic/early Copper Age - Copper Age.

vii) 116/II/SE Fabriano 323033.

viii) At 335 m asl on a Pleistocene terrace on the edge of the stream-cut Colle S. Lucia (504 m asl, 1.25 km away), above the River Giano (270 m asl, 0.4 km away). 46 km inland from the coast.

269 Spinalbeto, S. Fortunato, Sassoferrato

i) Rellini 1904, 1909-10; Ornella Acanfora 1944-5.

iii) Surface finds: Rellini, 1904.

iv) Lithics: cores, flakes, retouched blades, side scrapers, awls, large and small bifaces, points, and arrowheads.

v) Lithic survey site.

vi) Late Neolithic - Bronze Age.

vii) 116/II/NE Sassoferrato 29-11-.

viii) Between c. 300 m asl on the stream-cut Palaeogene calcareous marl S. Fortunato hill, above the major Sentino stream (c. 1 km away). 42 km inland from the coast.

270 S. Rocco, Monte S. Vito

i) Bevilacqua 1874: 7; Pigorini 1897: 98; Colini 1898: 216.

ii) Unpublished material in the Pigorini Museum, nos. 6141, 6148-56, 6158-70, 6172, 23083.

iii) Discovery: 1873.

iv) Grave. Human skeleton with head turned towards the east, with goods placed on the left side half way along the body.

Lithics: 3 blades - 1 17 cm long (Fig. 147.4), 1 dagger/lance (Fig. 139.6), and 26 arrowheads (Figs. 139.7-13, 140, 141.1); a copper flat axe (Fig. 77.3); and a clay spindle-whorl.

v) Human burial site.

vi) Arrowheads: -/32/32-33, 90/33, 105/106, 157/107/
32, 105, 153/32, 153/153, 157/153/53/32, 90, 153/32, 90, 153/
32, 90/107/-/90/32, 153/145, 172/ 102, 165/33, 103/- = Copper
Age - Early Bronze Age.

vii) 117/I/NO Chiaravalle 607285.

viii) At 100 m asl on the side of the Pleistocene Monte S. Vito (c. 75-173 m asl), by the small Fosso della Selva

stream (0.2 km away), and between the Fosso Triponzio stream (30 m asl, 2 km away) and the Fosso Guardengo stream (50 m asl, 1 km away), which run to join the River Esino (5 km away). 9 km inland from the coast.

271 Tignano, Fabriano

- ii) Unpublished material in Perugia Museum, nos. 2186, 2190.
- iii) Surface finds: 19th century.
- iv) 2 arrowheads (Fig. 141.2-3).
- v) Find-spot(s).
- vi) Arrowheads - 142/52,98 = final Neolithic/early Copper Age - late Copper Age.
- vii) 116/II/SE Fabriano.
- viii) At c. 300-500 m asl near the Giano stream. 49 km inland from the coast.

272 Vescovara, Osimo

- i) Annibaldi 1951-2.
- iii) Rescue excavation: Annibaldi, 1950.
- iv) 5 graves, containing 6 individuals.

Grave 1. Human skeleton, with head turned to the north-east, accompanied by lithic goods. 8 arrowheads, a notched chert dagger, and a knobbed hammer-axe with a hole.

Grave 2. Feet of this skeleton touching the head of that in grave 1.

Grave 3. 2 superimposed skeletons, orientated to the east.

Grave 4. Extended body with hands placed along the sides and head resting on the right side, orientated to the east, with a fragmented bone comb above the left hand = Bronze Age.

Grave 5. Skeleton lacking lower leg bones; no grave goods.

v) Human burial site.

vi) Grave 1 arrowheads - 75/75/-/32,157/32,157/32,157/32,157/32,157 = Final Neolithic/early Copper Age; dagger and axe = Late Copper Age - Early Bronze Age.
Site = Copper Age - Bronze Age.

vii) 118/III/NO Osimo.

viii) At 100 m asl on the side of the Pliocene clay and marl Osimo hill (c. 50-265 m asl), by a small stream which runs down to the River Musone (40 m asl, 2.4 km away). Modern land use: cereals, vines and olives. 11 km inland from the coast.

273 Via Cardeto, Ancona

- i) Cazzella and Moscoloni 1988: 365.
- iii) Excavations: 1981-6.
- iv) Pottery with scaled decoration.
- Features: settlement remains including post-holes.
- v) Residential site.
- vi) ? Late Copper Age.
- vii) 118/IV/NO Ancona 80-30/31-.
- viii) At c. 50 m asl on the Middle - Lower Miocene marl Ancona headland. 0.4 km inland from the coast.

274 Via Marconi, Loreto

- i) Lollini 1978: 79; Cazzella and Moscoloni 1988: 366.
- ii) Ancona Museum.
- iii) Discovery: 1971.
- iv) Burial in a cavity with access ramps, containing Rinaldone type grave goods.
- v) Human burial site.
- vi) Late Copper Age - Early Bronze Age.
- vii) 118/III/NE Loreto 87-10-.
- viii) Between c. 100 and 177 m asl on the Pleistocene clay Loreto hill, above the River Musone (15 m asl, 1 km away). 4 km inland from the coast.

PESARO URBINO province (PO)

275 Borgo Pace, Montefeltro

- i) Rellini 1909-10: 46, 21.
- iii) Surface finds.
- iv) Lithics, including a small axe.
- v) Lithic survey site.
- vi) Late Neolithic - Bronze Age.
- vii) 115/I/NO Borgo Pace.
- viii) At c. 470 m asl on Middle - Lower Miocene marl at the point where the Auro and Meta streams meet to form the River Metauro. 48 km inland from the coast.

276 Ca-i Gamboni, Chiaserna, Cantiano

- i) Rellini 1904, 1909-10 part 2: 22.
- iii) Surface finds.
- iv) 2 arrowheads.
- v) Find-spot(s).
- vi) Late Neolithic - Bronze Age.
- vii) 116/III/NE Cantiano 11-13-.
- viii) Between c. 450 and 600 m asl on Palaeogene - Upper Cretaceous limestone and marly limestone near to the head of the Bevano stream and valley which runs to join the

major Burano stream (3.75 km away), and between Monte Acuto (1668 m asl, 3 km away) and Monte Petria (1048 m asl, 1 km away). 52 km inland from the coast.

277 Calmino della Morte, Auditore

- i) Rellini 1909-10: 46, 21.
- iii) Surface finds.
- iv) Lithics, including flakes and 2 arrowheads.
- v) Lithic survey site.
- vi) Late Neolithic - Bronze Age.
- vii) 109/III/NO Sassocorvaro.
- viii) At c. 375 m asl on a Pliocene sand and conglomerate, and clay and marl, hill above the River Fógliia. 20 km inland from the coast.

278 Campo di Aviazione, Fano

- i) Cazzella and Moscoloni 1988: 364.
- iii) Surface finds: 1980's.
- iv) Pottery.
- v) Residential site.
- vi) ? Late Copper Age.
- vii) 110/III/NO S. Costanzo 41-54-.
- viii) At 14 m asl on a Pleistocene terrace between the River Metauro (1.5 km away) and the coast (1.75 km away) (Fig. 106).

279 Carpegna

- i) Rellini 1909-10: 46, 21.
- iii) Surface finds.
- iv) Lithics, including 2 arrowheads.
- v) Lithic survey site.
- vi) Late Neolithic - Bronze Age.
- vii) 108/II/NO Pennabilli.
- viii) At c. 700 m asl on Palaeogene limestone and marl near to the head of a stream which leads to the River Fógliia (10 km away), and below Monte Carpegna (1415 m asl, 2 km away). 36 km inland from the coast.

280 Costa, Piobbico

- i) Rellini 1909-10: 46, 21.
- iii) Surface finds.
- iv) Lithics: javelin/dagger and an arrowhead.
- v) Lithic survey site.
- vi) Arrowhead - 45,103,144,149 = final Neolithic/early Copper Age - Copper Age.
- vii) 116/IV/NO Piobbico.
- viii) At c. 340 m asl on Palaeogene - Upper Jurassic limestone at the point where the Candigliano stream is joined by the Biscubio stream to form the River

Candigliano. 49 km inland from the coast.

281 Fiori, Urbino

- i) Bevilacqua 1874: 6.
- iii) 19th century discoveries.
- iv/v) Human burials with some 'Stone Age' artefacts.
- vi) ? Copper Age - Bronze Age.
- vii) 109/III/SE Urbino.
- viii) At c. 450 m asl on Middle - Lower Miocene marl at the head of the Aspia stream. 30 km inland from the coast.

282 Fossombrone

- i) Pigorini 1878: 125-6.
- ii) Unpublished material in the Pigorini Museum, nos. 6194-9.
- iii) Surface finds: 19th century.
- iv) 8 arrowheads (Fig. 141.4-9).
- v) Find-spot(s).
- vi) Arrowheads - 106/?33, 73, 155, 157/153/89/88, 158/?32 = Final Neolithic/early Copper Age - late Copper Age.
- vii) 109/II/SO Fossombrone.
- viii) At c. 120 m asl on Palaeogene - Upper Cretaceous limestone and marly limestone by the River Metauro. 25 km inland from the coast.

283 Frontone

- ii) Unpublished material in Perugia museum, no. 4638.
- iii) Surface find: 19th century.
- iv) Arrowhead (Fig. 141.10).
- v) Find-spot.
- vi) Arrowhead - 61,164 = Final Neolithic/early Copper Age - late Copper Age.
- vii) 116/I/SO Frontone.
- viii) At c. 400 m asl on Pleistocene deposits at the point where two streams join to form the River Cinisco. 43 km inland from the coast.

284 Orciano (Poggio, S. Giorgio, Colombarone, Sacramento, La Cesara, Le Bruciate, Le Reforzate, Cavallara, S.Maurizio-Sorbolungo)

- i) Rellini 1909-10, part 2: 2-21.
- ii) Unpublished material in the Pigorini Museum, nos. 12357-8, 80332-4.
- iii) Surface finds: Rellini.
- iv) Pottery: coarse and dark sherds.
Lithics: blades (1 = 9 cm long), side scrapers, awls, ? geometrics, arrowheads (Fig. 141.11-14), javelins, daggers, axes, hammers with holes, lithic rings.
- v) Residential site(s).

- vi) Copper Age - Bronze Age.
- vii) 109/II/SE Serrungarina.
- viii) Location. Between c. 200 and 360 m asl on the Pliocene clay and marl hills between the Rivers Metauro and Cesano. 13 - 22 km inland from the coast.

285 Pardo di Sotto, S. Leo

- i) Rellini 1909-10: 46, 13.
- iii) Surface finds: Rellini.
- iv) Lithics, including a hammer with shaft-hole.
- v) Lithic survey site.
- vi) Copper Age - Bronze Age.
- vii) 108/I/SE S. Leo.
- viii) At c. 580 m asl on a Pliocene Gessoso-solifera Formation hill, by a stream which leads down to the River Marécchia (3 km away). 26 km inland from the coast.

286 Ponte d'Azzo, Cantiano, Cagli

- i) Rellini 1904, 1909-10.
- iii) Surface finds: Rellini.
- iv) Lithics: cores, flakes, bladelets and blades, awls, an arrowhead fragment, and a blade/dagger.
- v) Lithic survey site.
- vi) Final Neolithic/early Copper Age - Copper Age.
- vii) 116/III/NE Cantiano 07-17-.
- viii) At c. 400 m asl on Palaeogene calcareous marl at the point where the Balbano stream meets the Burano stream, and below Monte Alto (1321 m asl, 3 km away). 31 km inland from the coast.

287 Porta Cavour, Urbino

- i) Bevilacqua 1874: 6.
- iii) Discovery: 1874.
- iv) Human skeleton found at a depth of 2 m, lying on a black soil and with many roughly worked lithic flakes.
- v) Human burial site.
- vi) ? Copper Age - Bronze Age.
- vii) 109/III/SE Urbino.
- viii) At c. 450 m asl on Middle - Lower Miocene marl at the head of the Aspia stream. 30 km inland from the coast.

288 Sassocorvaro

- i) Rellini 1909-10: 46, 21.
- iii) Surface finds: Rellini.
- iv) Lithics: flakes, blades, and an arrowhead.
- v) Lithic survey site.
- vi) Late Neolithic - Bronze Age.
- vii) 109/III/NO Sassocorvaro.
- viii) At c. 325 m asl on Middle - Lower Miocene sandstone

and conglomerate by the River Fógliia. 27 km inland from the coast.

289 S. Biagio, Fano

i) Rellini 1909-10: 61; Dall'Osso 1915: 13-16; Rellini 1934: 45; Lollini 1965: 314; Barker 1975; Morigi Gori and Vitali 1982: 109.

ii) Ancona, Bologna, Fano, and Pigorini (Rome) Museums.

iii) Excavations: Brizio, 1892, and Dall'Osso, 1908.

iv) Pottery. Fabrics: coarse red, fine, and plain figulina. Decoration: finger impressions below rims, grafitti, point impressions, cordons. Vessel forms: lugs (some with double holes), flat heel base, bowls, handles (ribbon, ring).

Clay spindle-whorls.

Lithics: cores (blade and bladelet), flakes, blades, bladelets, truncated blades, backed bladelets, trapezes, microburins, notches on blades, arrowheads, polished axes, axe-hammers with shaft-hole (Fig. 62.22-8).

Features: cavities.

Plaster.

Small copper axe with slightly raised edges found in the surrounding area.

v) Residential site.

vi) Final Neolithic/early Copper Age - full Copper Age.

vii) 110/IV/SO Fano 383583.

viii) At 60 m asl on the coastal slope of a low Pliocene sand and conglomerate hill (102 m asl, 0.8 km away), 2 km away from the point where the Arzilla stream meets the coast (Fig. 106). Modern land use: 6% arable/potentially arable, heavy soils, 94% arable/potentially arable, light soils. 0.75 km inland from the coast.

290 S. Lorenzo in Campo

i) Rellini 1909-10: 59-65, 13.

iii) Excavation: Rellini, 1905.

iv) Pottery: coarse red/brown fabric (similar to that from S. Biagio).

Lithics: flakes, blades, side scrapers, awls, arrowheads, large flaked axes, hammer with shaft-hole.

Shell artefacts.

Faunal remains.

- v) Residential site.
- vi) Final Neolithic/early Copper Age - Copper Age
- vii) 116/I/NE S. Lorenzo in Campo 34-30-.
- viii) At c. 170 m asl on a Pleistocene terrace by the River Cesano (145 m asl, 0.75 km away). 24 km inland from the coast.

291 Urbania

- i) Rellini 1909-10: 46, 22.
- iii) Surface finds: Rellini.
- iv) Lithics: side scraper, 3 arrowheads, a dagger fragment, and an axe.
- v) Lithic survey site.
- vi) Copper Age - Bronze Age.
- vii) 109/III/SO Urbania.
- viii) At c. 275 m asl on Middle - Lower Miocene marl by the River Metauro. 40 km inland from the coast.

APPENDIX 2

RADIOCARBON DATES FOR THE NEOLITHIC AND COPPER AGE OF PENINSULAR ITALY AND THE EASTERN ADRIATIC

The dates listed in this Appendix are grouped by region, and then ordered by age. Dates from all of the regions of peninsular Italy are included, along with dates from the Aeolian island of Lipari, Dalmatia, west Yugoslavia, and north-west Greece, but dates from Sicily and Sardinia are not included. The early date from Basi on Corsica (no. 29) has been included due to the strong cultural similarities of material from this site to material found on the adjacent section of the Italian mainland. Each sample has been given a serial number for use in this thesis, because some of the samples lacked published laboratory reference numbers. In general only dates from Neolithic and Copper Age contexts are listed, but Upper Palaeolithic, Mesolithic, and Bronze Age dates from Abruzzo and Marche are also included (but without serial numbers).

The Appendix is divided into two parts. Part A lists uncalibrated radiocarbon dates in years BC. The name of the site and details concerning the specific context and pottery associated with each sample is provided, along with laboratory sample reference numbers (Lab. No.), and publication references. The type of sample material is given for dates from the regions of Abruzzo and Marche. Part B lists calibrated radiocarbon dates in years Cal. BC, at both one- and two-sigma levels, and also uncalibrated dates in years BP. All the dates were calibrated using Stuiver and Reimer's (1986) CALIB computer program, by both the standard intercept method and the probability distribution method. The results from the intercept method are listed on the upper line for each sample, and the probability dates are given on the lower line. The serial numbers of samples used in part B are the same as those used in part A.

This Appendix was completed in December 1990. Since then a few more radiocarbon dates have been published for Neolithic and Copper Age sites in Italy, although none for the Abruzzo-Marche region. A complete list of all of the radiocarbon dates for prehistoric Italy (including Sicily and Sardinia) is now being prepared which will include these new dates (Skeates in prep. a).

APPENDIX 2A

Uncalibrated radiocarbon dates for the Neolithic and Copper Age of peninsular Italy and the eastern Adriatic

ABRUZZO

| Site | Sample material, context and pottery | C14 date BC | Lab. No. | Reference |
|-----------------------|---|----------------|----------|--|
| * Grotta di Ortucchio | Charcoal Spit 11 Late upper Palaeolithic | 10669±410 | Pi-23 | Ferrara et al. 1959 |
| * Grotta la Punta | Charcoal Spit 26 Late upper Palaeolithic | 8631±100 | Pi-153 | Ferrara et al. 1961 |
| 1 Villaggio Rossi | Charcoal Levels 5, 4 and 3, central hut Fingernail and point impressed, simple incised | 4640±130 | BM-2250R | Ambers et al. 1987, Bowman et al. 1990: 74 |

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|-----------------------|---|----------|----------|--|
| 2 Villaggio Leopardi | Charcoal Central hearth Impressed, incised and plain early 'figulina' | 4628±135 | Pi-101 | Ferrara et al. 1961 |
| 3 Villaggio Rossi | Charcoal Levels 2 and 1, central hut Guadone impressed tremolo, complex incised and red- filled incised | 4620±140 | BM-2251R | Ambers et al. 1987, Bowman et al. 1990: 74 |
| 4 Fonterossi | Human bone Burial cavity | 4590±80 | OxA-1958 | Hedges et al. 1990: 212 |
| 5 Villaggio Rossi | Collagen from human and animal bones Control sample | 4350±170 | BM-2252R | Ambers et al. 1987, Bowman et al. 1990: 74 |
| 6 Grotta dei Piccioni | Charcoal One of the deepest spits, level 6, trench TR Impressed, incised, plain and 2 sherds simple red painted 'figulina' | 4297±130 | Pi-46 | Ferrara et al. 1961 |

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|--|----------|---------|---------------------|
| 7 Ripoli | 3680±80 | R-664 | Alessio et al. 1971 |
| Charcoal Hut 12 Ripoli trichrome painted figulina, impressed, Sasso- Fiorano incised handle | | | |
| 8 Ripoli | 3610±150 | R-665 | Alessio et al. 1971 |
| Charcoal Hut 6 Tubular handle | | | |
| 9 Fonti di San Callisto | 3540±70 | R-1386α | Allegri et al. 1987 |
| Charcoal Lower level burnt structure Trichrome painted, impressed, incised and tubular handles | | | |
| 10 Fossacesia | 3480±120 | R-878 | Alessio et al. 1978 |
| Charcoal and carbonaceous earth Hut 1, section B, spits 9-10 Red-filled incised, impressed, applied, red tinted figulina, Serra d'Alto handle | | | |
| 11 Fossacesia | 3470±210 | F-30 | Azzi et al. 1973 |
| Charcoal Hut 1, section B, spit 1 Red-filled incised, impressed, applied, red tinted figulina, Serra d'Alto handle | | | |

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|---------------------------|---|----------|----------|---------------------|
| 12 Ripoli | Charcoal Hut 21 | 3160±210 | F-31 | Azzi et al. 1973 |
| 13 Ripoli | Hut 3 Incised, impressed, applied and figulina | 3150±120 | Pisa Lab | Cremonesi 1965:152 |
| 14 Catignano | Charcoal Structure 59 Red- and white-filled incised/graffiti, red painted, trichrome negative technique painted | 2970±210 | F-93 | Azzi et al. 1977 |
| 15 Grotta dei Piccioni | Charcoal Upper horizon of level 5 | 2820±110 | Pi-49 | Ferrara et al. 1961 |
| 16 Grotta dei Piccioni | Charcoal Cut 10, level 3 Copper Age impressed, incised and applied | 2356±105 | Pi-50 | Ferrara et al. 1961 |
| 17 Ortucchio | Charcoal Mixed sample from different areas of the site Ortucchio impressed, incised and applied | 2120±180 | F-32 | Azzi et al. 1973 |

* Ortucchio

Charcoal
Sub-Appennine Bronze
Age level

1416±130

Pi-80

Ferrara et al. 1961

MARCHE

| Site | Sample material, context and pottery | C14 date BC | Lab. No. | Reference |
|--------------------|---|----------------|----------|---------------------|
| * Grotta del Prete | Charcoal Layer 6, zone G Final Epigravettian | 8040±190 | R-645 | Alessio et al. 1970 |
| 18 La Maddelena | Charcoal Cavity 5, spits 4 & 6 Impressed and incised | 4630±75 | R-643a | Alessio et al. 1970 |
| 19 Ripabianca | Charcoal Bottom of largest and deepest cavity Impressed, incised and 1 sherd simple red painted figulina | 4310±85 | R-599a | Alessio et al. 1970 |
| 20 Ripabianca | Charcoal Upper part of largest and deepest cavity Impressed, incised and 1 sherd simple red painted figulina | 4260±75 | R-598 | Alessio et al. 1970 |

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|--|---|---------|--------|---------------------|
| 21 Ripabianca | Charcoal Upper part of largest and deepest cavity Impressed, incised and 1 sherd simple red painted figulina | 4190±70 | R-598α | Alessio et al. 1970 |
| * Grotta del Prete | Charcoal Hearth in layer 1, zone B, Mesolithic | 3960±50 | R-664α | Alessio et al. 1970 |
| 22 Aquatina | Level 6c Impressed, graffiti and applied | 2720 | - | Lollini 1965:314 |
| * Cava Giacometti, S. Giovanni Battista, Arcevia | Charcoal Layer 5 Proto-Apennine Bronze Age | 1315±55 | R-275 | Alessio et al. 1967 |

UMBRIA

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|---------------------|---|----------------|----------|---|
| 23 S. Marco, Gubbio | SMN 17, 113-4E/215N Impressed, incised and simple red painted | 4480±80 | OxA-1853 | Hedges et al. 1990 |
| 24 Grotta Bella | Trench 3 Hearth located between the incised Sasso and plain and painted Ripoli levels | 4422±90 | - | Delpino and Fugazzola Delpino 1987: 677 |
| 25 S. Marco, Gubbio | SMN 22, 115E/214N Impressed, incised and simple red painted | 4320±70 | OxA-1851 | Hedges et al. 1990 |
| 26 S. Marco, Gubbio | SMN 22, 166-7E/213N Impressed, incised and simple red painted | 4295±90 | OxA-1852 | Hedges et al. 1990 |
| 27 S. Marco, Gubbio | SMN 15/3, 109-110E Impressed, incised and simple red painted | 4170±90 | OxA-1854 | Hedges et al. 1990 |

28 S. Marco, Gubbio SMN 15, 111-113E 3800±70 OxA-1855 Hedges et al. 1990
Impressed, incised
and simple red
painted

TOSCANA

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|----------------------------|--|----------------|-----------|--------------------------------|
| 29 Basi (<u>Corsica</u>) | Level 7 Cardial impressed | 5750±150 | Gif-1851 | Delibrias et al. 1974 |
| 30 Grotta dell'Orso | Lower Neo. levels Dentellated, Sasso incised, and red- filled | 4130±50 | R-676 | Alessio et al. 1973 |
| 31 San Rossore | Sasso-Fiorano level | 3900±60 | - | Grifoni Cremonesi 1987: 231 |
| 32 Monte Amiata mines | Regular timbering | 3820±100 | NY-411.5 | Coppens et al. 1980 |
| 33 Monte Amiata mines | Regular timbering | 3780±100 | NY-411.1 | Coppens et al. 1980 |
| 34 Monte Amiata mines | Regular timbering | 3770±110 | NY-411.2 | Coppens et al. 1980 |
| 35 Monte Amiata mines | Regular timbering | 3760±100 | NY-411.3 | Coppens et al. 1980 |
| 36 Monte Amiata mines | Regular timbering | 3760±100 | NY-411.4 | Coppens et al. 1980 |
| 37 Riparo del Lauro | Stratum 7 Chassey-Lagozza | 3300±40 | GrN-15281 | Cocchi Genick 1987- 8: 134 |
| 38 Neto di Bolasse | Principal trench Lagozza | 3250±150 | UD-184 | Sarti 1985 |

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|-----------------------------|----------------------------------|----------|----------|-------------------------------|
| 39 San Rossore | Lagozza and Diana level | 3200±80 | - | Grifoni Cremonesi 1987: 234 |
| 40 Riparo la Romita | Level 10 Rinaldone | 2298±115 | Pi-100 | Ferrara et al. 1961 |
| 41 Querciola | Bell Beaker | 2180±150 | - | Sarti and Vigliardi 1988: 384 |
| 42 Grotta del Fontino | Bell Beaker | 2150±100 | Gif-7469 | Sarti and Vigliardi 1988: 384 |
| 43 Buca del Beato Benincasa | Copper Age / 'Bronze Age' hearth | 2150±120 | F-29 | Azzi et al. 1973 |
| 44 Via Bruschi | Stratum 3B Bell Beaker | 2010±80 | UtC-762 | Sarti 1987-8: 166 |
| 45 Querciola | Bell Beaker | 2010±200 | - | Sarti and Vigliardi 1988: 384 |

LAZIO

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|---------------------------|---|----------------|----------|---------------------------------------|
| 46 Grotta di Monte Venere | Semi-sterile layer above stratum 6, sectors A and B A few sherds | 6050±160 | R-1170 | Delpino and Fugazzola Delpino 1975-80 |
| 47 Grotta di Monte Venere | Stratum 4 and 5, sector C Plain light coloured fabric | 4990±100 | R-1175 | Delpino and Fugazzola Delpino 1975-80 |
| 48 Grotta di Monte Venere | Bottom of stratum 4 and top of 5 and 6, sector A Plain light coloured fabric | 4910±60 | R-1167 | Delpino and Fugazzola Delpino 1975-80 |
| 49 Grotta di Monte Venere | Stratum 2, sector C Monte Venere incised and brown painted pottery | 3950±300 | R-1173 | Delpino and Fugazzola Delpino 1975-80 |
| 50 Grotta di Monte Venere | Stratum 3, sector C Monte Venere incised and brown painted pottery | 3850±60 | R-1174 | Delpino and Fugazzola Delpino 1975-80 |

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|---------------------------|--|----------|---------|---------------------------------------|
| 51 Grotta di Monte Venere | Stratum 3, sectors A and B Monte Venere incised and brown painted pottery | 3820±50 | R-1169a | Delpino and Fugazzola Delpino 1975-80 |
| 52 Grotta di Monte Venere | Stratum 7, sector C | 3700±100 | R-1176 | Delpino and Fugazzola Delpino 1975-80 |
| 53 Petescia | Trench 1, middle level of stratum F Plain figulina, impressed cordons, notched rims, incised lugs and spool handles | 3448±145 | Pi-28 | Ferrara et al. 1959 |
| 54 Tre Erci, Luni | Trench 1, stratum 10 Red painted figulina and incised rim | 3445±80 | St-1344 | Engstrand 1965 |
| 55 Grotta di Monte Venere | Stratum 4, sector B Monte Venere incised and brown painted pottery | 3320±60 | R-1171 | Delpino and Fugazzola Delpino 1975-80 |
| 56 Grotta di Monte Venere | Stratum 2 and ?1, sectors A and B Monte Venere incised and brown painted pottery | 3040±50 | R-1168a | Delpino and Fugazzola Delpino 1975-80 |

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|---------------------------|--|----------|---------|---------------------------------------|
| 57 Grotta di Monte Venere | Stratum 5, sectors B and C Monte Venere incised and brown painted pottery | 2440±50 | R-1172 | Delpino and Fugazzola Delpino 1975-80 |
| 58 Tre Erici, Luni | Trench 1, lower part of stratum 7 Rinaldone | 2075±100 | St-2043 | Gejvall et al. 1967 |
| 59 Tre Erici, Luni | Rinaldone | 2005±200 | St-2042 | Gejvall et al. 1967 |
| 60 Tre Erici, Luni | Trench 1, stratum 8 Rinaldone | 1850±80 | St-1343 | Engstrand 1965 |

EMILIA-ROMAGNA

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|----------------------------------|--|----------------|-----------------------|---------------------------------|
| 61 Cassa di Risparmio, Travo | 1st phase SMP | 4630±150 | Teledyne Institute | Bernabò Brea et al. 1984: 79 |
| 62 Fornace Cappuccini, Faenza | Deepest fill of ditch Impressed | 4370±60 | Bln-3372 | Bagolini and Biagi 1987 |
| 63 Cassa di Risparmio, Travo | 1st phase SMP | 4360±105 | Teledyne Institute | Bernabò Brea et al. 1984: 79 |
| 64 Lugo | Fiorano | 4220±50 | Bln-3370 | Bagolini and Biagi 1987 |
| 65 Casa Gazza, Travo | Vhò | 4180±160 | I-13798 | Bernabò Brea et al. 1984: 79 |
| 66 Rivaltella- Ca'Romensini | 1st and 2nd phase SMP, white-filled grafitti and painted figulina | 4120±110 | - | Tirabassi 1987 |
| 67 Chiozza di Scandiano | Fiorano | 4050±200 | R-458 | Alessio et al. 1970 |
| 68 Savignano sul Panaro | Fiorano | 3980±130 | Bln-2976 | Allegri et al. 1987 |

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|------------------------------|------------------------------|----------|----------|------------------------------------|
| 69 Lugo | Impressed and Fiorano | 3940±250 | Paris | Von Eles Masi and Steffè 1987: 601 |
| 70 Casa Gazza, Travo | Vhò | 3880±210 | I-13799 | Bernabò Brea et al. 1984: 79 |
| 71 Lugo | Impressed and Fiorano | 3730±260 | Paris | Von Eles Masi and Steffè 1987: 601 |
| 72 Cassa di Risparmio, Travo | 1st phase SMP | 3660±50 | Bln-3136 | Bernabò Brea et al. 1984: 79 |
| 73 Fiorano Modenese | Stratum 4 Fiorano | 3620±50 | Bln-3137 | Allegri et al. 1987 |
| 74 Campegine | Pit SMP | 3580±150 | Birm-829 | Bagolini and Biagi 1990: 14-15 |
| 75 Spilamberto | Habitation zone VIII Lagozza | 3045±100 | I-11817 | Bagolini and Von Eles 1981: 101 |
| 76 Piscina di Torrespaccata | Copper Age | 2740±250 | - | Cazzela and Moscoloni 1988: 364 |
| 77 Spilamberto | Cemetery Copper Age | 2245±95 | I-11816 | Bermond Montanari et al. 1982: 106 |
| 78 Rubiera | Beaker | 1950±60 | GrN-9828 | Aspes et al. 1988: 421 |
| 79 S. Ilario | Beaker | 1910±100 | Birm-828 | Aspes et al. 1988: 421 |

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|--------------|--------|----------|----------|-----------------------------------|
| 80 S. Ilario | Beaker | 1890±60 | R-1291 | Bagolini and Biagi 1990: 16-17 |
| 81 S. Ilario | Beaker | 1890±100 | Birm-827 | Bagolini and Biagi 1990: 16-17 |

FRIULI- VENEZIA- GIULIA

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|---------------------------------|--|----------------|----------|------------------------------|
| 82 Grotta dei Ciclami | Cut 8b Vlasca | 4350±60 | R-1040α | Alessio et al. 1978 |
| 83 Grotta dei Ciclami | Cut 6 Brijuni-Skocjan | 4340±130 | R-1038 | Alessio et al. 1978 |
| 84 Sammardenchia di Pozzuolo | Red-filled incised, impressed and graffiti | 4170±60 | Bln-3373 | Bagolini et al. 1987: 412 |
| 85 Fagnigola | Pit 1 Fagnigola | 4100±90 | R-1544α | Allergi et al. 1987 |
| 86 Grotta del Mitreo | Layer 8 Red-filled Danilo | 3820±50 | R-904α | Alessio et al. 1978 |
| 87 Grotta del Mitreo | Layer 8 Danilo | 3820±60 | R-904 | Alessio et al. 1978 |
| 88 Fagnigola | Pit 4 Fagnigola | 3810±160 | R-1545α | Allergi et al. 1987 |
| 89 Grotta dei Ciclami | Cut 4 Ljubljana | 2210±50 | R-1037 | Alessio et al. 1978 |
| 90 Grotta del Mitreo | Layer 5 Ljubljana | 1770±50 | R-903α | Alessio et al. 1978 |

LIGURIA

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|---------------------------|---|----------------|----------|-----------------------------------|
| 91 Arene Candide | Level 14 Impressed | 5030±115 | UB-2423 | Bagolini and Biagi 1990: 10-11 |
| 92 Grotta Pollera | Cuts 24-23 Cardial impressed | 5000±110 | MC-756 | Odetti 1974: 150 |
| 93 Arene Candide | Level 14, earliest Neo. floor immediately above Meso. level 15 | 4920±100 | LJ-4143 | Linick 1980 |
| 94 Arene Candide | Level 14 Impressed | 4750±145 | UB-2424 | Bagolini and Biagi 1990: 10-11 |
| 95 Arma dello Stefanin | Layer 2 Impressed | 4660±60 | Bln-3276 | Bagolini and Biagi 1990: 10-11 |
| 96 Grotta Pollera | Cuts 24-23 Cardial impressed | 4630±110 | MC-757 | Odetti 1974: 150 |
| 97 Grotta dell'Edera | Hearth Impressed | 4560±110 | MC-2332 | Bagolini and Biagi 1990: 10-11 |
| 98 Arene Candide | Level 14 Earliest Neo. | 4540±100 | LJ-4144 | Linick 1980 |

| | | | | | |
|-----|----------------------------|--|----------|-----------|-----------------------------------|
| 99 | Grotta dell'Edera | Hearth Impressed | 4540±110 | MC-2333 | Bagolini and Biagi 1990: 10-11 |
| 100 | Arene Candide | Late cardial impressed | 4530 | Pisa Lab. | Evans pers. comm. |
| 101 | Riparo l'Arma di Nasino | Layer 9i-63 Early-middle Neo. SMP | 4520±120 | R-267 | Alessio et al. 1968 |
| 102 | Riparo l'Arma di Nasino | Layer 8-66 Lagozza | 4470±65 | R-313 | Alessio et al. 1968 |
| 103 | Riparo l'Arma di Nasino | Layer 8-66 Lagozza | 4450±105 | R-313α | Alessio et al. 1968 |
| 104 | Arene Candide | Layer 13C Scratched | 4395±180 | UB-2422 | Bagolini and Biagi 1990: 10-11 |
| 105 | Riparo l'Arma di Nasino | Layer 9s-66 Early-middle Neo. SMP | 4330±70 | R-315 | Alessio et al. 1968 |
| 106 | Riparo l'Arma di Nasino | Layer 9s-63 Early-middle Neo. SMP | 4330±120 | R-265 | Alessio et al. 1968 |
| 107 | Arene Candide | Layer 13 Scratched | 4320±100 | LJ-4139 | Bagolini and Biagi 1990: 10-11 |
| 108 | Arma dell'Aquila | Below layer 5 Impressed | 4290±90 | Bln-3450 | Bagolini and Biagi 1990: 10-11 |
| 109 | Arene Candide | Level 13B Early-middle Neo. transition | 4280±90 | LJ-4139 | Linick 1980 |

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|-----|----------------------------|---|----------|---------|----------------------------------|
| 110 | Arene Candide | Phase 5, levels 25-26 Cardial impressed, graffiti and SMP | 4270±55 | R-101 | Alessio et al. 1966 |
| 111 | Arene Candide | Level 13C Early Neo. | 4270±100 | LJ-4141 | Linick 1980 |
| 112 | Arene Candide | Layer 13A | 4255±105 | UB-2420 | Bagolini and Biagi 1990:10-11 |
| 113 | Riparo l'Arma di Nasino | Layer 7a-63 Late Neolithic | 4190±110 | R-263 | Alessio et al. 1968 |
| 114 | Arene Candide | Level 13B Early Neo. | 4140±90 | LJ-4140 | Linick 1980 |
| 115 | Arene Candide | Level 13C Early Neolithic | 4120±90 | LJ-4142 | Linick 1980 |
| 116 | Grotta Pollera | Cut 18 Red- and white-filled graffiti | 4100±100 | MC-759 | Odetti 1974: 150 |
| 117 | Riparo l'Arma di Nasino | Layer 9i-63 Early-middle Neo. SMP | 4100±130 | F-8 | Azzi et al. 1973 |
| 118 | Riparo l'Arma di Nasino | Layer 9m-66 Early-middle Neo. SMP | 4065±65 | R-316 | Alessio et al. 1968 |
| 119 | Riparo l'Arma di Nasino | Layer 9i-63 Early-middle Neo. SMP | 4060±130 | F-7 | Azzi et al. 1973 |
| 120 | Grotta Pollera | Cut 18 Red- and white-filled graffiti/scratched | 4050±100 | MC-758 | Odetti 1974: 150 |

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|-----|-------------------------|--|----------|---------|--------------------------------|
| 121 | Arene Candide | Level 13: final level of impressed stratum Impressed and incised/scratched | 4050±120 | MC-752 | Tinë 1974: 52 |
| 122 | Riparo l'Arma di Nasino | Layer 10-62 Cardial impressed | 4030±85 | R-333 | Alessio et al. 1968 |
| 123 | Riparo l'Arma di Nasino | Layer 9m-66 Early-middle Neo. SMP | 4005±65 | R-316a | Alessio et al. 1968 |
| 124 | Arene Candide | Level 12 Middle Neo. 2nd phase SMP | 3990±80 | LJ-4136 | Linick 1980 |
| 125 | Arene Candide | Level 13A Early-middle Neo. transition (underlies trichrome painted) | 3990±100 | LJ-4138 | Linick 1980 |
| 126 | Arene Candide | Level 12 SMP | 3935±95 | UB-2471 | Bagolini and Biagi 1990: 12-13 |
| 127 | Arene Candide | Level 12C 2nd phase SMP, graffiti and trichrome painted | 3910±120 | MC-755 | Tinë 1974:52 |

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|------------------------------|--|----------|---------|-----------------------------------|
| 128 Arene Candide | Level 13B Scratched | 3905±95 | UB-2421 | Bagolini and Biagi 1990: 12-13 |
| 129 Arene Candide | Level 12A 2nd phase SMP, graffiti and trichrome painted | 3850±120 | MC-753 | Tinè 1974: 52 |
| 130 Arene Candide | Level 12 Middle Neo. 2nd phase SMP | 3750±90 | LJ-4137 | Linick 1980 |
| 131 Arma dello Stefanin | Layer 3a Middle-late Neo. | 3650±80 | R-126 | Alessio et al. 1967 |
| 132 Arma dello Stefanin | Layer 3c Middle-late Neo. | 3530±80 | R-143D | Alessio et al. 1967 |
| 133 Arene Candide | Level 8 SMP | 3520±100 | MC-754 | Tinè 1974: 52 |
| 134 Arene Candide | Phase 4-2, levels 16- 19 Middle Neo. SMP, impressed and graffiti | 3515±50 | R-103 | Alessio et al. 1966 |
| 135 Arene Candide | Level 20 SMP | 3485±135 | Pi-27 | Alessio et al. 1966 |
| 136 Grotta del Pertusello | Layer 4 Middle Neo. wave and ribbed cardial | 3450±90 | R-157 | Alessio et al. 1967 |

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|-----|----------------------------|---|----------|----------|--------------------------------------|
| 137 | Arene Candide | Level 12 SMP | 3395±120 | UB-2418 | Bagolini and Biagi 1990: 14-15 |
| 138 | Arene Candide | Phase 4-1, levels 21- 24 1st phase SMP | 3385±50 | R-102 | Alessio et al. 1966 |
| 139 | Arma dello Stefanin | Layer 3b Middle-late Neo. SMP | 3230±70 | R-143 | Alessio et al. 1967 |
| 140 | Arene Candide | Phase 3, levels 12-13 Late Neo. Lagozza and SMP | 3125±45 | R-104 | Alessio et al. 1966 |
| 141 | Tana di Barletta cave | Lower hearth 3 ? Copper Age | 3030±100 | HAR-8388 | Maggi and Del Luccchese 1988: 338 |
| 142 | Riparo l'Arma di Nasino | Layer 8-63 Lagozza | 2755±70 | R-332 | Alessio et al. 1968 |
| 143 | Riparo l'Arma di Nasino | Layer 7-63 Late Neo. | 2730±100 | R-261 | Alessio et al. 1968 |
| 144 | Libiola | Tool from Cu. Age copper mine | 2660±50 | Bln-3367 | Maggi and Del Luccchese 1987 |
| 145 | Libiola | Tool from Cu. Age copper mine | 2540±90 | Gif-7213 | Maggi and Del Luccchese 1987 |
| 146 | Grotta del Pertuso | Late Neo. or Cu. Age | 2460±150 | HAR-6760 | Maggi and Del Luccchese 1987 |
| 147 | Grotta del Pertusello | Layer 3 Lagozza | 2440±70 | R-155 | Alessio et al. 1967 |

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| 148 Riparo l'Arma di Nasino | Layer 8CI-66 Lagozza | 2390±60 | R-314α | Alessio et al. 1968 |
| 149 Prima Ciappa cave, Val Frascarese | Cu. Age | 2390±60 | Bln-3386 | Maggi and Del Lucchese 1987 |
| 150 Riparo l'Arma di Nasino | Layer 8CI-66 Lagozza | 2325±65 | R-314 | Alessio et al. 1968 |
| 151 Riparo l'Arma di Nasino | Layer 7-63 Final Neo. (? Cu. Age) | 2270±90 | R-262 | Alessio et al. 1968 |
| 152 Riparo l'Arma di Nasino | Layer 6-66 Bell Beakers | 2270±55 | R-309 | Alessio et al. 1968 |
| 153 Riparo l'Arma di Nasino | Layer 6-66 Bell Beakers | 2160±55 | R-309α | Alessio et al. 1968 |
| 154 Prima Ciappa cave, Val Frascarese | Cu. Age | 1970±60 | Gif-7212 | Maggi and Del Lucchese 1987 |
| 155 Tana di Barletta cave | Middle hearth 2 Copper Age | 1930±120 | HAR-6435 | Maggi and Del Lucchese 1987 |
| 156 Riparo l'Arma di Nasino | Layer 7 Late Neo. | 1815±70 | R-311 | Alessio et al. 1968 |

VENETO

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|----------------------|---|----------------|----------|---------------------|
| 157 Molino Casarotto | Site 4, substructure of wooden house Finale-Quinzano SMP | 4520±150 | Birm-176 | Shotton et al. 1970 |
| 158 Molino Casarotto | Site 3, trench 2, 3rd layer of platform Finale-Quinzano SMP | 4500±110 | Birm-175 | Shotton et al. 1970 |
| 159 Molino Casarotto | Site 4, lowest level of hearth in house Finale-Quinzano SMP | 4400±140 | Birm-174 | Shotton et al. 1970 |
| 160 Molino Casarotto | Site 4, shell midden below peat on marl Finale-Quinzano SMP | 4340±150 | Birm-173 | Shotton et al. 1970 |
| 161 Molino Casarotto | Site 4, shell midden below peat on marl Finale-Quinzano SMP | 4290±100 | Birm-172 | Shotton et al. 1970 |
| 162 Molino Casarotto | Site 4, level 3, peat deposit round hearth and house Finale-Quinzano SMP | 4175±150 | Birm-177 | Shotton et al. 1970 |

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| 163 | Molino Casarotto | Site 6, burial c.1.5m from dwelling areas Finale-Quinzano SMP | 4010±50 | R-754 | Alessio et al. 1974 |
| 164 | Molino Casarotto | Site 4, upper level of main midden Finale-Quinzano SMP | 3980±130 | Birm-265 | Shotton and Williams 1973 |
| 165 | Molino Casarotto | Site 4, lowest level of main hearth Finale-Quinzano SMP | 3870±135 | Birm-262 | Shotton and Williams 1973 |
| 166 | Molino Casarotto | Site 4, cut 8B, phase A of main hearth, 1st dwelling area Finale-Quinzano SMP | 3850±50 | R-757a | Alessio et al. 1974 |
| 167 | Molino Casarotto | Site 4 Finale-Quinzano SMP | 3830±135 | Birm-261 | Shotton and Williams 1973 |
| 168 | Molino Casarotto | Site 4, lowest level of main midden Finale-Quinzano SMP | 3800±135 | Birm-264 | Shotton and Williams 1973 |
| 169 | Molino Casarotto | Site 4, cut 6, lower part of shell midden south of main hearth, 1st dwelling area | 3780±50 | R-758a | Alessio et al. 1974 |
| 170 | Molino Casarotto | Site 4, 2nd settlement area Finale-Quinzano SMP | 3750±130 | Birm-267 | Shotton and Williams 1973 |

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| 171 Molino Casarotto | Site 4, cut 11, phase A of main hearth, 1st dwelling area Finale-Quinzano SMP | 3740±50 | R-756a | Alessio et al. 1974 |
| 172 Molino Casarotto | Site 4, main hearth, 1st dwelling area Finale-Quinzano SMP | 3740±50 | R-746 | Alessio et al. 1974 |
| 173 Molino Casarotto | Site 3, cut 2, platform of hearth recognised by Trevisiol, 3rd dwelling area | 3730±50 | R-753a | Alessio et al. 1974 |
| 174 Monte Rocca, Rivoli | Pit Z Rivoli-Castelnovo SMP Rocca SMP | 3720±130 | Birm-104 | Shotton et al. 1970 |
| 175 Molino Casarotto | Site 4, cut 3B, platform in zone around peripheral hearth, 1st dwelling area Finale-Quinzano SMP | 3690±50 | R-762 | Alessio et al. 1974 |
| 176 Molino Casarotto | Site 4, cut 3B, shell midden in lower level of peripheral hearth, 1st dwelling area Finale-Quinzano SMP | 3660±50 | R-761 | Alessio et al. 1974 |

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| 177 | Molino Casarotto | Site 1, 'lake dwelling' | 3640±50 | R-752 | Alessio et al. 1974 |
| 178 | Molino Casarotto | Site 4, cut 4, zone around hearth, 2nd dwelling area Finale-Quinzano SMP | 3630±50 | R-765a | Alessio et al. 1974 |
| 179 | Molino Casarotto | Site 4, cut 4, phase F of main hearth, 1st dwelling area Finale-Quinzano SMP | 3620±50 | R-746a | Alessio et al. 1974 |
| 180 | Molino Casarotto | Site 4, cut 5, phase D of main hearth, 1st dwelling area Finale-Quinzano SMP | 3620±50 | R-748a | Alessio et al. 1974 |
| 181 | Molino Casarotto | Site 4, cut 3, platform of peripheral hearth, 1st dwelling area Finale-Quinzano SMP | 3620±50 | R-763a | Alessio et al. 1974 |
| 182 | Molino Casarotto | Site 4, zone around main hearth, 1st dwelling area Finale-Quinzano SMP | 3610±50 | R-749 | Alessio et al. 1974 |
| 183 | Molino Casarotto | Site 4, 2nd hearth Finale-Quinzano SMP | 3605±130 | Birm-266 | Shotton and Williams 1973 |

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| 184 Molino Casarotto | Site 4, cut 3, zone around hearth, 2nd dwelling area Finale-Quinzano SMP | 3580±50 | R-766a | Alessio et al. 1974 |
| 185 Molino Casarotto | Site 4, lowest level of main hearth Finale Quinzano SMP | 3575±200 | Birm-263 | Shotton and Williams 1973 |
| 186 Molino Casarotto | Site 4, cut 5, phase E of main hearth , 1st dwelling area Finale-Quinzano SMP | 3560±50 | R-747a | Alessio et al. 1974 |
| 187 Molino Casarotto | Site 4, cut 3, bottom of peat level around main hearth, 1st dwelling area Finale-Quinzano SMP | 3540±50 | R-749a | Alessio et al. 1974 |
| 188 Molino Casarotto | Site 4, phase D of main hearth, 2nd dwelling area Finale-Quinzano SMP | 3490±50 | R-748 | Alessio et al. 1974 |
| 189 Molino Casarotto | Site 4, cut 4, area around hearth, 2nd dwelling area Finale-Quinzano SMP | 3420±50 | R-764 | Alessio et al. 1974 |
| 190 Monte Rocca, Rivoli | Pits P, Q and R Rivoli-Castelnovo SMP | 3420±70 | Birm-617 | Williams and Johnson 1976 |

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| 191 Molino Casarotto | Site 4, cut 3B, shell midden in lower level of peripheral hearth, 1st dwelling area Finale-Quinzano SMP | 3360±50 | R-761 | Alessio et al. 1974 |
| 192 Molino Casarotto | Site 4, around main hearth, 1st dwelling area Finale-Quinzano SMP | 3310±50 | R-750 | Alessio et al. 1974 |
| 193 Monte Rocca, Rivoli | Lower levels of pit L Rivoli-Chiozza SMP | 3270±120 | Birm-103 | Shotton et al. 1970 |
| 194 Molino Casarotto | Site 4, cut 3, bottom of peaty level around main hearth, 1st dwelling area Finale-Quinzano SMP | 3190±50 | R-750α | Alessio et al. 1974 |
| 195 Monte Rocca, Rivoli | Pits P, Q and R Rivoli-Castelnovo SMP | 3120±100 | Birm-616 | Williams and Johnson 1976 |
| 196 Molino Casarotto | Site 7, pile Finale-Quinzano SMP | 2940±130 | Birm-268 | Shotton and Williams 1973 |
| 197 Val di Marca | Fragment of dug-out | 2630±50 | R-359α | Alessio et al. 1973 |

LOMBARDIA

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|--------------------------------|--------------------------------|----------------|----------|-------------------------------|
| 198 Campo Ceresole, Vhò | Pit 18 Vhò | 4285±470 | I-11444 | Bagolini et al. 1987b: 463 |
| 199 Campo Ceresole, Vhò | Pit 18 Vhò | 4220±110 | I-11445 | Bagolini et al. 1987b: 463 |
| 200 Dugali Alti, Ostiano | Pit 3 Vhò | 4140±100 | Bln-2795 | Allergi et al 1987 |
| 201 Campo Ceresole, Vhò | Pit 32 Vhò | 3980±50 | Bln-3135 | Bagolini et al. 1987b: 463 |
| 202 Cecima, Val Staffora | Hearth Vhò | 3980±130 | HAR-5123 | Allergi et al. 1987 |
| 203 Casalmoro | Probable start of SMP | 3860±60 | Bln-2975 | Allergi et al 1987 |
| 204 Campo Sera Mattina, Vhò | Vhò | 3620±200 | Birm-832 | Bagolini et al. 1987b: 463 |
| 205 Isola Virginia | Wooden platform Isolino SMP | 3584±144 | Pi-4 | Ferrara et al. 1959 |
| 206 Isola Virginia | 260cm depth Isolino SMP | 3510±155 | - | Guerreschi 1976-7: 494 |

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|---------------------------|---|----------|---------------|---------------------|
| 207 Isola Virginia | Floor of platform at c. 160 cm depth Isolino SMP | 3376±180 | Pi-38 | Ferrara et al. 1959 |
| 208 Mosio | Final SMP and Chassey | 3160±50 | Bln-2977 | Allergi et al. 1987 |
| 209 Lagozza di Besnate | 1b, pile from lower structure of 'lake dwelling' Lagozza | 3030±50 | R-338 | Alessio et al. 1968 |
| 210 Lagozza di Besnate | Lagozza | 2860±115 | F-2 | Azzi et al. 1973 |
| 211 Lagozza di Besnate | Boomerang fragment found c.1877 in lacustrine sediments | 2855±50 | R-337 | Alessio et al. 1968 |
| 212 Lagozza di Besnate | Pile from pile village, level 15-30 Lagozza | 2844±90 | Pi-34 | Ferrara et al. 1961 |
| 213 Monte Covolo | Layer 20 Lower Lagozza and Neo. layer | 2840±210 | Birm-473 | Shotton et al. 1975 |
| 214 Lagozza di Besnate | Pile from pile village Lagozza | 2785±50 | R-78 | Alessio et al. 1968 |
| 215 Lagozza di Besnate | 1a, pile from pile village Lagozza | 2630±50 | R-78 α | Alessio et al. 1968 |
| 216 Rocca, Manerba | Remedello | 2470±90 | Birm-1132 | Malone 1986 |

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|-----------------------------|--|----------|----------|--------------------------------|
| 217 Lagozetta di Besnate | Wooden vessel from platform Lagozza-Polada | 2435±50 | R-336 | Alessio et al. 1968 |
| 218 Monte Covolo | Layer 13 Upper Lagozza and Neo. layer | 2290±190 | Birm-472 | Shotton et al. 1975 |
| 219 Monte Covolo | Layer 8 Bell Beaker | 2060±40 | GrN-8013 | Bagolini and Biagi 1990: 16-17 |
| 220 Monte Covolo | Layer 8 Lower Bell Beaker layer | 2000±320 | Birm-471 | Shotton et al. 1975 |
| 221 Cavernetta Ca' dei Grii | Burial Bell Beaker | 1950±80 | Bln-3753 | Bagolini and Biagi 1990: 16-17 |
| 222 Monte Covolo | Layer 4 Early Bronze Age | 1890±210 | Birm-469 | Shotton et al. 1975 |
| 223 Monte Covolo | Layer 6 Upper Bell Beaker layer | 1860±210 | Birm-470 | Shotton et al. 1975 |

TRENTINO - ALTO ADIGE

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|---------------------------|--|----------------|-----------|------------------------------|
| 224 Riparo di Romagnano 3 | Layer AA1-2 Gaban | 4530±50 | R-1136 | Alessio et al. 1978 |
| 225 Riparo di Romagnano 3 | Layer T4, cuts 1 and 2 Gaban | 4110±50 | R-781α | Alessio et al. 1978 |
| 226 Riparo Gaban | Gaban | 4080±45 | Bln-1777 | Bagolini and Biagi 1987: 427 |
| 227 Riparo Gaban | Gaban | 4040±45 | Bln-1778 | Bagolini and Biagi 1987: 427 |
| 228 Riparo di Romagnano 3 | Layer T4 | 3860±50 | R-781 | Alessio et al. 1978 |
| 229 Riparo Gaban | Gaban | 3800±60 | Bln-1777α | Alessio et al. 1978 |
| 230 Riparo Gaban | Gaban | 3700±150 | Gif-3766 | Alessio et al. 1978 |
| 231 Riparo di Romagnano 3 | Layer T1, near and inside hearth Middle phase SMP | 3610±50 | R-776 | Alessio et al. 1978 |
| 232 Riparo di Romagnano 3 | Layer T1, under hearth Middle phase SMP | 3580±50 | R-777α | Alessio et al. 1978 |

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| 233 Riparo di Romagnano 3 | Layer T2 Middle phase SMP | 3520±50 | R-779α | Alessio et al. 1978 |
| 234 La Vela | SMP | 3420±180 | UD-176 | Bagolini and Biagi 1990: 14-15 |
| 235 Riparo di Romagnano 3 | Layer R4 Upper Neo. | 2860±50 | R-775 | Alessio et al. 1978 |
| 236 Laas | Neolithic arrowhead from same context | 2400±100 | VRI-272 | Felber 1974 |
| 237 Toleraït | Local Copper Age | 2180±100 | Birm-1005 | Biagi and Nisbet 1987 |
| 238 Riparo Gaban | Layer C5 | 2035±50 | Bln-1776 | Bagolini and Biagi 1990: 14-15 |
| 239 La Vela | Rivoli-Chiozza SMP | 1860±80 | Birm-102 | Shotton et al. 1970 |

PIEMONTE - VAL D'AOSTA

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|---------------------------|-------------------------------------|----------------|----------|--------------------------------|
| 240 Grotta Aisone | 2nd phase SMP and Chassey | 3875±75 | R-95 | Alessio and Bella 1965 |
| 241 St Martin de Corléans | Wooden pile P12 Final Neo.- Cu. Age | 3070±180 | F-78 | Azzi et al. 1977 |
| 242 St Martin de Corléans | Wooden pile Final Neo.- Cu. Age | 2960±200 | F-82 | Azzi et al. 1977 |
| 243 St Martin de Corléans | Wooden pile Final Neo.- Cu. Age | 2890±190 | F-81 | Azzi et al. 1977 |
| 244 St Martin de Corléans | Wooden pile Final Neo.- Cu. Age | 2850±170 | F-80 | Azzi et al. 1977 |
| 245 St Martin de Corléans | Wooden pile Final Neo.- Cu. Age | 2375±70 | F-79 | Azzi et al. 1977 |
| 246 St Martin de Corléans | Wooden pile Final Neo.- Cu Age | 2320±150 | F-77 | Azzi et al. 1977 |
| 247 St Martin de Corléans | Wooden pile Final Neo.- Cu. Age | 2250±180 | F-83 | Azzi et al. 1977 |
| 248 Balm'Chanto | Layer 10 Copper Age | 2140±70 | Bln-3285 | Bagolini and Biagi 1990: 16-17 |

249 Balm'Chanto Layer 6 2060±60 Bln-2838 Bagolini and Biagi
Copper Age 1990: 16-17

LIPARI - AEOLIAN ISLANDS

| Site | Context and pottery | C14 date BC | Lab. Ref. | Reference |
|----------------------|---|----------------|-----------|---------------------|
| 250 Lipari Acropolis | Zone AO, sounding Y Lipari trichrome painted and applied | 3250±60 | R-366a | Alessio et al. 1969 |
| 251 Lipari Acropolis | Trench AP Red monochrome Diana, impressed, graffiti, notched and applied | 3050±200 | R-180 | Alessio et al. 1969 |
| 252 Contrada Diana | Trench 21 Red monochrome Diana | 2935±55 | R-182 | Alessio et al. 1969 |

CALABRIA

| Site | Context and pottery | C14 date BC | Lab. Ref. | Reference |
|--|---|----------------|-----------|---------------------|
| 253 Grotta del Santuario della Madonna | Layer 8, level H, spits 40-41 Simple impressed, Stentinello impressed, unbordered broad red band painted pottery | 5605±85 | R-285 | Alessio et al. 1967 |
| 254 Area H, Piana di Curinga | Cardial impressed and Stentinello impressed | 4980±60 | P-2946 | Ammerman 1987: 345 |
| 255 Acconia | Stentinello | 4760±80 | P-2949 | Ammerman 1987: 345 |
| 256 Bevilacqua, Acconia | A major cooking feature Stentinello | 4480±90 | P-3047 | Ammerman 1987: 345 |
| 257 Grotta del Romito | Upper layers Simple red band painted pottery | 4470±70 | R-223 | Alessio et al. 1966 |
| 258 Area M, Piana di Curinga | Stentinello impressed | 3740±50 | P-2948 | Ammerman 1987: 345 |

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| 259 Grotta del Santuario della Madonna | Layer 6, level G, spit 33 Serra d'Alto and simple painted | 3605±75 | R-284 | Alessio et al. 1967 |
| 260 Grotta del Santuario della Madonna | Layer 5, level F, spit 29 Bellavista | 3160±70 | R-283 | Alessio et al. 1967 |
| 261 Grotta del Santuario della Madonna | Layer 4, level E, spits 20-25 Beneath Piano Conte deposits | 2820±55 | R-189 | Alessio et al. 1966 |

CAMPANIA

| Site | Context and pottery | C14 date BC | Lab. Ref. | Reference |
|------------------------|----------------------|----------------|-----------|--------------------------------------|
| 262 S. Maria dei Bossi | Tomb 86 Rinaldone | 2850±90 | Gif-7458 | Albore Livadie and Gangemi 1988: 572 |
| 263 Buccino | Tombs 1-2 Gaudio | 2580±100 | St-3627 | Engstrand 1973 |
| 264 Buccino | Tomb 3 Gaudio | 2370±120 | St-3620 | Engstrand 1973 |
| 265 Buccino | Tomb 8 Gaudio | 2155±120 | St-3632 | Engstrand 1973 |
| 266 Buccino | Tomb 7 Gaudio | 2075±100 | St-3628 | Engstrand 1973 |
| 267 Buccino | Tomb 9 Gaudio | 2060±100 | St-3634 | Engstrand 1973 |
| 268 Buccino | Tomb 5 Gaudio | 1970±360 | St-3631 | Engstrand 1973 |

MOLISE

| Site | Context and pottery | C14 date BC | Lab. Ref. | Reference |
|-----------------------------------|--|----------------|-----------|---------------------|
| 269 Monte Maulo, Larino | Pit complex 1, 10 Impressed and painted | 4590±80 | OxA-651 | Gowlett et al. 1987 |
| 270 Monte Maulo, Larino | Pit complex 1, 10 Impressed and painted | 4330±70 | OxA-652 | Gowlett et al. 1987 |
| 271 Monte Maulo, Larino | Pit complex 1, 10 Impressed and painted | 4260±70 | OxA-653 | Gowlett et al. 1987 |
| 272 Monte Maulo, Larino | Impressed and painted | 3980±100 | HAR-2710 | Gowlett et al. 1987 |
| 273 Colle del Fico, Guglionesi | B4 Serra d'Alto | 3890±70 | OxA-654 | Gowlett et al. 1987 |
| 274 Piano di Larino | Terrace 2, 2,2 Serra d'Alto | 3630±70 | OxA-655 | Gowlett et al. 1987 |

BASILICATA

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|-------------------|--|----------------|----------|-------------|
| 275 Rendina | C-shaped ditch No. 4 Impressed and incised | 5150±140 | LJ-4548 | Linick 1980 |
| 276 Rendina | Last level of ditch No. 14 Impressed and incised | 4950±150 | LJ-4551 | Linick 1980 |
| 277 Rendina | C-shaped ditch No. 4 Impressed and incised | 4830±100 | LJ-4549 | Linick 1980 |
| 278 Rendina | Last level of ditch No. 14 Impressed and incised | 4580±150 | LJ-4550 | Linick 1980 |
| 279 Toppo Daguzzo | Trench 12 - ditch, levels 3-4 Gaudio | 2760±80 | LJ-4545 | Linick 1980 |
| 280 Toppo Daguzzo | Trench 12 - ditch, levels 3-4 Gaudio | 2730±60 | LJ-4544 | Linick 1980 |
| 281 Toppo Daguzzo | Trench 12 - ditch, level L Gaudio | 2630±80 | LJ-4546 | Linick 1980 |

282 Toppo Daguzzo Trench 12 - ditch,
level L 2597±70 LJ-4547 Linick 1980
Gaudio

PUGLIA

| Site | Context and pottery | C14 date BC | Lab. No. | Reference |
|-------------------------------|---|----------------|-----------|---------------------------------|
| 283 Coppa Nevigata | Impressed | 6200 | Pisa Lab. | Evans pers. comm. |
| 284 Casa San Paola | Trench NB 2-1, lot 7 Impressed and red painted | 5950±100 | P-1999 | Lawn 1975 |
| 285 Coppa Nevigata | Ditch Impressed | 5830±320 | BM-2557 | Ambers et al. 1989 |
| 286 Masseria Santa Tecchia | Cut 6 of compound ditch Impressed and simple red band painted | 5650±100 | Rome Lab. | Belluomini and Delitala 1983 |
| 287 Scamuso | Hearth north of the settlement overlying cardial impressed level | 5340±110 | Gif-6339 | Coppola 1987: 227 |
| 288 Masseria Giuffreda | Hearth G Masseria la Quercia painted and impressed | 5175±20 | MC-2292 | Guilaine et al. 1981: 156 |

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| 289 Villaggio A, Scaramella di San Vito | Sounding 1, cut 6, bottom layer of outer circular ditch Impressed, incised and La Quercia painted | 5050±100 | R-350 | Alessio et al. 1969 |
| 290 Coppa Navigata | CN, II/III Impressed | 4930±90 | OxA-1475 | Hedges et al. 1989 |
| 291 Coppa Navigata | CN, II/III Impressed | 4900±80 | OxA-1474 | Hedges et al. 1989 |
| 292 Villa Comunale, Foggia | Layer 5 (levels 7-9) Passo di Corvo red band and red band bordered by black negative motifs | 4900±130 | MC-2290 | Guilaine et al. 1981: 156 |
| 293 Lignano da Piede | F-1, layers 5-7 Guadone impressed and narrow band Lignano painted | 4840±255 | UB-2271 | Mallory 1984-7: 271 |
| 294 Villa Comunale, Foggia | Layer 8 Masseria la Quercia painted and Mass. la Q. - P. di C. transitional white and red painted | 4800±220 | MC-2291 | Guilaine et al. 1981: 156 |
| 295 Grotta Scaloria | Trench 3, level 3, pit burial | 4770±100 | LJ-4649 | Winn and Shimabuku 1980: 12 |

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| 296 Lagnano da Piede | F-1, layers 3-4 Lagnano and La Quercia painted | 4720±100 | UCLA-2148 | Mallory 1984-7: 271 |
| 297 Villaggio A, Scaramella di San Vito | Sounding 2, cut 7, bottom layer of inner circular ditch Impressed and La Quercia painted | 4590±65 | R-351 | Alessio et al. 1969 |
| 298 Grotta Scaloria | Trench 1, level 4, burial floor | 4580±260 | LJ-4981 | Linick 1984 |
| 299 Santa Tecchia | Cut 4 of compound ditch Impressed and red painted | 4570±70 | BM-2414 | Ambers et al. 1989 |
| 300 Grotta Scaloria | Trench 1, level 8, burial | 4540±140 | LJ-4650 | Winn and Shimabuku 1980: 9 |
| 301 Masseria Fontana Rossa | Level 6a of external ditch Impressed and painted bands | 4540±150 | BM-2415 | Ambers et al. 1989 |
| 302 Grotta Porto Badisco | Basal hearth Impressed and painted pottery | 4515±185 | F-97 | Azzi and Gulsano 1979 |
| 303 Grotta Scaloria | Trench 10, level of burials | 4460±150 | LJ-4980 | Linick 1984 |

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| 304 Grotta Scaloria | Trench 6, North, level 4, habitation debris | 4450±80 | LJ-5095 | Linick 1984 |
| 305 Grotta Scaloria | Trench 1, level 8, burial | 4380±90 | LJ-4651 | Winn and Shimabuku 1980: 9 |
| 306 Grotta Scaloria | Trench 6, levels 6-7, near burial | 4340±90 | LJ-5096 | Linick 1984 |
| 307 Passo di Corvo | Area α pit Passo di Corvo white and red painted and impressed | 4190±120 | R-846 | Alessio et al. 1976 |
| 308 Grotta Scaloria | Trench 5, level 3 Trichrome painted | 4170±80 | LJ-4983 | Linick 1984 |
| 309 Ipogeo Manfredini, Santa Barbara | Level 1 Early Serra d'Alto | 4170±170 | BM-2256R | Ambers et al. 1987, Bowman et al. 1990: 74 |
| 310 Ipogeo Manfredini, Santa Barbara | Level 3 Early Serra d'Alto | 4070±160 | BM-2258R | Ambers et al. 1987, Bowman et al. 1990: 74 |
| 311 Ipogeo Manfredini, Santa Barbara | Level 2 Early Serra d'Alto | 3970±170 | BM-2257R | Ambers et al. 1987, Bowman et al. 1990: 74 |
| 312 Grotta Porto Badisco | East cavity of the ante-cave, bottom of Neo.-Cu. Age deposits Unbordered painted bands | 3900±55 | R-1225 | Graziosi 1980: 120 |

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|-------------------------------|---|----------|----------|--|
| 313 Grotta Scaloria Bassa | Hearth near to small rectangular basin Scaloria Bassa red band painted and negative technique black and red trichrome painted | 3530±70 | R-349 | Alessio et al. 1969 |
| 314 Scamuso | Trench A3, bottom of cut 15 Red band painted | 3340±90 | Gif-6338 | Coppola 1987: 224 |
| 315 Grotta di Cala Scizzo | Level 1 Serra d'Alto and Diana | 3250±250 | BM-2253R | Ambers et al. 1987, Bowman et al. 1990: 74 |
| 316 Grotta 1, Cala Colombo | Level 1 Serra d'Alto and Diana | 3230±140 | BM-2260R | Ambers et al. 1987, Bowman et al. 1990: 74 |
| 317 Grotta 1, Cala Colombo | Level 7 Serra d'Alto, Diana and Bellavista | 3130±250 | BM-2302R | Ambers et al. 1987, Bowman et al. 1990: 74 |
| 318 Grotta di Cala Scizzo | Level 2 Bellavista, Diana and early Copper Age | 2590±150 | BM-2254R | Ambers et al. 1987, Bowman et al. 1990: 74 |
| 319 Grotta 1, Cala Colombo | Level 1 Serra d'Alto and Diana | 2420±130 | BM-2259R | Ambers et al. 1987, Bowman et al. 1990: 74 |

DALMATIA, WEST YUGOSLAVIA AND NORTH-WEST GREECE

| Site | Context and pottery | C14 date BC | Lab. Ref. | Reference |
|----------------------|--|----------------|-----------------|----------------------------------|
| 320 Sidari, Corfu | Lower level Plain and incised (similarities to Molfetta) | 5720±120 | GXO-771 | Sordinas 1967 |
| 321 Isfaka, Epirus | Ditch exposure | 5430±240 | I-1959 | Higgs and Vita Finzi 1966: 22 |
| 322 Sidari, Corfu | 1 m above lower level Impressed (similarities to str. 3 Crvena Stijena and str. 3 Zelena Pecina) | 5390±180 | GXO-772 | Sordinas 1967 |
| 323 Obre 1 | Level 12 Starcevo and Adriatic impressed | 5290±60 | UCLA- 1605 I | Berger and Protsch 1973 |
| 324 Gudnja Pećina | Level 1, spit 25 Late impressed | 5220±70 | GrN-10315 | Chapman 1988: 7 |
| 325 Gospodska Pećina | Impressed | 5060±90 | Z-579 | Chapman and Müller 1990 |

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|---------------------------|---|----------|-----------|----------------------------|
| 326 Pokrovnik I | Impressed | 5050±100 | - | Chapman and Müller 1990 |
| 327 Odmut rock shelter | Level IIA Starcevo | 5035±100 | SI-2217 | Marković 1974 |
| 328 Tinj - Podlivade | Impressed | 5030±160 | GrN-15236 | Chapman and Müller 1990 |
| 329 Odmut rock shelter | Level IIA Starcevo | 5005±100 | SI-2219 | Marković 1974 |
| 330 Gudnja Pećina | Level 1, spit 24 Late impressed | 4985±50 | GrN-10314 | Chapman 1988: 7 |
| 331 Odmut rock shelter | Level IIA Starcevo | 4950±110 | SI-2222 | Marković 1974 |
| 332 Medulin - Vizula | Impressed | 4900±180 | HD-12093 | Chapman and Müller 1990 |
| 333 Obre 1 | Stratum 1 Starcevo and Adriatic Impressed | 4845±150 | Bln-636 | Quitta and Kohl 1969 |
| 334 Skarin Samograd | Impressed | 4830±50 | HD-11950 | Chapman and Müller 1990 |
| 335 Skarin Samograd | Monochrome pottery | 4800±55 | HD-12094 | Chapman and Müller 1990 |
| 336 Skarin Samograd | Monochrome pottery | 4790±50 | HD-11773 | Chapman and Müller 1990 |

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|------------------------|---|----------|-----------------|----------------------------|
| 337 Odmut rock-shelter | Level IIB Starcevo and impressed | 4786±130 | Z-412 | Chapman and Müller 1990 |
| 338 Obre 1 | Level 11 Starcevo and Adriatic impressed | 4760±60 | UCLA- 1605 G | Berger and Protsch 1973 |
| 339 Tinj - Podlivade | Impressed | 4720±260 | GrN-15237 | Chapman and Müller 1990 |
| 340 Skarin Samograd | Impressed | 4650±100 | HD-11952 | Chapman and Müller 1990 |
| 341 Gudnja Pećina | Level 2 Transitional impressed-Danilo | 4610±40 | GrN-10311 | Chapman 1988: 7 |
| 342 Odmut rock-shelter | Level IIA Starcevo and impressed | 4580±75 | SI-2223 | Chapman and Müller 1990 |
| 343 Gudnja Pećina | Level 3, spit 19 Danilo | 4570±40 | GrN-10313 | Chapman 1988: 7 |
| 344 Obre 1 | Kakanj and Danilo | 4480±60 | UCLA- 1605 F | Breunig 1987: 108 |
| 345 Gudnja Pećina | Level 3, spit 18 Danilo | 4465±40 | GrN-10312 | Chapman 1988: 7 |
| 346 Pokrovnik I | Danilo | 4350±150 | Z-895 | Chapman and Müller 1990 |

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|-----|------------------|---|----------|-----------------|----------------------------|
| 347 | Tinj-Podlivade | Danilo | 4330±210 | GrN-15238 | Chapman and Müller 1990 |
| 348 | Obre 1 | Stratum 2 Kakanj and Danilo | 4280±80 | Bln-659 | Quitta and Kohl 1969 |
| 349 | Obre 2 | Stratum 1, 390-345 cm Early Butmir and Danilo | 4225±80 | Bln-639 | Quitta and Kohl 1969 |
| 350 | Obre 1 | Level 8 Kakanj and Danilo | 4200±60 | UCLA- 1605 H | Berger and Protsch 1973 |
| 351 | Medulin - Vizula | Impressed | 4190±65 | HD-11733 | Chapman and Müller 1990 |
| 352 | Obre 2 | Early Butmir and Danilo | 4160±60 | GrN-5683 | Breunig 1987: 108 |
| 353 | Obre 2 | Early Butmir and Danilo | 4125±100 | Bln-792 | Breunig 1987: 108 |
| 354 | Obre 2 | Early Butmir and Danilo | 4070±60 | UCLA- 1605 A | Breunig 1987: 108 |
| 355 | Obre 2 | Early Butmir and Danilo | 4060±60 | GrN-5684 | Breunig 1987: 108 |
| 356 | Obre 2 | Early Butmir and Danilo | 4035±40 | GrN-5685 | Breunig 1987: 108 |
| 357 | Obre 2 | 200-220 cm Middle Butmir and Danilo | 4010±140 | LJ-2327 | Linick 1977 |

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|--------------|--|----------|-----------------|-------------------------|
| 358 Obre 2 | Early Butmir and Danilo | 3980±45 | GrN-5686 | Breunig 1987: 108 |
| 359 Obre 2 | Stratum 1 Early Butmir and Danilo | 3975±80 | Bln-657 | Quitta and Kohl 1969 |
| 360 Obre 2 | Middle Butmir and Danilo | 3940±40 | UCLA- 1605 E | Breunig 1987: 108 |
| 361 Obre 2 | Middle Butmir and Danilo | 3925±60 | UCLA- 1605 C | Breunig 1987: 108 |
| 362 Obre 2 | 265 cm Middle Butmir and Danilo | 3900±80 | Bln-638 | Breunig 1987: 108 |
| 363 Obre 2 | Stratum 2, 188 cm Middle Butmir and Danilo | 3900±80 | Bln-656 | Quitta and Kohl 1969 |
| 364 Obre 2 | Stratum 2, 195 cm Middle Butmir and Danilo | 3890±100 | Bln-637 | Quitta and Kohl 1969 |
| 365 Obre 2 | Middle Butmir and Danilo | 3820±100 | Bln-790 | Breunig 1987: 108 |
| 366 Obre 2 | Middle Butmir and Danilo | 3790±80 | UCLA- 1605B | Breunig 1987: 108 |
| 367 Lisičići | Late Neo. Hvar | 3360±145 | Hv-1334 | Breunig 1987: 110 |

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|-----|------------------------|--|----------|-------|-------------------|
| 368 | Ljubljansko Barje | Maharski Kanal 41 Copper Age | 3130±110 | Z-351 | Srdoč et al. 1977 |
| 369 | Ljubljansko Barje | Maharski prekop Copper Age | 3104±99 | Z-314 | Srdoč et al. 1975 |
| 370 | Spilja rock shelter | Late Neo. Block C, level 7 | 2930±110 | Z-416 | Srdoč et al. 1977 |
| 371 | Ljubljansko Barje | Maharski prekop Copper Age | 2751±104 | Z-315 | Srdoč et al. 1975 |
| 372 | Ljubljansko Barje | Ljubljansko Barje Copper Age | 2683±117 | Z-278 | Srdoč et al. 1975 |
| 373 | Odmut rock shelter | Stratum 6 Late Neo. | 2440±150 | Z-410 | Srdoč et al. 1977 |
| 374 | Ljubljansko Barje | Veliki Mah 1 Copper Age | 2395±113 | Z-305 | Srdoč et al. 1975 |
| 375 | Ljubljansko Barje | Maharski Kanal S-4 Copper Age | 2380±120 | Z-353 | Srdoč et al. 1977 |
| 376 | Odmut rock shelter | Stratum 3 Late Copper Age (links with Adriatic Grapceva Spilja) | 2330±120 | Z-409 | Srdoč et al. 1977 |

APPENDIX 2B

Calibrated radiocarbon dates for the Neolithic and
Copper Age of peninsular Italy and the eastern Adriatic

| No. | C14 date BP | C14 date Cal. BC 1-sigma | C14 date Cal. BC 2-sigma |
|----------------|----------------|---|---|
| <u>ABRUZZO</u> | | | |
| 1 | 6590±130 | 5630 (5489) 5380 5630-5410 (96%) | 5730 (5489) 5242 5730-5300 (98%) |
| 2 | 6578±135 | 5630 (5487) 5360 5590-5380 (89%) | 5730 (5487) 5240 5670-5290 (93%) |
| 3 | 6570±140 | 5630 (5485) 5350 5580-5370 (91%) | 5730 (5485) 5240 5670-5240 (97%) |
| 4 | 6540±80 | 5536 (5480) 5376 5537-5374 (100%) | 5630 (5480) 5248 5625-5323 (100%) |
| 5 | 6300±170 | 5464 (5240) 5060 5420-5190 (68%) | 5550 (5240) 4844 5550-4890 (99%) |
| 6 | 6247±130 | 5330 (5232) 5060 5340-5050 (98%) | 5480 (5232) 4858 5430-4930 (95%) |
| 7 | 5630±80 | 4578 (4468) 4364 4543-4450 (53%) | 4715 (4468) 4340 4683-4347 (99%) |
| 8 | 5560±150 | 4577 (4452, 4428, 4392, 4384, 4368) 4248 4580-4244 (97%) | 4780 (4452, 4428, 4392, 4384, 4368) 4040 4730-4210 (88%) |
| 9 | 5490±70 | 4452 (4350) 4252 4402-4322 (54%) | 4470 (4350) 4165 4497-4227 (96%) |
| 10 | 5340±120 | 4370 (4335) 4050 4370-4220 (61%) | 4510 (4335) 4000 4510-4000 (100%) |
| 11 | 5420±210 | 4470 (4333, 4273, 4259) 4000 4470-4030 (96%) | 4772 (4333, 4273, 4259) 3780 4720-3790 (100%) |
| 12 | 5110±210 | 4225 (3963, 3834, 3828) 3700 4050-3700 (79%) | 4360 (3963, 3834, 3828) 3382 4370-3490 (98%) |
| 13 | 5100±120 | 4034 (3957, 3838, 3826) 3780 4010-3780 (91%) | 4231 (3957, 3838, 3826) 3648 4160-3670 (96%) |

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|----|----------|---|---|
| 14 | 4920±210 | 3970 (3771, 3764, 3702) 3386 3970-3510 (97%) | 4231 (3771, 3764, 3702) 3109 4170-3300 (95%) |
| 15 | 4770±110 | 3690 (3619, 3576, 3531) 3380 3690-3490 (79%) | 3780 (3619, 3576, 3531) 3340 3790-3330 (97%) |
| 16 | 4306±105 | 3040 (2916) 2782 3100-2870 (83%) | 3330 (2916) 2617 3150-2850 (64%) |
| 17 | 4070±180 | 2900 (2598) 2404 2900-2450 (97%) | 3091 (2598) 2049 3050-2130 (98%) |
| * | 3366±130 | 1876 (1680) 1520 1780-1520 (86%) | 2024 (1680) 1410 1990-1410 (99%) |

MARCHE

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|----|-----------------|---|---|
| * | 9990±190 | - | - |
| 18 | 6580±75 | 5558 (5487) 5424 5572-5458 (78%) | 5640 (5487) 5340 5631-5350 (100%) |
| 19 | 6260±85 | 5319 (5234) 5145 5331-5199 (75%) | 5380 (5234) 4947 5414-4998 (99%) |
| 20 | 6210±75 | 5239 (5220) 5066 5186-5061 (64%) | 5330 (5220) 4940 5328-4993 (97%) |
| 21 | 6140±70 | 5222 (5198, 5175, 5135, 5114, 5073) 4947 5214-5042 (91%) | 5240 (5198, 5175, 5135, 5114, 5073) 4902 5240-4933 (98%) |
| * | 5910±50 | 4896 (4789) 4775 4860-4773 (80%) | 4937 (4789) 4720 4908-4715 (96%) |
| 22 | 4670 (Av. ±125) | 3628 (3496, 3427, 3379) 3208 | 3772 (3496, 3427, 3379) 3040 |
| * | 3265±55 | 1622 (1524) 1511 1628-1505 (94%) | 1680 (1524) 1430 1679-1437 (100%) |

UMBRIA

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|----|---------|---|---|
| 23 | 6430±80 | 5477 (5354) 5245 5427-5321 (71%) | 5500 (5354) 5230 5495-5234 (100%) |
| 24 | 6372±90 | 5458 (5326, 5250) 5240 5388-5238 (93%) | 5490 (5326, 5250) 5148 5494-5203 (99%) |
| 25 | 6270±70 | 5318 (5236) 5209 5333-5204 (94%) | 5360 (5236) 5050 5389-5055 (99%) |

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|----------------|----------|---|--|
| 26 | 6245±90 | 5315 (5232) 5077 5322-5253 (33%) | 5370 (5232) 4940 5384-4944 (100%) |
| 27 | 6120±90 | 5221 (5193, 5185, 5062) 4908 5149-4995 (67%) | 5240 (5193, 5185, 5062) 4807 5242-4891 (95%) |
| 28 | 5750±70 | 4723 (4664, 4638, 4601) 4517 4717-4571 (83%) | 4790 (4664, 4638, 4601) 4460 4780-4467 (100%) |
| <u>TOSCANA</u> | | | |
| 29 | 7700±150 | 6680 (6553, 6542, 6487) 6420 6710-6390 (92%) | 7040 (6553, 6542, 6487) 6180 6830-6220 (90%) |
| 30 | 6080±50 | 5196 (5037, 5025, 5000, 4951, 4950) 4908 5069-4939 (82%) | 5210 (5037, 5025, 5000, 4951, 4950) 4859 5207-4900 (100%) |
| 31 | 5850±60 | 4790 (4774) 4684 4803-4674 (88%) | 4899 (4774) 4582 4867-4652 (82%) |
| 32 | 5770±100 | 4780 (4673, 4632, 4624) 4510 4730-4530 (87%) | 4898 (4673, 4632, 4624) 4369 4860-4450 (97%) |
| 33 | 5730±100 | 4730 (4657, 4645, 4585) 4470 4720-4490 (100%) | 4891 (4657, 4645, 4585) 4360 4800-4360 (99%) |
| 34 | 5720±110 | 4730 (4653, 4648, 4581) 4460 4720-4470 (100%) | 4892 (4653, 4648, 4581) 4350 4800-4360 (99%) |
| 35 | 5710±100 | 4720 (4577, 4553, 4547) 4460 4690-4470 (95%) | 4831 (4577, 4553, 4547) 4350 4780-4360 (100%) |
| 36 | 5710±100 | 4720 (4577, 4553, 4547) 4460 4690-4470 (95%) | 4831 (4577, 4553, 4547) 4350 4780-4360 (100%) |
| 37 | 5250±40 | 4219 (4039, 4010) 4000 4147-4111 (30%) | 4229 (4039, 4010) 3990 4160-3992 (84%) |
| 38 | 5200±150 | 4233 (3998) 3816 4170-3930 (70%) | 4350 (3998) 3700 4350-3770 (96%) |
| 39 | 5150±80 | 4036 (3983) 3820 4041-3911 (67%) | 4224 (3983) 3780 4156-3781 (96%) |

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|--------------|----------|---|--|
| 40 | 4248±115 | 3020 (2896) 2666 2820-2660 (50%) | 3295 (2896) 2505 3110-2560 (94%) |
| 41 | 4130±150 | 2910 (2862, 2814, 2738, 2728, 2695, 2679, 2665, 2630) 2491 2900-2570 (92%) | 3091 (2862, 2814, 2738, 2728, 2695, 2697, 2665, 2630) 2300 3100-2280 (100%) |
| 42 | 4100±100 | 2880 (2855, 2824, 2657, 2640, 2619) 2498 2700-2580 (47%) | 2920 (2855, 2824, 2657, 2640, 2619) 2460 2910-2460 (100%) |
| 43 | 4100±120 | 2886 (2855, 2824, 2657, 2640, 2619) 2491 2710-2570 (46%) | 2920 (2855, 2824, 2657, 2640, 2619) 2340 2920-2330 (100%) |
| 44 | 3960±80 | 2580 (2470) 2398 2586-2347 (100%) | 2860 (2470) 2208 2666-2271 (90%) |
| 45 | 3960±200 | 2870 (2470) 2147 2670-2200 (84%) | 3018 (2470) 1910 2930-1900 (99%) |
| <u>LAZIO</u> | | | |
| 46 | 8000±160 | - | - |
| 47 | 6940±100 | 5960 (5768) 5657 5890-5720 (78%) | 6071 (5768) 5630 5990-5630 (99%) |
| 48 | 6860±60 | 5761 (5727) 5642 5772-5641 (100%) | 5951 (5727) 5620 5879-5618 (96%) |
| 49 | 5900±300 | 5220 (4787) 4460 5080-4490 (91%) | 5474 (4787) 4048 |
| 50 | 5800±60 | 4777 (4716) 4588 4775-4663 (74%) | 4836 (4716) 4510 4801-4514 (99%) |
| 51 | 5770±50 | 4723 (4673, 4632, 4624) 4579 4723-4651 (51%) | 4780 (4673, 4632, 4624) 4510 4776-4521 (100%) |
| 52 | 5650±100 | 4665 (4496) 4360 4590-4450 (65%) | 4780 (4496) 4340 4730-4340 (98%) |
| 53 | 5398±145 | 4360 (4315, 4286, 4245) 4040 4360-4210 (51%) | 4530 (4315, 4286, 4245) 3827 |
| 54 | 5395±80 | 4347 (4310, 4288, 4244) 4152 4349-4221 (72%) | 4452 (4310, 4288, 4244) 4005 4451-4430 (1%) |

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|----|----------|---|---|
| 55 | 5270±60 | 4229 (4213, 4207, 4134, 4125, 4043) 4000 4152-4035 (74%) | 4313 (4213, 4207, 4134, 4125, 4043) 3980 4244-3982 (99%) |
| 56 | 4990±50 | 3931 (3783) 3705 3735-3705 (37%) | 3960 (3783) 3690 3825-3694 (61%) |
| 57 | 4390±50 | 3094 (3031, 2966, 2940) 2922 3008-2924 (61%) | 3304 (3031, 2966, 2940) 2910 3110-2912 (86%) |
| 58 | 4025±100 | 2861 (2574, 2533, 2508) 2460 2670-2460 (75%) | 2887 (2574, 2533, 2508) 2290 2790-2310 (84%) |
| 59 | 3955±200 | 2868 (2469) 2146 2670-2200 (85%) | 3015 (2469) 1900 2930-1890 (100%) |
| 60 | 3800±80 | 2453 (2278, 2234, 2209) 2137 2357-2140 (90%) | 2470 (2278, 2234, 2209) 2030 2469-2033 (100%) |

EMILIA - ROMAGNA

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|----|----------|---|--|
| 61 | 6580±150 | 5630 (5487) 5350 5620-5370 (100%) | 5740 (5487) 5240 5740-5240 (100%) |
| 62 | 6320±60 | 5336 (5300, 5273, 5243) 5232 5331-5233 (100%) | 5454 (5300, 5273, 5243) 5148 5420-5208 (97%) |
| 63 | 6310±105 | 5350 (5292, 5286, 5241) 5210 5410-5200 (97%) | 5480 (5292, 5286, 5241) 5001 5480-5040 (99%) |
| 64 | 6170±50 | 5227 (5205, 5155, 5148) 5060 5128-5066 (43%) | 5240 (5205, 5155, 5148) 4946 5241-4993 (97%) |
| 65 | 6130±160 | 5240 (5195, 5180, 5131, 5126, 5067) 4856 5240-4900 (98%) | 5380 (5195, 5180, 5131, 5126, 5067) 4720 5410-4720 (100%) |
| 66 | 6070±110 | 5210 (4996, 4964, 4948) 4849 5090-4900 (70%) | 5240 (4996, 4964, 4948) 4770 |
| 67 | 6000±200 | 5220 (4933, 4925, 4903) 4720 5150-4770 (84%) | 5340 (4933, 4925, 4903) 4460 5330-4470 (100%) |
| 68 | 5930±130 | 4993 (4837, 4817, 4803) 4720 5000-4680 (97%) | 5210 (4837, 4817, 4803) 4510 5150-4530 (96%) |

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|----|----------|---|---|
| 69 | 5890±250 | 5198 (4784) 4470 5070-4500 (98%) | 5330 (4784) 4240 5330-4310 (99%) |
| 70 | 5830±210 | 4940 (4725) 4470 4940-4460 (99%) | 5230 (4725) 4248 5230-4330 (99%) |
| 71 | 5680±260 | 4892 (4519) 4256 4850-4320 (93%) | 5220 (4519) 3990 5090-4030 (96%) |
| 72 | 5610±50 | 4507 (4463) 4367 4507-4451 (49%) | 4652 (4463) 4350 4578-4355 (100%) |
| 73 | 5570±50 | 4466 (4454, 4423, 4398, 4370) 4357 4459-4411 (52%) | 4520 (4454, 4423, 4398, 4370) 4340 4517-4344 (100%) |
| 74 | 5530±150 | 4520 (4360) 4240 4550-4230 (92%) | 4730 (4360) 4005 4720-4040 (100%) |
| 75 | 4995±100 | 3960 (3784) 3700 3944-3848 (44%) | 4000 (3784) 3540 4000-3620 (98%) |
| 76 | 4690±250 | 3775 (3501, 3411, 3382) 3045 3700-3100 (98%) | 4000 (3501, 3411, 3382) 2708 |
| 77 | 4195±95 | 2914 (2879, 2799, 2781, 2711, 2709) 2619 2822-2659 (70%) | 3031 (2879, 2799, 2781, 2711, 2709) 2500 2940-2564 (92%) |
| 78 | 3900±60 | 2471 (2457) 2312 2473-2309 (100%) | 2573 (2457) 2200 2506-2202 (94%) |
| 79 | 3860±100 | 2470 (2343) 2147 2470-2200 (99%) | 2590 (2343) 2040 2600-2030 (100%) |
| 80 | 3840±60 | 2458 (2315) 2201 2402-2276 (67%) | 2470 (2315) 2140 2467-2173 (96%) |
| 81 | 3840±100 | 2470 (2315) 2142 2460-2200 (98%) | 2580 (2315) 2030 2580-2030 (100%) |

FRIULI - VENEZIA - GIULIA

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| 82 | 6300±60 | 5563 (5493) 5478 5577-5475 (89%) | 5630 (5493) 5380 5633-5385 (100%) |
| 83 | 6290±130 | 5350 (5238) 5084 5390-5200 (72%) | 5480 (5238) 4906 5480-4940 (100%) |
| 84 | 6120±60 | 5209 (5193, 5185, 5062) 4945 5145-5033 (58%) | 5230 (5193, 5185, 5062) 4902 5231-4937 (98%) |

| | | | |
|----------------|----------|---|---|
| 85 | 6050±90 | 5198 (4943) 4849 5073-4895 (75%) | 5230 (4943) 4780 5215-4788 (100%) |
| 86 | 5770+50 | 4723 (4673, 4632, 4624) 4579 4723-4651 (51%) | 4780 (4673, 4632, 4624) 4510 4776-4521 (100%) |
| 87 | 5770±60 | 4726 (4673, 4632, 4624) 4543 4726-4576 (95%) | 4790 (4673, 4632, 4624) 4490 4783-4500 (100%) |
| 88 | 5760±160 | 4833 (4668, 4635, 4613) 4460 4800-4460 (97%) | 5039 (4668, 4635, 4613) 4340 5010-4330 (98%) |
| 89 | 4160±50 | 2883 (2870, 2806, 2774, 2720, 2702) 2622 2783-2692 (55%) | 2910 (2870, 2806, 2774, 2720, 2702) 2590 2895-2650 (89%) |
| 90 | 3720±50 | 2199 (2138) 2039 2200-2100 (65%) | 2290 (2138) 1978 2294-2014 (96%) |
| <u>LIGURIA</u> | | | |
| 91 | 6980±115 | 5980 (5828) 5720 5970-5740 (100%) | 6090 (5828) 5630 6010-5640 (94%) |
| 92 | 6950±110 | 5970 (5799) 5658 5959-5730 (100%) | 6077 (5799) 5620 6000-5630 (97%) |
| 93 | 6870±100 | 5830 (5732) 5640 5840-5630 (100%) | 5970 (5732) 5550 5970-5560 (100%) |
| 94 | 6700±145 | 5720 (5619, 5595, 5583) 5480 5730-5480 (100%) | 5840 (5619, 5595, 5583) 5340 5850-5330 (98%) |
| 95 | 6610±60 | 5613 (5501) 5479 5577-5478 (90%) | 5640 (5501) 5410 5637-5410 (99%) |
| 96 | 6580±110 | 5618 (5487) 5410 5580-5410 (87%) | 5650 (5487) 5246 5660-5310 (98%) |
| 97 | 6510±110 | 5530 (5475, 5430) 5330 5530-5340 (100%) | 5630 (5475, 5430) 5240 5620-5290 (94%) |
| 98 | 6490±100 | 5490 (5472, 5440, 5423) 5330 5500-5330 (100%) | 5620 (5472, 5440, 5423) 5240 5570-5240 (99%) |
| 99 | 6490±110 | 5500 (5472, 5440, 5423) 5330 5510-5320 (98%) | 5630 (5472, 5440, 5423) 5230 5580-5240 (98%) |
| 100 | 6480 | - | - |

| | | | |
|-----|----------|---|---|
| 101 | 6470±120 | 5490 (5454, 5449, 5415) 5246 5500-5310 (93%) | 5630 (5454, 5449, 5415) 5220 5590-5230 (97%) |
| 102 | 6420±65 | 5473 (5347) 5246 5421-5319 (75%) | 5490 (5347) 5230 5479-5291 (85%) |
| 103 | 6400±105 | 5480 (5338) 5240 5420-5300 (67%) | 5530 (5338) 5148 5550-5200 (99%) |
| 104 | 6295±180 | 5480 (5315, 5261, 5246) 5143 5480-5200 (85%) | 5620 (5315, 5261, 5246) 4860 5590-4930 (97%) |
| 105 | 6280±70 | 5322 (5237) 5214 5337-5207 (100%) | 5370 (5237) 5060 5414-5192 (82%) |
| 106 | 6280±120 | 5340 (5237) 5083 5360-5200 (68%) | 5480 (5237) 4907 5480-4990 (97%) |
| 107 | 6270±100 | 5330 (5236) 5144 5340-5200 (72%) | 5472 (5236) 4940 5420-5000 (96%) |
| 108 | 6240±90 | 5313 (5231) 5073 5320-5256 (29%) 5248-5196 (29%) | 5370 (5231) 4940 5379-4943 (100%) |
| 109 | 6230±90 | 5309 (5230) 5067 5182-5066 (50%) | 5360 (5230) 4908 5367-4941 (100%) |
| 110 | 6220±55 | 5238 (5225) 5087 5242-5198 (40%) | 5316 (5225) 5005 5326-5049 (99%) |
| 111 | 6220±100 | 5305 (5225) 5060 5250-5060 (82%) | 5360 (5225) 4905 5380-4930 (99%) |
| 112 | 6205±105 | 5296 (5218) 5006 5240-5050 (83%) | 5350 (5218) 4900 5370-4900 (100%) |
| 113 | 6140±110 | 5230 (5198, 5175, 5135, 5114, 5073) 4908 5220-4990 (91%) | 5323 (5198, 5175, 5135, 5114, 5073) 4792 5250-4838 (94%) |
| 114 | 6090±90 | 5208 (5046, 5019, 5004) 4903 5087-4938 (64%) | 5240 (5046, 5019, 5004) 4790 5235-4836 (99%) |
| 115 | 6070±90 | 5203 (4996, 4964, 4948) 4864 5082-4931 (65%) | 5230 (4996, 4964, 4948) 4780 5227-4834 (97%) |
| 116 | 6050±100 | 5200 (4943) 4845 5080-4890 (72%) | 5230 (4943) 4770 5230-4780 (100%) |
| 117 | 6050±130 | 5210 (4943) 4794 5090-4890 (64%) | 5294 (4943) 4685 5240-4710 (98%) |

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| 118 | 6015±65 | 5039 (4936, 4919, 4906) 4844 5004-4891 (64%) | 5200 (4936, 4919, 4906) 4780 5082-4781 (93%) |
| 119 | 6010±130 | 5198 (4935, 4921, 4905) 4780 5070-4780 (91%) | 5240 (4933, 4925, 4903) 4598 5240-4660 (98%) |
| 120 | 6000±100 | 5054 (4933, 4925, 4903) 4790 5010-4790 (87%) | 5220 (4933, 4925, 4903) 4720 5210-4720 (100%) |
| 121 | 6000±120 | 5193 (4933, 4925, 4903) 4780 5070-4780 (95%) | 5230 (4933, 4925, 4903) 4610 5230-4670 (99%) |
| 122 | 5980±85 | 4996 (4899, 4872, 4865) 4784 4949-4782 (82%) | 5202 (4899, 4872, 4865) 4720 5088-4717 (93%) |
| 123 | 5955±65 | 4938 (4895, 4881, 4847) 4783 4906-4785 (88%) | 5048 (4895, 4881, 4847) 4720 5007-4720 (96%) |
| 124 | 4940±80 | 4938 (4892, 4887, 4841) 4776 4910-4773 (81%) | 5060 (4892, 4887, 4841) 4628 5064-4666 (98%) |
| 125 | 5940±100 | 4940 (4892, 4887, 4841) 4727 4950-4720 (94%) | 5199 (4892, 4887, 4841) 4588 5080-4660 (92%) |
| 126 | 5885±95 | 4900 (4783) 4685 4902-4677 (98%) | 5037 (4783) 4530 5002-4523 (99%) |
| 127 | 5860±120 | 4900 (4777) 4589 4900-4660 (84%) | 5050 (4777) 4460 5060-4460 (100%) |
| 128 | 5855±95 | 4900 (4783) 4685 4902-4677 (98%) | 5037 (4783) 4530 5002-4523 (99%) |
| 129 | 5800±120 | 4834 (4716) 4520 4790-4520 (98%) | 4940 (4716) 4367 4940-4450 (97%) |
| 130 | 5700±90 | 4714 (4572, 4564, 4536) 4463 4679-4466 (100%) | 4780 (4572, 4564, 4536) 4360 4730-4450 (85%) |
| 131 | 5600±80 | 4521 (4461) 4357 4520-4357 (100%) | 4670 (4461) 4340 |
| 132 | 5480±80 | 4452 (4348) 4245 4369-4292 (45%) | 4490 (4348) 4153 4507-4219 (90%) |
| 133 | 5470±100 | 4454 (4345) 4240 4410-4230 (80%) | 4510 (4345) 4042 4520-4210 (80%) |

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| 134 | 5465±50 | 4357 (4344) 4249 4361-4302 (57%) | 4455 (4344) 4230 4404-4233 (89%) |
| 135 | 5435±135 | 4454 (4337) 4048 4400-4220 (63%) | 4576 (4337) 3990 4550-3990 (99%) |
| 136 | 5400±90 | 4351 (4318, 4285, 4246) 4049 4352-4220 (69%) | 4457 (4318, 4285, 4246) 4002 4370-4036 (94%) |
| 137 | 5345±120 | 4340 (4232, 4190, 4165) 4004 4125-4043 (31%) | 4458 (4232, 4190, 4165) 3826 4410-3960 (97%) |
| 138 | 5335±50 | 4243 (4229, 4193, 4161) 4044 4204-4139 (42%) | 4340 (4229, 4193, 4161) 4004 4263-4039 (85%) |
| 139 | 5180±70 | 4039 (3994) 3828 4046-3943 (69%) | 4226 (3994) 3813 4162-3901 (76%) |
| 140 | 5075±45 | 3970 (3944, 3848, 3821) 3789 3965-3907 (45%) | 3992 (3944, 3848, 3821) 3781 3984-3784 (100%) |
| 141 | 4980±100 | 3950 (3781) 3690 3820-3690 (61%) | 3990 (3781) 3533 3990-3620 (97%) |
| 142 | 4705±70 | 3622 (3506, 3403, 3385) 3371 3485-3376 (62%) | 3650 (3506, 3403, 3385) 3340 3649-3342 (99%) |
| 143 | 4680±100 | 3623 (3498, 3419, 3380) 3350 3540-3350 (80%) | 3690 (3498, 3419, 3380) 3100 3690-3290 (88%) |
| 144 | 4610±50 | 3494 (3364) 3343 3500-3414 (54%) | 3510 (3364) 3135 3515-3303 (77%) |
| 145 | 4490±90 | 3352 (3301, 3239, 3173, 3167, 3107) 2949 3341-3091 (93%) | 3497 (3301, 3239, 3173, 3167, 3107) 2920 3378-2918 (99%) |
| 146 | 4410±150 | 3340 (3037) 2900 3150-2910 (64%) | 3510 (3037) 2622 3390-2860 (86%) |
| 147 | 4390±70 | 3254 (3031, 2966, 2940) 2918 3101-2918 (96%) | 3340 (3031, 2966, 2940) 2900 3146-2901 (77%) |
| 148 | 4340±60 | 3035 (2922) 2911 3036-2910 (100%) | 3257 (2922) 2786 3107-2879 (93%) |
| 149 | 4340±60 | 3035 (2922) 2911 3036-2910 (100%) | 3257 (2922) 2786 3107-2879 (93%) |

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| 150 | 4275±65 | 2923 (2911) 2784 2930-2872 (51%) | 3040 (2911) 2668 3043-2860 (67%) |
| 151 | 4220±90 | 2917 (2885, 2794, 2786) 2629 2819-2691 (56%) | 3040 (2885, 2794, 2786) 2580 3037-2576 (99%) |
| 152 | 4220±55 | 2911 (2885, 2794, 2786) 2702 2914-2866 (41%) | 2922 (2885, 2794, 2786) 2621 2826-2655 (62%) |
| 153 | 4110±55 | 2871 (2857, 2821, 2691, 2689, 2660, 2637, 2623) 2585 2866-2809 (30%) | 2887 (2857, 2821, 2691, 2689, 2660, 2637, 2623) 2497 2784-2571 (68%) |
| 154 | 3920±60 | 2554 (2462) 2342 2494-2337 (94%) | 2580 (2462) 2208 2583-2274 (97%) |
| 155 | 3880±120 | 2564 (2453, 2423, 2398) 2147 2500-2190 (92%) | 2860 (2453, 2423, 2398) 2030 2862-2814 (2%) |
| 156 | 3765±70 | 2307 (2197, 2154, 2148) 2046 2320-2130 (88%) | 2460 (2197, 2154, 2148) 1982 2409-2030 (95%) |

VENETO

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| 157 | 6470±150 | 3640 (3496, 3427, 3379) 3143 3640-3310 (85%) | 3780 (3496, 3427, 3379) 2927 3710-3030 (96%) |
| 158 | 6450±110 | 5490 (5378) 5244 5480-5310 (93%) | 5614 (5378) 5220 5570-5220 (99%) |
| 159 | 6350±140 | 5473 (5317, 5259, 5247) 5220 5475-5210 (100%) | 5540 (5317, 5259, 5247) 4945 5550-4990 (99%) |
| 160 | 6290±150 | 5370 (5238) 5069 5390-5190 (67%) | 5500 (5238) 4862 5500-4900 (100%) |
| 161 | 6240±100 | 5317 (5231) 5067 5321-5255 (28%) | 5410 (5231) 4907 5390-4940 (99%) |
| 162 | 6125±150 | 5240 (5194, 5183, 5065) 4860 5230-4930 (94%) | 5350 (5194, 5183, 5065) 4720 5370-4720 (100%) |
| 163 | 5960±50 | 4936 (4895, 4879, 4849) 4788 4903-4832 (65%) | 4996 (4895, 4879, 4849) 4770 4948-4772 (93%) |

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| 164 | 5930±130 | 4993 (4837, 4817, 4803) 4720 5000-4680 (97%) | 5210 (4837, 4817, 4803) 4510 5150-4530 (96%) |
| 165 | 5820±135 | 4895 (4722) 4520 4840-4530 (98%) | 5049 (4722) 4360 5000-4450 (95%) |
| 166 | 5800±50 | 4775 (4716) 4596 4730-4666 (52%) | 4790 (4716) 4530 4788-4532 (100%) |
| 167 | 5780±135 | 4831 (4711, 4708, 4680) 4490 4790-4490 (99%) | 4940 (4711, 4708, 4680) 4350 4950-4350 (100%) |
| 168 | 5750±135 | 4780 (4664, 4638, 4601) 4460 4780-4480 (100%) | 4938 (4664, 4638, 4601) 4350 4910-4350 (99%) |
| 169 | 5730±50 | 4712 (4657, 4645, 4585) 4516 4626-4525 (69%) | 4771 (4657, 4645, 4585) 4470 4724-4469 (100%) |
| 170 | 5700±130 | 4730 (4572, 4564, 4536) 4370 4720-4460 (95%) | 4896 (4572, 4564, 4536) 4340 4860-4330 (99%) |
| 171 | 5690±50 | 4662 (4527) 4469 4590-4473 (87%) | 4720 (4527) 4404 4715-4458 (99%) |
| 172 | 5690±50 | 4662 (4527) 4469 4590-4473 (87%) | 4720 (4527) 4404 4715-4458 (99%) |
| 173 | 5680±50 | 4658 (4519) 4467 4585-4468 (92%) | 4713 (4519) 4399 4687-4454 (95%) |
| 174 | 5670±130 | 4720 (4512) 4360 4680-4450 (81%) | 4838 (4512) 4247 4840-4320 (98%) |
| 175 | 5640±50 | 4530 (4470) 4407 4545-4455 (75%) | 4663 (4470) 4360 4597-4361 (95%) |
| 176 | 5610±50 | 4507 (4463) 4367 4507-4451 (49%) | 4652 (4463) 4350 4578-4355 (100%) |
| 177 | 5590±50 | 4491 (4459, 4411, 4409) 4362 4468-4365 (100%) | 4571 (4459, 4411, 4409) 4350 4537-4348 (99%) |
| 178 | 5580±50 | 4469 (4456, 4417, 4403) 4359 4463-4366 (100%) | 4530 (4456, 4417, 4403) 4350 4529-4345 (100%) |
| 179 | 5570±50 | 4466 (4454, 4423, 4398, 4370) 4357 4459-4411 (52%) | 4520 (4454, 4423, 4398, 4370) 4340 4517-4344 (100%) |

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| 180 | 5570±50 | 4466 (4454, 4423, 4398, 4370) 4357 4459-4411 (52%) | 4520 (4454, 4423, 4398, 4370) 4340 4517-4344 (100%) |
| 181 | 5570±50 | 4466 (4454, 4423, 4398, 4370) 4357 4459-4411 (52%) | 4520 (4454, 4423, 4398, 4370) 4340 4517-4344 (100%) |
| 182 | 5560±50 | 4464 (4452, 4428, 4392, 4384, 4368) 4354 4406-4361 (51%) | 4510 (4452, 4428, 4392, 4384, 4368) 4340 4511-4341 (100%) |
| 183 | 5555±130 | 4520 (4451, 4438, 4366) 4330 4550-4320 (84%) | 4720 (4451, 4438, 4366) 4047 4720-4220 (92%) |
| 184 | 5530±50 | 4457 (4360) 4347 4401-4349 (59%) | 4470 (4360) 4330 4495-4331 (96%) |
| 185 | 5525±200 | 4655 (4359) 4157 4600-4220 (84%) | 4836 (4359) 3970 |
| 186 | 5510±50 | 4452 (4355) 4342 4400-4339 (65%) | 4460 (4355) 4247 4467-4303 (90%) |
| 187 | 5490±50 | 4363 (4350) 4337 4369-4331 (45%) | 4460 (4350) 4240 4409-4243 (79%) |
| 188 | 5440±50 | 4351 (4338) 4242 4349-4300 (50%) 4289-4244 (50%) | 4360 (4338) 4160 4368-4224 (88%) |
| 189 | 5370±50 | 4334 (4238) 4154 4334-4270 (42%) | 4350 (4238) 4041 4343-4215 (55%) |
| 190 | 5370±70 | 4339 (4238) 4047 4338-4220 (64%) | 4360 (4238) 4004 4350-4039 (100%) |
| 191 | 5310±50 | 4236 (4223, 4198, 4151, 4051, 4050) 4040 4125-4043 (53%) | 4332 (4223, 4198, 4151, 4051, 4050) 3999 4247-4033 (90%) |
| 192 | 5260±50 | 4224 (4210) 4000 4148-4092 (39%) | 4240 (4210) 3980 4169-3991 (80%) |
| 193 | 5220±120 | 4231 (4033, 4022, 4003) 3826 4170-3950 (78%) | 4340 (4033, 4022, 4003) 3780 4334-3890 (87%) |
| 194 | 5140±50 | 3997 (3979) 3824 4001-3941 (65%) | 4038 (3979) 3813 4040-3898 (65%) |

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| 195 | 5070±100 | 3990 (3942, 3850, 3820) 3725 3990-3780 (100%) | 4214 (3942, 3850, 3820) 3690 4050-3650 (98%) |
| 196 | 4890±130 | 3896 (3695) 3526 3810-3600 (73%) | 3990 (3695) 3370 3970-3490 (91%) |
| 197 | 4580±50 | 3372 (3351) 3146 3377-3308 (44%) | 3501 (3351) 3100 3245-3101 (45%) |

LOMBARDIA

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| 198 | 6235±470 | 5621 (5231) 4616 5580-4670 (97%) | 6076 (5231) 4046 6040 - 6020 (0%) |
| 199 | 6170±110 | 5240 (5205, 5155, 5148) 4945 5240-5000 (96%) | 5340 (5205, 5155, 5148) 4843 5340-4890 (97%) |
| 200 | 6090±100 | 5210 (5046, 5019, 5004) 4901 5090-4940 (62%) | 5240 (5046, 5019, 5004) 4780 5240-4830 (97%) |
| 201 | 5930±50 | 4900 (4837, 4817, 4803) 4780 4863-4782 (76%) | 4940 (4837, 4817, 4803) 4720 4910-4724 (93%) |
| 202 | 5930±130 | 4993 (4837, 4817, 4803) 4720 5000-4680 (97%) | 5210 (4837, 4817, 4803) 4510 5150-4530 (96%) |
| 203 | 5810±60 | 4780 (4719) 4597 4779-4664 (79%) | 4891 (4719) 4520 4807-4524 (97%) |
| 204 | 5570±200 | 4674 (4454, 4423, 4398, 4370) 4240 4680-4230 (98%) | 4898 (4454, 4423, 4398, 4370) 3990 4860-3990 (99%) |
| 205 | 5534±144 | 4520 (4361) 4240 4550-4230 (95%) | 4720 (4361) 4009 4720-4210 (86%) |
| 206 | 5460±155 | 4460 (4343) 4049 4470-4220 (75%) | 4675 (4343) 3980 4630-3980 (98%) |
| 207 | 5326±180 | 4350 (4227, 4195, 4158) 3980 4350-3980 (100%) | 4530 (4227, 4195, 4158) 3717 |
| 208 | 5110±50 | 3989 (3963, 3834, 3828) 3818 3991-3935 (52%) | 4033 (3963, 3834, 3828) 3790 4000-3787 (99%) |
| 209 | 4980±50 | 3906 (3781) 3703 3763-3702 (51%) | 3950 (3781) 3690 3825-3688 (67%) |

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| 210 | 4810±115 | 3773 (3633, 3552, 3549) 3383 3710-3500 (83%) | 3931 (3633, 3552, 3549) 3350 3820-3340 (97%) |
| 211 | 4805±50 | 3677 (3631, 3556, 3546) 3522 3583-3522 (54%) | 3771 (3631, 3556, 3546) 3383 3702-3501 (95%) |
| 212 | 4794±90 | 3694 (3627, 3565, 3542) 3384 3694-3505 (93%) | 3780 (3627, 3565, 3542) 3360 3720-3370 (94%) |
| 213 | 4790±210 | 3790 (3626, 3568, 3540) 3350 3810-3340 (94%) | 4032 (3626, 3568, 3540) 2927 4000-3030 (99%) |
| 214 | 4735±50 | 3626 (3599, 3587, 3516) 3380 3627-3565 (44%) | 3640 (3599, 3587, 3516) 3370 3635-3490 (63%) |
| 215 | 4580±50 | 3372 (3351) 3146 3377-3308 (44%) | 3501 (3351) 3100 3245-3101 (45%) |
| 216 | 4420±90 | 3321 (3040) 2920 3108-3011 (38%) | 3360 (3040) 2890 3347-2910 (100%) |
| 217 | 4385±50 | 3093 (3030, 2975, 2934) 2921 3041-2923 (88%) | 3302 (3030, 2975, 2934) 2910 3110-2911 (88%) |
| 218 | 4240±190 | 3091 (2892) 2580 3050-2580 (92%) | 3370 (2892) 2340 3370-2330 (100%) |
| 219 | 4010±40 | 2585 (2569, 2538, 2503) 2479 2583-2486 (100%) | 2854 (2569, 2538, 2503) 2463 2619-2462 (92%) |
| 220 | 3950±320 | 2910 (2468) 1986 2890-2100 (95%) | 3360 (2468) 1610 3340-1670 (100%) |
| 221 | 3900±80 | 2554 (2457) 2288 2495-2284 (96%) | 2590 (2457) 2142 2597-2140 (100%) |
| 222 | 3840±210 | 2580 (2315) 1986 2590-2020 (98%) | 2900 (2315) 1740 2790-1850 (92%) |
| 223 | 3810±210 | 2573 (2283) 1960 2510-1960 (95%) | 2888 (2283) 1689 2710-1740 (93%) |

TRENTINO - ALTO ADIGE

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| 224 | 6480±50 | 5482 (5470, 5444, 5419) 5344 5477-5367 (100%) | 5510 (5470, 5444, 5419) 5246 5517-5313 (98%) |
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| 225 | 6060±50 | 5191 (4992, 4979, 4946) 4904 5062-4934 (85%) | 5204 (4992, 4979, 4946) 4847 5144-4895 (87%) |
| 226 | 6030±45 | 5036 (4939, 4913, 4909) 4866 5002-4898 (79%) | 5195 (4939, 4913, 4909) 4804 5071-4835 (94%) |
| 227 | 5990±45 | 4941 (4931, 4928, 4901) 4841 4943-4838 (93%) | 5044 (4931, 4928, 4901) 4784 5003-4784 (96%) |
| 228 | 5810±50 | 4778 (4719) 4608 4777-4668 (85%) | 4832 (4719) 4538 4797-4571 (96%) |
| 229 | 5750±60 | 4720 (4664, 4638, 4601) 4524 4715-4574 (89%) | 4780 (4664, 4638, 4601) 4470 4776-4489 (100%) |
| 230 | 5650±150 | 4720 (4496) 4350 4680-4360 (100%) | 4894 (4496) 4166 4850-4230 (98%) |
| 231 | 5560±50 | 4464 (4452, 4428, 4392, 4384, 4368) 4354 4406-4361 (51%) | 4510 (4452, 4428, 4392, 4384, 4368) 4340 4511-4341 (100%) |
| 232 | 5530±50 | 4457 (4360) 4347 4401-4349 (59%) | 4470 (4360) 4330 4495-4331 (96%) |
| 233 | 5470±50 | 4359 (4345) 4250 4364-4300 (59%) | 4456 (4345) 4240 4407-4234 (87%) |
| 234 | 5370±180 | 4370 (4238) 4000 4370-4000 (99%) | 4657 (4238) 3790 4580-3790 (100%) |
| 235 | 4810±50 | 3687 (3633, 3552, 3549) 3524 3580-3525 (49%) | 3771 (3633, 3552, 3549) 3384 3703-3502 (95%) |
| 236 | 4350±100 | 3097 (3013, 3007, 2924) 2900 3100-2890 (87%) | 3340 (3013, 3007, 2924) 2699 3340-2860 (93%) |
| 237 | 4130±100 | 2888 (2862, 2814, 2738, 2728, 2695, 2679, 2665, 2630) 2510 2710-2600 (43%) | 2920 (2862, 2814, 2738, 2728, 2695, 2679, 2665, 2630) 2460 2920-2470 (100%) |
| 238 | 3985±50 | 2579 (2556, 2546, 2493) 2464 2526-2465 (55%) | 2853 (2556, 2546, 2493) 2399 2621-2451 (86%) |
| 239 | 3810±80 | 2455 (2283) 2140 2366-2189 (75%) | 2490 (2283) 2030 2473-2036 (100%) |

PIEMONTE - VAL D'AOSTA

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| 240 | 5825±75 | 4787 (4724) 4598 4790-4659 (75%) | 4899 (4724) 4510 4860-4517 (97%) |
| 241 | 5020±180 | 4000 (3895, 3887, 3810, 3788) 3640 4000-3630 (97%) | 4240 (3895, 3887, 3810, 3788) 3380 4240-3490 (96%) |
| 242 | 4910±200 | 3960 (3699) 3386 3960-3510 (98%) | 4223 (3699) 3137 4160-3300 (96%) |
| 243 | 4840±190 | 3904 (3642) 3370 3790-3370 (93%) | 4034 (3642) 3100 |
| 244 | 4800±170 | 3780 (3629, 3560, 3544) 3370 3720-3370 (90%) | 3980 (3629, 3560, 3544) 3100 3970-3260 (92%) |
| 245 | 4325±70 | 3033 (2920) 2899 3039-2889 (99%) | 3262 (2920) 2706 3133-2868 (87%) |
| 246 | 4270±150 | 3040 (2909) 2626 3050-2850 (48%) | 3350 (2909) 2480 3340-2560 (97%) |
| 247 | 4200±180 | 3028 (2880, 2798, 2782) 2506 2940-2570 (83%) | 3340 (2880, 2798, 2782) 2310 3340-2330 (100%) |
| 248 | 4090±70 | 2870 (2853, 2828, 2655, 2644, 2615) 2506 2669-2578 (43%) | 2889 (2853, 2828, 2655, 2644, 2615) 2470 2783-2552 (64%) |
| 249 | 4010±60 | 2602 (2569, 2538, 2503) 2468 2612-2466 (95%) | 2863 (2569, 2538, 2503) 2402 2669-2452 (80%) |

LIPARI - AEOLIAN ISLANDS

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| 250 | 5200±60 | 4211 (3998) 3977 4046-3963 (68%) | 4227 (3998) 3821 4165 3938 (83%) |
| 251 | 5000±200 | 4000 (3785) 3544 4000-3620 (91%) | 4321 (3785) 3360 4250-3360 (99%) |
| 252 | 4885±55 | 3775 (3694) 3638 3709-3633 (71%) | 3790 (3694) 3529 3788-3610 (87%) |

CALABRIA

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| 253 | 7555±85 | 6464 (6425) 6239 6470-6365 (54%) | 6560 (6425) 6170 6509-6177 (94%) |
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| 254 | 6930±60 | 5950 (5753) 5724 5849-5718 (80%) | 5970 (5753) 5640 5889-5651 (84%) |
| 255 | 6710±80 | 5646 (5623) 5508 5646-5507 (100%) | 5740 (5623) 5480 5745-5475 (100%) |
| 256 | 6430±90 | 5480 (5354) 5244 5428-5319 (69%) | 5540 (5354) 5230 5522-5231 (100%) |
| 257 | 6420±70 | 5474 (5347) 5245 5422-5318 (73%) | 5490 (5347) 5230 5480-5240 (100%) |
| 258 | 5690±50 | 4662 (4527) 4469 4590-4473 (87%) | 4720 (4527) 4404 4715-4458 (99%) |
| 259 | 5555±75 | 4468 (4451, 4438, 4366) 4347 4477-4345 (100%) | 4576 (4451, 4438, 4366) 4246 4580-4296 (94%) |
| 260 | 5100±70 | 3994 (3963, 3834, 3828) 3814 3994-3908 (56%) | 4040 (3963, 3834, 3828) 3721 4042-3777 (96%) |
| 261 | 4770±55 | 3639 (3619, 3576, 3531) 3386 3638-3508 (93%) | 3700 (3619, 3576, 3531) 3370 3692-3494 (82%) |
| <u>CAMPANIA</u> | | | |
| 262 | 4800±90 | 3696 (3629, 3560, 3544) 3385 3695-3507 (94%) | 3780 (3629, 3560, 3544) 3370 3723-3372 (94%) |
| 263 | 4530±100 | 3370 (3334, 3219, 3189, 3152, 3148) 3042 3370-3090 (96%) | 3597 (3334, 3219, 3189, 3152, 3148) 2920 3390-3010 (81%) |
| 264 | 4320±120 | 3094 (2919) 2782 3110-2870 (76%) | 3340 (2919) 2611 3340-2850 (78%) |
| 265 | 4105±120 | 2887 (2856, 2822, 2659, 2639, 2621) 2493 2710-2570 (45%) | 3011 (2856, 2822, 2659, 2639, 2621) 2350 2930-2340 (100%) |
| 266 | 4025±100 | 2861 (2574, 2533, 2508) 2460 2670-2460 (75%) | 2887 (2574, 2533, 2508) 2290 2790-2310 (84%) |
| 267 | 4010±100 | 2858 (2569, 2538, 2503) 2460 2670-2450 (75%) | 2883 (2569, 2538, 2503) 2280 2780-2290 (86%) |
| 268 | 3920±360 | 2910 (2462) 1910 2890-1950 (100%) | 3370 (2462) 1464 3350-1520 (100%) |

MOLISE

| | | | |
|-----|----------|---|--|
| 269 | 6540±80 | 5536 (5480) 5376 5537-5374 (100%) | 5630 (5480) 5248 5625-5323 (100%) |
| 270 | 6280±70 | 5330 (5240) 5224 5338-5219 (100%) | 5410 (5240) 5069 5420-5197 (89%) |
| 271 | 6210±70 | 5238 (5220) 5068 5184-5063 (65%) | 5323 (5220) 4945 5326-4995 (98%) |
| 272 | 5930±100 | 4940 (4837, 4817, 4803) 4720 4950-4720 (96%) | 5196 (4837, 4817, 4803) 4583 5080-4578 (97%) |
| 273 | 5840±70 | 4790 (4772, 4759, 4728) 4620 4800-4666 (81%) | 4900 (4772, 4759, 4728) 4530 4867-4572 (93%) |
| 274 | 5580±70 | 4498 (4456, 4417, 4403) 4354 4487-4357 (100%) | 4655 (4456, 4417, 4403) 4340 4591-4333 (97%) |

BASILICATA

| | | | |
|-----|----------|--|--|
| 275 | 7000±140 | 6090 (5975) 5800 6090-5810 (100%) | 6215 (5975) 5650 6180-5650 (100%) |
| 276 | 6900±150 | 5960 (5741) 5630 5880-5640 (87%) | 6080 (5741) 5490 6000-5510 (97%) |
| 277 | 6780±100 | 5740 (5641) 5560 5740-5550 (100%) | 5840 (5641) 5480 5850-5480 (98%) |
| 278 | 6530±150 | 5613 (5479) 5330 5570-5330 (97%) | 5717 (5479) 5220 5720-5220 (100%) |
| 279 | 4710±80 | 3627 (3507, 3401, 3386) 3371 3488-3375 (57%) | 3690 (3507, 3401, 3386) 3340 3694-3337 (99%) |
| 280 | 4680±60 | 3608 (3498, 3419, 3380) 3367 3514-3391 (83%) | 3632 (3498, 3419, 3380) 3340 3548-3343 (82%) |
| 281 | 4580±80 | 3493 (3351) 3109 3379-3302 (32%) | 3609 (3351) 3040 3519-3040 (98%) |
| 282 | 4547±70 | 3368 (3340) 3103 3244-3103 (64%) | 3502 (3340) 3040 3383-3035 (91%) |

PUGLIA

| | | | |
|-----|------|---|---|
| 283 | 8150 | - | - |
|-----|------|---|---|

| | | | |
|-----|----------|--|--|
| 284 | 7900±100 | 7040 (6703) 6610 6830-6670 (53%) | - 7060-6560 (99%) |
| 285 | 7780±320 | - | - |
| 286 | 7600±100 | 6555 (6441) 6262 6500-6380 (58%) | 6672 (6441) 6179 6630-6180 (99%) |
| 287 | 7290±110 | 6219 (6112) 5998 6230-6030 (87%) | 6410 (6112) 5960 6420-5960 (100%) |
| 288 | 7125±20 | 6075 (5983) 5968 6002-5965 (48%) | 6085 (5983) 5882 6087-5952 (90%) |
| 289 | 7000±100 | 5980 (5840) 5740 5970-5760 (100%) | 6080 (5840) 5640 6000-5650 (94%) |
| 290 | 6880±90 | 5830 (5735) 5640 5832-5640 (100%) | 5970 (5735) 5566 5966-5615 (98%) |
| 291 | 6850±80 | 5778 (5721) 5636 5799-5635 (100%) | 5957 (5721) 5560 5884-5561 (95%) |
| 292 | 6850±130 | 5830 (5721) 5620 5840-5620 (90%) | 5980 (5721) 5490 5970-5500 (100%) |
| 293 | 6790±255 | 5960 (5643) 5480 - | 6120 (5643) 5240 - |
| 294 | 6750±220 | 5820 (5635) 5480 5850-5470 (94%) | 6080 (5635) 5240 6000-5300 (97%) |
| 295 | 6720±100 | 5694 (5626) 5500 5660-5500 (92%) | 5770 (5626) 5427 5820-5460 (98%) |
| 296 | 6700±100 | 5650 (5619, 5595, 5583) 5490 - | 5750 (5619, 5595, 5583) 5419 - |
| 297 | 6540±65 | 5509 (5480) 5412 5532-5386 (100%) | 5618 (5480) 5330 5582-5329 (97%) |
| 298 | 6530±260 | 5640 (5479) 5240 5660-5230 (95%) | 5960 (5479) 4903 5960-4940 (100%) |
| 299 | 6520±70 | 5495 (5477) 5362 5499-5357 (100%) | 5613 (5477) 5247 5577-5316 (97%) |
| 300 | 6490±140 | 5540 (5472, 5440, 5423) 5246 5540-5320 (95%) | 5640 (5472, 5440, 5423) 5210 |
| 301 | 6490±150 | 5550 (5472, 5440, 5423) 5245 5540-5310 (93%) | 5650 (5472, 5440, 5423) 5210 5660-5200 (98%) |

| | | | |
|-----|----------|--|---|
| 302 | 6465±185 | 5550 (5413) 5240 5550-5240 (100%) | 5718 (5413) 5002 5730-5030 (99%) |
| 303 | 6410±150 | 5480 (5343) 5230 5480-5230 (100%) | 5630 (5343) 5007 5630-5050 (100%) |
| 304 | 6400±80 | 5472 (5338) 5241 5417-5304 (73%) | 5490 (5338) 5220 5482-5233 (100%) |
| 305 | 6330±90 | 5360 (5308, 5267, 5244) 5230 5386-5220 (100%) | 5480 (5308, 5267, 5244) 5067 5480-5197 (92%) |
| 306 | 6290±90 | 5330 (5238) 5210 5361-5202 (90%) | 5427 (5238) 5004 5427-5051 (96%) |
| 307 | 6140±120 | 5230 (5198, 5175, 5135, 5114, 5073) 4906 5230-4990 (88%) | 5330 (5198, 5175, 5135, 5114, 5073) 4790 5325-4830 (98%) |
| 308 | 6120±80 | 5217 (5193, 5185, 5062) 4941 5147-4997 (70%) | 5240 (5193, 5185, 5062) 4847 5239-4896 (98%) |
| 309 | 6120±170 | 5240 (5193, 5185, 5062) 4845 5240-4900 (94%) | 5410 (5193, 5185, 5062) 4680 5420-4680 (100%) |
| 310 | 6020±160 | 5210 (4937, 4917, 4907) 4780 5080-4780 (82%) | 5314 (4937, 4917, 4907) 4534 5250-4580 (98%) |
| 311 | 5920±170 | 5047 (4833, 4825, 4795) 4600 5010-4660 (85%) | 5230 (4833, 4825, 4795) 4402 5230-4460 (100%) |
| 312 | 5850±55 | 4789 (4774) 4687 4800-4677 (92%) | 4897 (4774) 4586 4859-4656 (84%) |
| 313 | 5480±70 | 4450 (4348) 4248 4369-4303 (45%) | 4470 (4348) 4161 4494-4223 (94%) |
| 314 | 5290±90 | 4241 (4218, 4203, 4143, 4115, 4073, 4068, 4046) 3998 4169-4035 (66%) | 4350 (4218, 4203, 4143, 4115, 4073, 4068, 4046) 3827 4341-3972 (100%) |
| 315 | 5200±250 | 4340 (3998) 3708 4260-3780 (90%) | 4573 (3998) 3384 |
| 316 | 5180±140 | 4226 (3994) 3814 4160-3910 (74%) | 4340 (3994) 3700 4330-3770 (96%) |

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|-----|----------|--|---|
| 317 | 5080±250 | 4228 (3946, 3846, 3822) 3640 4160-3640 (94%) | 4457 (3946, 3846, 3822) 3350 4470-3340 (100%) |
| 318 | 4540±150 | 3502 (3338, 3213, 3203) 2939 3380-3040 (86%) | 3640 (3338, 3213, 3203) 2890 3550-2910 (95%) |
| 319 | 4370±130 | 3308 (3023, 2994, 2928) 2890 3140-2890 (75%) | 3370 (3023, 2994, 2928) 2622 3370-2850 (88%) |

DALMATIA, WEST YUGOSLAVIA AND NORTH-WEST GREECE

| | | | |
|-----|----------|--|--|
| 320 | 7670±120 | 6610 (6474) 6420 6680-6390 (100%) | 6780 (6474) 6186 6820-6210 (98%) |
| 321 | 7380±240 | 6450 (6210, 6179) 5990 6450-5990 (100%) | 6680 (6210, 6179) 5740 6710-5720 (100%) |
| 322 | 7340±180 | 6410 (6170) 5993 6390-6070 (90%) | 6556 (6170) 5820 6500-5810 (99%) |
| 323 | 7240±60 | 6124 (6088) 5996 6129-6071 (50%) | 6213 (6088) 5970 6183-5969 (99%) |
| 324 | 7170±70 | 6092 (6074, 6063, 6040, 6021, 5998) 5971 6093-5970 (100%) | 6160 (6074, 6063, 6040, 6021, 5998) 5840 5950-5870 (100%) |
| 325 | 7010±90 | 5980 (5951, 5941, 5873, 5862, 5846) 5740 5968-5772 (100%) | 6080 (5951, 5941, 5873, 5862, 5846) 5650 6004-5701 (91%) |
| 326 | 7000±100 | 5980 (5840) 5740 5970-5760 (100%) | 6080 (5840) 5640 6000-5650 (94%) |
| 327 | 6985±100 | 5970 (5832) 5730 5960-5750 (100%) | 6081 (5832) 5640 6000-5640 (96%) |
| 328 | 6980±160 | 6032 (5828) 5650 5980-5710 (94%) | 6120 (5828) 5550 6120-5550 (100%) |
| 329 | 6955±100 | 5960 (5806) 5669 5890-5730 (74%) | 6075 (5806) 5630 6000-5630 (98%) |
| 330 | 6935±50 | 5841 (5761) 5731 5848-5725 (84%) | 5970 (5761) 5650 5959-5696 (94%) |
| 331 | 6900±110 | 5953 (5741) 5640 5850-5640 (90%) | 5990 (5741) 5550 5990-5560 (100%) |

| | | | |
|-----|----------|--|--|
| 332 | 6850±180 | 5958 (5721) 5560 5880-5610 (83%) | 6080 (5721) 5418 6080-5470 (99%) |
| 333 | 6795±150 | 5800 (5644) 5540 5820-5530 (100%) | 5980 (5644) 5420 5980-5460 (98%) |
| 334 | 6780±50 | 5719 (5641) 5624 5725-5620 (95%) | 5750 (5641) 5540 5759-5533 (100%) |
| 335 | 6750±55 | 5650 (5635) 5566 5659-5558 (85%) | 5740 (5635) 5500 5736-5507 (100%) |
| 336 | 6740±50 | 5647 (5632) 5562 5657-5547 (97%) | 5730 (5632) 5500 5729-5508 (100%) |
| 337 | 6736±130 | 5730 (5632) 5490 5730-5500 (100%) | 5952 (5632) 5410 5880-5380 (99%) |
| 338 | 6710±60 | 5642 (5623) 5538 5644-5533 (100%) | 5730 (5623) 5480 5668-5487 (92%) |
| 339 | 6670±260 | 5760 (5560) 5340 5810-5330 (100%) | 6079 (5560) 5075 6080-5200 (97%) |
| 340 | 6600±100 | 5620 (5493) 5423 5630-5470 (89%) | 5650 (5493) 5330 5660-5320 (98%) |
| 341 | 6560±40 | 5514 (5484) 5426 5543-5465 (77%) | 5611 (5484) 5370 5573-5356 (98%) |
| 342 | 6530±75 | 5508 (5479) 5368 5520-5365 (100%) | 5621 (5479) 5248 5585-5320 (96%) |
| 343 | 6520±40 | 5487 (5477) 5411 5488-5384 (100%) | 5540 (5477) 5340 5539-5339 (100%) |
| 344 | 6430±60 | 5474 (5354) 5248 5423-5325 (76%) | 5490 (5354) 5240 5482-5293 (88%) |
| 345 | 6415±40 | 5463 (5345) 5248 5417-5319 (83%) | 5480 (5345) 5240 5476-5297 (88%) |
| 346 | 6300±150 | 5410 (5240) 5076 5420-5200 (73%) | 5500 (5240) 4901 5520-4930 (99%) |
| 347 | 6280±210 | 5473 (5237) 4947 5420-5040 (89%) | 5620 (5237) 4770 5590-4780 (99%) |
| 348 | 6230±80 | 5302 (5230) 5072 5245-5196 (31%) | 5340 (5230) 4940 5347-4992 (97%) |
| 349 | 6175±80 | 5234 (5206, 5151, 5150) 5005 5235-5050 (96%) | 5313 (5206, 5151, 5150) 4905 5246-4938 (93%) |

| | | | |
|-----|----------|---|--|
| 350 | 6150±60 | 5222 (5200, 5170, 5139, 5102, 5082) 5003 5217-5053 (98%) | 5240 (5200, 5170, 5139, 5102, 5082) 4907 5237-4942 (100%) |
| 351 | 6140±65 | 5219 (5198, 5175, 5135, 5114, 5073) 4948 5213-5045 (92%) | 5240 (5198, 5175, 5135, 5114, 5073) 4904 5237-4937 (99%) |
| 352 | 6110±60 | 5206 (5190, 5058) 4943 5086-4995 (48%) | 5230 (5190, 5058) 4867 5226-4935 (97%) |
| 353 | 6075±100 | 5210 (5032, 5029, 4998, 4958, 4949) 4859 5090-4930 (63%) | 5240 (5032, 5029, 4998, 4958, 4949) 4780 5230-4790 (100%) |
| 354 | 6020±60 | 5040 (4937, 4917, 4907) 4848 5004-4893 (67%) | 5199 (4937, 4917, 4907) 4780 5079-4785 (93%) |
| 355 | 6010±60 | 4998 (4935, 4921, 4905) 4844 5001-4891 (65%) | 5197 (4935, 4921, 4905) 4780 5075-4781 (96%) |
| 356 | 5985±40 | 4939 (4900, 4870, 4869) 4841 4889-4840 (49%) | 5034 (4900, 4870, 4869) 4785 4948-4784 (92%) |
| 357 | 5960±140 | 5054 (4895, 4879, 4849) 4720 5060-4720 (98%) | 5230 (4895, 4879, 4849) 4520 5230-4570 (99%) |
| 358 | 5930±45 | 4899 (4837, 4817, 4803) 4782 4858-4784 (77%) | 4939 (4837, 4817, 4803) 4725 4908-4771 (87%) |
| 359 | 5925±80 | 4935 (4835, 4821, 4799) 4729 4905-4771 (80%) | 5046 (4835, 4821, 4799) 4613 5009-4663 (94%) |
| 360 | 5890±40 | 4891 (4784) 4729 4810-4772 (41%) | 4900 (4784) 4716 4901-4714 (100%) |
| 361 | 5875±60 | 4892 (4780) 4720 4845-4716 (93%) | 4934 (4780) 4597 4904-4662 (93%) |
| 362 | 5850±80 | 4838 (4774) 4620 4841-4668 (89%) | 4936 (4774) 4520 4905-4528 (99%) |
| 363 | 5850±80 | 4838 (4774) 4620 4841-4668 (89%) | 4936 (4774) 4520 4905-4528 (99%) |

| | | | |
|-----|----------|--|--|
| 364 | 5840±100 | 4892 (4772, 4759, 4728) 4589 4840-4660 (77%) | 4940 (4772, 4759, 4728) 4470 4940-4470 (100%) |
| 365 | 5770±100 | 4780 (4673, 4632, 4624) 4510 4730-4530 (87%) | 4898 (4673, 4632, 4624) 4369 4860-4450 (97%) |
| 366 | 5740±80 | 4723 (4660, 4641, 4590) 4501 4716-4521 (100%) | 4790 (4660, 4641, 4590) 4400 4790-4454 (98%) |
| 367 | 5310±145 | 4340 (4220, 4200, 4147, 4110, 4088, 4060) 3990 4250-4000 (85%) | 4460 (4220, 4200, 4147, 4110, 4088, 4060) 3790 4400-3900 (92%) |
| 368 | 5080±110 | 4000 (3946, 3846, 3822) 3725 4000-3780 (97%) | 4221 (3946, 3846, 3822) 3648 4050-3670 (92%) |
| 369 | 5054±99 | 3990 (3935, 3872, 3817) 3709 3980-3780 (98%) | 4040 (3935, 3872, 3817) 3650 4040-3640 (99%) |
| 370 | 4880±110 | 3780 (3693) 3530 3790-3600 (76%) | 3960 (3693) 3380 3820-3490 (81%) |
| 371 | 4701±104 | 3632 (3504, 3405, 3384) 3360 3540-3360 (75%) | 3700 (3504, 3405, 3384) 3107 3700-3300 (90%) |
| 372 | 4633±117 | 3612 (3372) 3141 3530-3310 (69%) | 3690 (3372) 2946 3650-3040 (99%) |
| 373 | 4390±150 | 3340 (3031, 2966, 2940) 2890 3150-2900 (66%) | 3502 (3031, 2966, 2940) 2615 3380-2850 (85%) |
| 374 | 4345±113 | 3100 (3010, 2923) 2789 3110-2880 (80%) | 3350 (3010, 2923) 2625 3350-2860 (87%) |
| 375 | 4330±120 | 3096 (2921) 2784 3110-2870 (77%) | 3350 (2921) 2615 3350-2850 (82%) |
| 376 | 4280±120 | 3030 (2911) 2701 3040-2860 (58%) | 3330 (2911) 2580 3150-2580 (90%) |

APPENDIX 3. PLANT REMAINS FROM NEOLITHIC AND COPPER AGE SITES IN ABRUZZO AND MARCHE

a) Introduction

The published plant remains from eight Neolithic and Copper Age sites in the Abruzzo-Marche region are presented below. The sites are arranged, first, by province, and then in alphabetical order, and the site reference numbers are the same as those used in the catalogue of sites (Appendix 1). Details of preservation, sample size, and recovery methods are available only for Catignano, but details of find-contexts are available for most sites. All of the entries contain details of the plant material, in terms of species-level identification and quantities of identified plant fragments, and publication references.

b) The plant remains

14 CATIGNANO (PE)

Plant remains were carbonized, numerous, and well preserved. They were collected by wet sieving and flotation of about 20% of the total excavated soil from the four contexts sampled. Sieve mesh sizes ranged from 2.1 to 0.5 mm. This work was carried out both in the field and in the laboratory. Contexts 107, 5a and 106 are semi-circular bell-shaped pits; 10 is a shallow rectangular cavity which contained daub, pebbles and ashes; and no details have been published concerning 165. A few carbonized grains were also found in context 3, which is a shallow rectangular cavity.

| <u>Species</u> | <u>Context</u> | | | | |
|---|----------------|-----------|------------|-----------|------------|
| | <u>107</u> | <u>5a</u> | <u>106</u> | <u>10</u> | <u>165</u> |
| <u>Avena sativa</u> (oat) | 2 | - | - | - | 1 |
| <u>Hordeum distichon</u> (2 row barley) | 8 | - | - | - | - |
| <u>Hordeum vulgare</u> (6 row barley) | 42 | - | - | 10 | 38 |
| <u>Hordeum nudum</u> (naked barley) | 17 | 25 | - | - | 13 |
| <u>Triticum monococcum</u> (einkorn wheat) | 23 | 2 | 2 | - | 34 |
| <u>T. monococcum - dicoccum</u> fragments | 2 | - | - | - | 93 |
| <u>Triticum dicoccum</u> (emmer wheat) | 87 | 47 | 7 | 22 | 39 |
| <u>Triticum compactum</u> (club wheat) | 2 | 5 | - | 9 | - |
| <u>Triticum</u> species (wheat) | - | 4 | - | - | - |
| <u>Lathyrus cicera</u> (grass pea) | 1 | - | - | 3 | - |
| <u>Lathyrus</u> species (vetch) | 1 | - | - | - | 7 |
| <u>Lens esculenta</u> (lentil) | 3 | - | - | - | 6 |
| <u>Pisum</u> species (pea) | 3 | 2 | - | - | 22 |
| <u>Vicia faba</u> (broad bean) | 1 | 2 | - | - | - |
| <u>Corylus</u> species (hazel nut fragment) | 1 | - | - | - | - |
| <u>Rubus</u> species (blackberry/raspberry) | 7 | - | - | - | 1 |
| <u>Chenopodium album</u> (fat hen) | 3 | ** | - | ** | ** |
| <u>Ajuga</u> species (bugle) | 2 | - | - | - | 1 |
| <u>Euphorbia helioscopia</u> (spurge) | 8 | 2 | - | - | 48 |

| | | | | | |
|---|---|---|---|---|---|
| <u>Galeopsis</u> species (hemp-nettle) | 5 | - | - | - | - |
| <u>Galium</u> species (bedstraw) | 1 | - | - | - | - |
| <u>Lithospermum arvense</u> ('corn gromwell') | 4 | - | - | - | 3 |
| <u>Polygonum</u> species (bindweed/knotgrass) | 2 | - | - | - | - |
| <u>Silene</u> species (campion) | 4 | - | - | - | 1 |

** = numerous

Pitti and Tozzi 1976: 103; Tozzi 1982; Costantini and Tozzi 1983.

23 GROTTA DEI PICCIONI (PE)

Quercus species (acorns) - abundant carbonized remains, found in fireplaces in sector A, at the bottom of stratum C, in trench M (Copper Age)
Pteridium aquilinum (fern) - impressions on daub (Copper Age)

Cremonesi 1976: 16, 227.

33 VILLAGGIO LEOPARDI (PE)

Hordeum species (barley) - 7 grain impressions found in daub
Triticum dicoccum (emmer wheat) - 2 grain impressions found in daub

Evett and Renfrew 1971.

97 GROTTA S. ANGELO (TE)

Malus sylvestris (wild apple) - about 100 carbonized pips from pit G (early Neolithic)

Radmilli 1975: 177.

107 RIPOLI (TE)

Hordeum species (barley) - 3 grain impressions in daub from spit 5 of cavity 17
Triticum dicoccum (emmer wheat) - 1 grain impression in daub from spit 5 of cavity 17
 Straw - traces in daub - cavity 15

Evett and Renfrew 1971.

183 LA MADDALENA (MC)

Straw - traces in daub.
Evett and Renfrew 1971.

206 S. MARIA IN SELVA (MC)

Hordeum species (barley) - 13 grains in daub
Triticum aestivum (bread wheat) - 1 grain in daub

Evett and Renfrew 1971.

262 RIPABIANCA (AN)

Straw - traces in daub.
Evett and Renfrew 1971.

APPENDIX 4. FAUNAL REMAINS FROM NEOLITHIC AND COPPER AGE SITES IN ABRUZZO AND MARCHE

a) Introduction

Details of the faunal remains found at 50 Neolithic and Copper Age sites in the Abruzzo-Marche region are provided below. The site names and reference numbers correspond to those used in the catalogue of sites (Appendix 1), and they are arranged by province and then in alphabetical order. It is possible to provide the following general details for many of the sites: the total number of animal bones and bone fragments recovered from the site; the total number of bones or bone fragments identified to species-level; and publication references. For individual species it is sometimes possible to provide information concerning: total numbers of identified bones and bone fragments, the percentage that these bones comprise out of the total number of identified bones, the minimum number of individuals that these bones represent, and the parts of the body to which these bones belong (eg. Bos taurus [cow] - [1/6%/1] - 1 Pm4 upper left). It is also possible, for a few sites, to provide details of meat-weight, age-at-death, body size, and gender estimates.

b) The faunal remains

3 CROCEFISSO (CH)

85 bones, 15 identified.

Bos taurus (cow) - (1/6%/1) - 1 Pm4 upper left

Ovis or Capra (sheep/goat) - (10/67%/2) - 1 right mandible frag., with Pm4 and 3, aged 12 months; left mandible frag., with M1, Pm4, Pm3, Pm2 (aged about 24 months); 2 teeth, upper right M2, upper right M3; 1 left radius frag., with E.P.; 1 diaphysis frag. from right tibia; 1 right tibia frag.; 1 right metatarsus frag.; 2 right astragali.

Sus scrofa (pig) - (4/27%/1) - 1 left jaw frag., without teeth; 1 right mandible frag., without teeth; 1 left scapula frag.; 1 proximal epiphysis frag. from the left IV metacarpal.

Rumina decollata shells - 1 whole, 1 fragment.

Sorrentino 1986-7: 86, 105-6.

4 FONTEROSSO (CH)

Scarce and poorly preserved animal bones, possibly including a small cow.

Rellini 1914: 34.

5 FOSSACESIA

Awls made from sheep bones.

Cremonesi 1973: 83.

12 VILLAGGIO ROSSI (CH)

Abundant unidentified faunal remains present, including land snails.

Geniola and Mallegni 1985: 241; Geniola 1982.

14 CATIGNANO (PE)

154 identified bones.

| | |
|--|----------|
| <u>Bos taurus</u> (cow) - | 46/30%/3 |
| <u>Canis familiaris</u> (dog) - | 3/ 2%/1 |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) - | 66/43%/6 |
| <u>Sus scrofa</u> (pig) - | 23/15%/3 |
| <u>Cervus elaphus</u> (red deer) - | 1/ 1%/1 |
| <u>Capreolus capreolus</u> (roe deer) - | 2/ 1%/1 |
| <u>Testudo</u> (tortoise) - | 10/ 6%/1 |
| <u>Vulpes vulpes</u> (red fox)- | 3/ 2%/1 |

Identified by C. Sorrentino.

Pitti and Tozzi 1976: 104.

16 COLLE MAGGIO (PE)

Faunal remains present.

M. Costantini pers. comm. 1988.

19 FONTANELLE (PE)

28 bones, 6 identified.

Bos taurus (cow) - (1/17%/1) - 1 upper right M2 tooth frag.

Ovis or Capra (sheep/goat) - (5/83%/1) - 4 teeth, 1 upper right M2, 1 right I, 1 upper M frag., 1 upper right M2 frag.; 1 right tibia frag..

Sorrentino 1986-7: 86.

20 FONTI DI S. CALLISTO (PE)

Lower stratum

1952 bones, 221 identified.

| | |
|--|---------|
| <u>Bos taurus</u> (cow) - | 29/13% |
| <u>Canis familiaris</u> (dog) - | 1/ 0.5% |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) - | 47/21% |
| <u>Sus scrofa</u> (pig) - | 58/26% |
| <u>Cervus elaphus</u> (red deer) - | 64/29% |
| <u>Capreolus capreolus</u> (roe deer) - | 12/ 6% |
| <u>Lepus europaeus</u> (hare) - | 5/ 2% |
| <u>Martes martes</u> (pine marten) - | 1/ 0.5% |
| <u>Testudo testudo</u> (tortoise) - | 2/ 1% |
| <u>Ursus arctos</u> (brown bear) - | 1/ 0.5% |
| <u>Buteo buteo</u> (buzzard) - | 1/ 0.5% |

Pig bones' age at death - 1 scapula with open caracoidal nucleus < 12 months; 1 humerus with open distal end < 12 months; 1 femur with open distal end < 42 months.

Upper stratum

99 bones, 9 identified.

| | |
|--|-------|
| <u>Bos taurus</u> (cow) - | 4/44% |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) - | 3/34% |
| <u>Sus scrofa</u> (pig) - | 2/22% |

Bigini 1986-7.

23 GROTTA DEI PICCIONI (PE)

SPITS 26-21

326 identified bones

| | 21 | 22 | 23 | 24 | 25 | 26 | |
|--|----|----|----|----|----|----|------------|
| <u>Bos species</u> (cow) | 2 | 2 | 3 | 2 | 1 | 1 | (11/ 3%) |
| <u>Canis species</u> (dog/wolf) | 1 | 1 | - | - | - | - | (2/ 1%) |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 21 | 26 | 4 | 2 | 6 | 10 | (69/21%) |
| <u>Sus scrofa</u> (pig) | 5 | 1 | 8 | 1 | 2 | 12 | (29/ 9%) |
| <u>Apodemus sylvaticus</u> (wf-mouse) | - | - | - | - | - | 60 | (60/18%) |
| <u>Arvicola italicus</u> (water vole) | 1 | 1 | 1 | 1 | 3 | 6 | (13/ 4%) |
| Birds | 7 | 4 | 6 | 2 | 6 | 43 | (68/21%) |
| <u>Capreolus capreolus</u> (roe deer) | 1 | - | 1 | 1 | - | - | (3/ 1%) |
| <u>Cervus elaphus</u> (red deer) | 4 | 3 | 1 | - | - | - | (8/ 2.5%) |
| <u>Evotomis glareolus</u> | - | - | - | - | - | 6 | (6/ 2%) |
| <u>Felis silvestris</u> (wild cat) | - | 2 | 1 | - | - | - | (3/ 1%) |
| <u>Glis glis</u> (edible dormouse) | - | 3 | 1 | - | 2 | 37 | (43/13%) |
| <u>Lepus europaeus</u> (hare) | 1 | - | 1 | - | - | - | (2/ 1%) |
| <u>Meles meles</u> (badger) | - | 2 | 2 | 1 | - | - | (5/ 2%) |
| <u>Talpa species</u> (mole) | - | - | - | - | 1 | - | (1/ 0.5%) |
| <u>Vulpes vulpes</u> (red fox) | - | - | 2 | 1 | - | - | (3/ 1%) |

SPITS 20-18

137 identified bones

| | 18 | 19 | 20 | |
|--|----|----|----|----------|
| <u>Bos</u> species (cow) | 9 | 2 | 4 | (15/11%) |
| <u>Canis</u> species (dog/wolf) | 1 | - | - | (1/ 1%) |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 27 | 18 | 24 | (69/50%) |
| <u>Sus scrofa</u> (pig) | 9 | 5 | 6 | (20/15%) |
| <u>Arvicola italicus</u> (water vole) | 1 | - | - | (1/ 1%) |
| Birds | - | 3 | 2 | (5/ 4%) |
| <u>Capreolus capreolus</u> (roe deer) | 5 | 1 | 1 | (7/ 5%) |
| <u>Cervus elaphus</u> (red deer) | 5 | 2 | 1 | (8/ 5%) |
| <u>Felis silvestris</u> (wild cat) | - | - | 1 | (1/ 1%) |
| <u>Glis glis</u> (edible dormouse) | 2 | - | 4 | (6/ 4%) |
| <u>Lepus europaeus</u> (hare) | 2 | 1 | - | (3/ 2%) |
| <u>Vulpes vulpes</u> (red fox) | - | - | 1 | (1/ 1%) |

SPITS 17-14

427 identified bones

| | 14 | 15 | 16 | 17 | |
|--|----|----|----|----|------------|
| <u>Bos</u> species (cow) | 13 | 6 | 13 | 5 | (37/ 9%) |
| <u>Canis</u> species (dog/wolf) | - | 1 | 1 | 1 | (3/ 1%) |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 36 | 39 | 52 | 46 | (173/41%) |
| <u>Sus scrofa</u> (pig) | 29 | 16 | 26 | 19 | (90/21%) |
| <u>Arvicola italicus</u> (water vole) | 2 | 7 | 1 | 3 | (13/ 3%) |
| Birds | 3 | 1 | 5 | - | (9/ 2%) |
| <u>Capreolus capreolus</u> (roe deer) | 5 | 5 | 13 | 5 | (28/ 6%) |
| <u>Cervus elephus</u> (red deer) | 6 | 6 | 12 | 7 | (31/ 7%) |
| <u>Felis silvestris</u> (wild cat) | 2 | 4 | 2 | - | (8/ 2%) |
| <u>Glis glis</u> (edible dormouse) | 6 | 5 | 5 | 5 | (21/ 5%) |
| <u>Martes foina</u> (beech marten) | 2 | - | - | - | (2/ 0.5%) |
| <u>Meles meles</u> (badger) | - | 1 | 2 | 1 | (4/ 1%) |
| <u>Ursus arctos</u> (bear) | 1 | - | - | 1 | (2/ 0.5%) |
| <u>Vulpes vulpes</u> (red fox) | 2 | 2 | 2 | - | (6/ 1%) |

THE 'LEVEL OF THE CIRCLES' IN SPITS 15-14

553 identified bones

Bos species (cow)

65/12%

5 upper molars, 3 lower molars, 3 jaw frags., 3 mandible frags., 1 scapula frag., 2 scapulae, 3 rib frags., 1 rib, 1 vertebra, 4 humerus frags., 2 radius frags., 1 metacarpus frag., 5 femur frags., 2 tibia frags., 6 knee-caps, 2 fibula frags., 1 astragalus, 2 trapezoids, 2 scaphocuboids, 1 semilunar, 7 metatarsus frags., 1 metatarsal, 2 I phalange, 3 II phalange, 2 III phalange.

Canis species (dog/wolf)

2/0.4

2 pelvis frags.

Ovis or Capra (sheep/goat)

225/41%

2 horns, 2 cranium frags., 9 jaw frags., 34 mandible frags., 4 mandibles, 2 upper premolars, 1 molar frag., 9 upper molars, 12 lower molars, 9 scapula frags., 2 pelvis frags., 21 humerus frags., 9 humerus frags., 1 humerus, 8 radius frags., 8 radii, 16 ulna frags., 1 ulna, 12 metacarpus frags., 3 metacarpus, 7 femur frags., 5 tibia frags., 14 metatarsal frags., 1 metatarsus, 6 heels, 2 astragali, 2 scaphocuboid frags., 2 scaphocuboid, 1 astragalus, 17 I phalanges, 1 II phalange, 2 III phalanges.

Sus scrofa (pig)

147/27%

2 cranium frags., 3 canine, 1 incisor frag., 1 upper molar, 22 mandible frags., 7 jaw frags., 2 vertebrae, 8 scapula frags., 10 humerus frags., 1 humerus, 1 ulna frag., 1 ulna, 5 radius frags., 21 metacarpus frags., 11 metacarpus, 2 pelvis frags., 5 tibia frags., 3 fibula frags., 1 metatarsal frag., 10 metatarsals, 7 metapodium frags., 2 heel frags., 3 heels, 1 astragalus, 2 scaphocuboid, 1 semilunar, 8 I phalange, 3 II phalange, 1 III phalange frag..

Anas boscas

9/1.5%

1 left humerus, 8 humeri.

Birds

3/0.5%

3 humeri.

Bucephala clangula (goldeneye)

1/0.2%

1 left humerus

Capreolus capreolus (roe deer)

30/5%

1 lower premolar, 2 mandible frags., 1 mandible, 1 scapula frag., 5 humerus frags., 1 ulna, 1 metacarpus frag., 3 femur frags., 1 tibia frag., 3 metatarsal frags., 5 heels, 1 scaphocuboid, 1 astragalus, 4 I phalanges.

Cervus elaphus (red deer)

58/10%

3 antler frags., 3 jaw frags., 2 lower premolars, 2 lower molars, 4 upper molars, 1 upper premolar, 2 mandible frags., 2 humerus frags., 2 radius frags., 7 metacarpus frags., 1 femur frag., 4 tibia frags., 3 metatarsal frags., 1 semilunar, 2 scaphoids, 1 scaphocuboid, 1 trapezoid, 2 heels, 7 I phalange, 5 II phalange, 3 III phalange.

Columba palumbus (wood pigeon)

1/0.2%

1 left humerus.

Felis silvestris (wild cat)

3/0.5%

1 ulna, 1 radius, 1 humerus.

Fulica atra (coot)

1/0.2%

1 left humerus.

Lepus europaeus (hare)

4/0.7%

1 mandible frag., 1 humerus, 1 femur frag., 1 3rd metatarsal.

Martes foina (beech marten)

1/0.2%

1 ulna.

Ursus arctos (brown bear)

2/0.4%

1 humerus frag., 1 radius frag..

Vulpes vulpes (red fox)

1/0.2%

1 pelvis frag..

SPITS 13-12

196 identified bones

12 13

| | | | |
|--|----|----|------------|
| <u>Bos</u> species (cow) | 11 | 9 | (20/10%) |
| <u>Canis</u> species (dog/wolf) | 2 | 1 | (3/ 2%) |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 47 | 39 | (86/44%) |
| <u>Sus scrofa</u> (pig) | 15 | 24 | (39/20%) |
| <u>Arvicola italicus</u> (water vole) | - | 1 | (1/ 0.5%) |
| Birds | 3 | 5 | (8/ 3%) |
| <u>Capreolus capreolus</u> (roe deer) | 9 | 8 | (17/ 9%) |
| <u>Cervus elaphus</u> (red deer) | 8 | 7 | (15/ 8%) |
| <u>Felis silvestris</u> (wild cat) | 1 | 1 | (2/ 1%) |
| <u>Glis glis</u> (edible dormouse) | 1 | 1 | (2/ 1%) |
| <u>Meles meles</u> (badger) | 1 | 1 | (2/ 1%) |
| <u>Vulpes vulpes</u> (red fox) | - | 1 | (1/ 0.5%) |

SPITS 10-9

42 identified bones.

| | 9 | 10 | |
|---------------------------------------|---|----|----------|
| <u>Bos species</u> (cow) | 1 | 1 | (2/ 5%) |
| <u>Canis species</u> (dog/wolf) | - | 3 | (3/ 7%) |
| <u>Ovis or Capra</u> (sheep/goat) | 4 | 7 | (11/26%) |
| <u>Sus scrofa</u> (pig) | 7 | 5 | (12/29%) |
| Birds | 2 | 1 | (3/ 7%) |
| <u>Capreolus capreolus</u> (roe deer) | - | 1 | (1/ 2%) |
| <u>Cervus elaphus</u> (red deer) | 3 | 1 | (4/10%) |
| <u>Felis silvestris</u> (wild cat) | 1 | - | (1/ 2%) |
| <u>Glis glis</u> (edible dormouse) | 2 | - | (2/ 5%) |
| <u>Vulpes vulpes</u> (red fox) | 1 | 2 | (3/ 7%) |

Identified by C. Sorrentino. Cremonesi 1976.

24 PIANO D'ORTA (PE)

758 bones, 189 identified.

Bos taurus (cow) - (48/25%/10) - 2 mandibles; 26 teeth; 1 radius; 2 carpals; 1 femur; 1 tibia; 2 tarsals; 3 metatarsals; 9 phalanges; 1 metapodial. 1 < 3 months, 2 < 24 months, 1 < 30/34 months, 2 between 5 and 7 years, 4 < 8 years.

Canis familiaris (dog) - (4/2%) - 2 teeth; 2 humeri.

Ovis or Capra (sheep/goat) - (57/30%/14) - 1 mandible; 39 teeth; 2 radii; 1 ulna; 1 metacarpal; 1 pelvis; 2 tibiae; 4 tarsals; 2 metatarsals; 1 phalange. 1 < 9 months, 3 between 12 and 16 months, 4 < 20 months, 6 between 30 and 34 months.

Sus scrofa (pig) - (66/35%/7) - 2 jaws; 2 mandibles; 42 teeth; 3 scapulae; 3 humeri; 1 radius; 1 carpal; 2 metacarpals; 1 tarsal; 1 metatarsal; 8 phalanges. 1 < 9/10 months, 2 < 24 months, 3 < 3/3½ years, 1 < 5 years.

Birds - (3/2%) - 1 humerus frag., 2 ulnae.

Capreolus capreolus (roe deer) - (1/0.5%/) - 1 mandible frag..

Cervus elaphus (red deer) - (5/3%/) - 1 carpal; 1 metatarsal; 2 phalanges; 1 metapodial.

Testudo species (tortoise) - (4/2%)

Ursus arctos (brown bear) - (1/0.5%) - 1 upper left IVPm tooth

Sorrentino 1988.

27 S. AGNESE (PE)

167 bones from surface collection, 133 identified.

Bos taurus (cow) - (56/42%/3) - 3 horn frags.; 2 left mandible frags., 1 with M1, Pm4, Pm3 milk teeth; 9 teeth, 1 right M1, 1 left M1, 3 right M2, 1 right M3, 1 left M3, 1 M1 frag., 1 Pm2 milk tooth, 1 Pm3 milk tooth, 1 right Pm3, 3 right M1, 2 left M2, 2 right M3; 1 distal diaphysis fragment from right humerus; 1 right humerus frag.; 2 left radius frags.; 2 right radius frags.; 1 left metacarpal frag.; 1 pelvis frag.; 1 proximal epiphysis of left tibia; 2 left tibia frags.; 1 tibia frag.; 1 proximal epiphysis frag. of metatarsal; 1 distal diaphysis frag. of right metatarsal; 2 right metatarsal frags.; 2 left heels, 1 frag.; 1 right heel frag.; 2 right astragali, 1 frag.; 1 left astragalus frag.; 1 right scaphocuboid; 1 left trapezoidal; 2 I phalanges; 2 I left phalanges; 1 II right phalange; 3 II left phalanges; 1 III right phalange; 1 III left phalange.

Ovis or Capra (sheep/goat) - (50/37%/3) - 3 mandible frags., 1 right with M2 and M3 teeth, 1 left with Pm3 frag.; 22 teeth, 1 left Pm3 milk tooth, 1 right Pm3, 1 left Pm4 milk tooth, 2 left M1, 2 right M1, 3 right M2, 1 right M3, 2 left M3, 2 M1 frags., 1 left Pm3 milk tooth, 2 left M2, 1 right M3, 2 left M3, 1 Ms frag.; 1 right scapula frag.; 1 left scapula frag.; 4 left humerus frags.; 1 right metacarpal frag.; 1 left tibia frag.; 3 left metatarsal frags.; 1 diaphysis frag. of metatarsal; 1 left heel frag.; 1 right astragalus frag.; 1 left astragalus frag.; 1 right scaphocuboid; 1 I right phalange; 2 I left phalange; 2 II right phalange; 2 II left phalange.

Sus scrofa (pig) - (22/16%/2) - 7 mandible frags., 2 right without teeth, 1 left with Pm4 and Pm3 teeth, 1 left with M2 tooth, 1 left with M3 tooth, 1 with articular condyle, 1 left with Pm4 milk tooth; 8 teeth, 1 right Cs, 1 left I1, 2 left I2, 1 left I2 frags., 1 left M2, 1 M1 frag., 1 erupting right M3; 1 right scapula frag.; 1 distal diaphysis of right radius; 1 left tibia frag.; 1 right epiphysis of metapodial; 1 left heel frag.; 1 right astragalus frag.; 1 left astragalus frag..

Bird - (1/1%/1) - 1 radius frag..

Capreolus capreolus - (1/1%/1) - 1 horn frag..

Cervus elaphus (1/1%/1) - 1 right scaphocuboid.

Felis silvestris (wild cat) - (1/1%/1) - 1 proximal epiphysis frag. from the left IV metatarsal.

Lepus europaeus (hare) - (1/1%/1) - 1 mandible frag., without teeth.

Identified by C. Sorrentino. De Pompeis 1978.

33 VILLAGGIO LEOPARDI (PE)

757 bones, 156 identified.

| | |
|--|---------|
| <u>Bos</u> species - | 20/12% |
| <u>Canis familiaris</u> (dog) - | 1/ 0.5% |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) - | 68/44% |
| <u>Sus scrofa</u> (pig) - | 66/43% |
| <u>Felis silvestris</u> (wild cat) - | 1/ 0.5% |

Cremonesi 1967.

38 CAPO D'ACQUA (AQ)

About 100 bones, "prevalence of wild over domestic species".

Bos taurus (cow)
Ovis or Capra (sheep/goat)
Sus scrofa (pig)
Capreolus capreolus (roe deer)
Lepus europaeus (hare)
Sciurus vulgaris (red squirrel)
Ursus arctos (brown bear)
Vulpes vulpes (red fox)

Bonuccelli and Faedo 1968.

39 CELLITTO (AQ)

416 bones, 39 identified.

| | |
|--|---------|
| <u>Bos</u> species (cow) - | 10/26% |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) - | 25/64% |
| <u>Sus scrofa</u> (pig) - | 1/ 2.5% |
| <u>Cervus elaphus</u> (red deer) - | 1/ 2.5% |
| <u>Martes</u> species (marten) - | 1/ 2.5% |
| <u>Ursus arctos</u> (brown bear) - | 1/ 2.5% |

Di Fraia 1970.

41 COLLE S. STEFANO (AQ)

366 identified bones.

| | frags. | % | min. no. indivs. | meat % |
|--|--------|-----|---------------------|--------|
| <u>Bos taurus</u> (cow) | 20 | 5.5 | 3 | 51 |
| <u>Canis familiaris</u> (dog) | 2 | 0.5 | 1 | |
| <u>Capra hircus</u> (goat) | 7 | 1.9 | 1 | |
| <u>Ovis aries</u> (sheep) | 33 | 9 | 4 | |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 98 | 27 | 5 | 12 |
| <u>Sus scrofa domesticus</u> (dom. pig) | 36 | 10 | 3 | 11 |
| <u>Apodemus silvaticus</u> (wf-mouse) | 1 | 0.3 | - | |
| <u>Arvicola terrestris</u> (watervole) | 1 | 0.3 | 1 | |
| <u>Aythya ferina</u> (pochard) | 2 | 0.5 | - | |
| Birds | 31 | 8 | - | |
| <u>Capreolus capreolus</u> (roe deer) | 2 | 0.5 | 1 | 2 |
| <u>Cervus elaphus</u> (red deer) | 6 | 1.6 | 1 | 11 |
| <u>Erinaceus europaeus</u> (hedgehog) | 2 | 0.5 | 2 | |
| <u>Fulica atra</u> (coot) | 5 | 1.4 | - | |
| <u>Glis glis</u> (edible dormouse) | 5 | 1.4 | 2 | |
| <u>Lepus europaeus</u> (hare) | 7 | 1.9 | 1 | |
| <u>Meles meles</u> (badger) | 2 | 0.5 | 1 | |
| <u>Myliobatis</u> species (sea eagle) | 1 | 0.3 | - | |
| <u>Rupicapra rupicapra</u> (chamois) | 4 | 1.1 | 1 | 2 |
| <u>Salmo trutta</u> (brown trout) | 5 | 1.4 | - | |
| <u>Sciurus vulgaris</u> (red squirrel) | 1 | 0.3 | 1 | |
| Small ruminants | 87 | 24 | - | |
| <u>Sus scrofa scrofa</u> (wild pig) | 8 | 2 | 2 | 14 |

Bos taurus (cow)

Age at death - 2 adults and 1 juvenile.

Sus scrofa domesticus (domestic pig)

Age at death - very frequent young; 1 adult; 1 newborn; 1 c. 6 months.

Sus scrofa scrofa (wild pig)

Age at death - at least 2 large adults.

Sex - 1 male.

Ovis or Capra (sheep/goat)

Sheep predominate over goat (c. 4:1).

Sex - 1 male.

Age at death - mandibles: 1 9-10 months, 1 10-18 months, and at least 5 adults (fairly young).

Radi and Wilkens 1989: 112-115.

43 GROTTA LA CAVA (AQ)

7 identified bones.

Bos species (cow) - 3/43%
Ovis or Capra (sheep/goat) - 3/43%
Sus scrofa (pig) - 1/14%

Tozzi 1962.

44 GROTTA COLA II (AQ)

4 identified bones.

Capra (goat) - 2/50%
Bird - 1/25%
Cervus elaphus (red deer) - 1/25%

Radmilli 1957.

45 GROTTA CONTINENZA (AQ)

Articulated skeletons of 2 sheep and 1 dog associated with early Neolithic human burials.

R. Grifoni Cremonesi pers. comm. 1986.

47 GROTTA MARITZA (AQ)

Scarce animal bones.

Grifoni and Radmilli 1964.

50 GROTTA S. NICOLA (AQ)

Bones from both the middle Neolithic and the final Neolithic/early Copper Age strata.

Bos taurus (cow)

Ovis or Capra (sheep/goat)

Sus scrofa (pig)

Birds - abundant - Corvidae (crow family)
- Anatidae (duck family)
- Phasianidae (pheasants, peacocks, etc.)
- Laridae (gulls and terns)
- Columbidae (pigeons and doves)
- Sturnidae (starlings)

Capreolus capreolus (roe deer)

Cervus elaphus (red deer)

Felis silvestris (wild cat)

Fishes

Lepus europaeus (hare)

Putorius putorius (polecat)

Testudo graeca (tortoise)

Vulpes vulpes (red fox)

Borzatti von Löwenstern 1962b.

51 GROTTA LA PUNTA (AQ)

Spits 12-8, late Neolithic

470 identified bones.

| | |
|---|---------|
| <u>Bos species</u> (cow) - | 24/ 5% |
| <u>Canis species</u> (dog/wolf) - | 1/ 0.5% |
| <u>Ovis or Capra</u> (sheep/goat) - | 360/77% |
| <u>Sus scrofa</u> (pig) - | 43/ 9% |
| <u>Capreolus capreolus</u> (roe deer) - | 6/ 1% |
| <u>Cervus elaphus</u> (red deer) - | 22/ 5% |
| <u>Felis silvestris</u> (wild cat) - | 7/ 1.5% |
| <u>Ursus arctos</u> (brown bear) - | 2/ 0.5% |
| <u>Vulpes vulpes</u> (red fox) - | 1/ 0.5% |

Spits 7-5, Copper Age

22 identified bones.

| | |
|-------------------------------------|--------|
| <u>Ovis or Capra</u> (sheep/goat) - | 18/82% |
| <u>Sus scrofa</u> (pig) - | 4/18% |

Cremonesi 1968: 199.

56 LA VALLE (AQ)

Faunal remains present.

Mattiocco 1986: 31.

60 ORTUCCHIO (AQ)

236 identified bones from the Copper Age stratum.

| | |
|-------------------------------------|------------------------------|
| <u>Bos taurus</u> (cow) - | 16/ 7% |
| <u>Canis familiaris</u> (dog) - | 2/ 1% |
| <u>Ovis or Capra</u> (sheep/goat) - | 18/ 8% |
| <u>Sus scrofa</u> (pig) - | 20/ 8% |
| <u>Cervus elaphus</u> (red deer) - | 178/75% (especially antlers) |
| <u>Vulpes vulpes</u> (red fox) - | 2/ 1% |

Radmilli 1981: 363.

91 CROCETTA (TE)

Scarce faunal remains present.

D'Ercole 1988b.

97 GROTTA S. ANGELO (TE)

89 identified bones in the early Neolithic ritual pits, a large number of which were burnt.

| | | | | | | | | | |
|--|---|---|---|----|---|---|----|---|----------|
| <u>Bos</u> species (cow) | - | - | 1 | - | - | - | 8 | - | (9/10%) |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 1 | 2 | - | 16 | - | 3 | 23 | - | (45/51%) |
| <u>Sus</u> species (pig) | 1 | - | 5 | 6 | 1 | 2 | 3 | 4 | (22/25%) |
| <u>Capreolus capr.</u> (roe deer) | - | 3 | - | - | - | - | - | - | (3/ 3%) |
| <u>Cervus elaphus</u> (red deer) | - | - | - | - | - | 1 | - | - | (1/ 1%) |
| <u>Felis silvestris</u> (wild cat) | - | 1 | - | 2 | - | - | 1 | - | (4/ 5%) |
| <u>Lepus europaeus</u> (hare) | 1 | - | - | 2 | - | - | - | - | (3/ 3%) |
| <u>Martes</u> species (marten) | - | 2 | - | - | - | - | - | - | (2/ 2%) |

Pit A

Ovis or Capra (sheep/goat) - 1 radius.

Sus species (pig) - 1 metacarpal.

Lepus europaeus (hare) - 1 femur.

Pit B

Ovis or Capra (sheep/goat) - 1 scapula frag., 1 tibia frag..

Capreolus capreolus (roe deer) - 1 tooth, 1 radius frag., 1 ulna.

Felis silvestris (wild cat) - 1 femur.

Martes species (marten) - 1 humerus, 1 ulna.

Pit C

Bos species (cow) - 1 tibia frag..

Sus species (pig) - 1 femur frag., 1 pelvis frag., 3 teeth.

Pit D

Ovis or Capra (sheep/goat) - 1 radius frag., 1 metacarpus, 2 tibia frags., 1 phalange, 6 teeth, 2 scapula frags., 2 humeri, 1 tarsus.

Sus species (pig) - 1 humerus frag., 1 radius frag., 1 ulna frag., 1 tibia frag., 2 phalanges.

Felis silvestris (wild cat) - 1 radius, 1 metatarsus.

Lepus europaeus (hare) - 2 mandibles.

Pit F

Sus species (pig) - 1 phalange.

Pit G

Ovis or Capra (sheep/goat) - 1 humerus frag., 1 ulna frag., 1 tibia frag..

Sus species (pig) - 1 pelvis frag., 1 tooth.

Cervus elaphus (red deer) - 1 phalange.

Pit H

Bos species (cow) - 1 cranium frag., 1 humerus, 1 mandible, 3 phalanges, 2 teeth.

Ovis or Capra (sheep/goat) - 3 humeri frags., 4 tibiae, 1 femur, 1 ulna, 2 scapulae, 11 teeth, 1 tarsus.

Sus species (pig) - 2 teeth, 1 metatarsus.

Felis silvestris (wild cat) - 1 pelvis.

Pit I

Sus species - 1 cranium frag., 1 radius frag., 1 metacarpus, 1 phalange.

Radmilli 1975: 76-7.

104 PIANACCIO (TE)

Scarce bones (cavities 43, 55 and 80), a few (cavity 28).

Bos species (cow) - most frequent - scarce (cavity 52), a few (cavity 35), numerous (cavity 42).

Ovis (sheep) - a few (cavity 35).

Sus species (pig) - a few (cavity 35), numerous (cavity 42).

Cervus elaphus (red deer) - a few (cavity 35).

Radmilli et al. 1953, Rozzi 1953, Rozzi et al. 1955.

107 RIPOLI (TE)

Group 1 cavities

199 identified bones.

| | cavities | | | | | |
|--|----------|----|----|----|----|------------|
| | 5 | 7 | 10 | 12 | 13 | |
| <u>Bos</u> species (cow) | 2 | 2 | 2 | 25 | 4 | (35/17.5%) |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | - | 6 | 4 | 33 | 3 | (46/23%) |
| <u>Sus scrofa</u> (pig) | 8 | 40 | 2 | 44 | 5 | (99/50%) |
| <u>Capreolus capr.</u> (roe deer) | 1 | - | - | 6 | 2 | (9/ 4.5%) |
| <u>Cervus elaphus</u> (red deer) | 5 | - | 1 | 2 | 1 | (9/ 4.5%) |
| <u>Glis glis</u> (edible dormouse) | - | - | - | 1 | - | (1/ 0.5%) |

Group 2 cavities

525 identified bones.

| | cavities | | | |
|--|----------|---|----|------------|
| | 2 | 6 | 1 | |
| <u>Bos species</u> | 69 | 2 | 56 | (127/24%) |
| <u>Canis familiaris</u> (dog) | 1 | - | - | (1/ 0.5%) |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 94 | - | 61 | (155/30%) |
| <u>Sus scrofa</u> (pig) | 86 | 6 | 53 | (145/28%) |
| <u>Capreolus capreolus</u> (roe deer) | 28 | - | 1 | (29/ 6%) |
| <u>Cervus elaphus</u> (red deer) | 28 | - | 15 | (43/ 8%) |
| <u>Lepus europaeus</u> (hare) | 3 | - | - | (3/ 0.5%) |
| <u>Martes foina</u> (beech marten) | 2 | - | - | (2/ 0.5%) |
| <u>Testudo species</u> (tortoise) | 17 | - | - | (17/ 2%) |
| <u>Vulpes vulpes</u> (red fox) | - | - | 3 | (3/ 0.5%) |

Group 3 cavities

1083 identified bones

| | cavities | | | | | |
|--|----------|----|-----|-----|----|------------|
| | 4 | 3 | 9 | 8 | 11 | |
| <u>Bos species</u> | 25 | 33 | 110 | 108 | 3 | (279/26%) |
| <u>Canis familiaris</u> (dog) | - | - | 1 | - | - | (1/ 0.1%) |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 10 | 57 | 98 | 117 | 8 | (290/27%) |
| <u>Sus scrofa</u> (pig) | 11 | 40 | 142 | 84 | 3 | (280/26%) |
| <u>Arvicola terrestris</u> (watervole) | - | - | 1 | - | - | (1/ 0.1%) |
| <u>Capreolus capreolus</u> (roe deer) | 6 | 7 | 17 | 16 | 1 | (47/ 4%) |
| <u>Cervus elaphus</u> (red deer) | 13 | 9 | 124 | 11 | 1 | (158/15%) |
| <u>Eliomys quercinus</u> (c. dormouse) | - | - | 2 | - | - | (2/ 0.1%) |
| <u>Felis silvestris</u> (wild cat) | - | - | 3 | 1 | - | (4/ 0.3%) |
| <u>Glis glis</u> (edible dormouse) | - | - | 5 | 1 | - | (6/ 0.4%) |
| <u>Lepus europaeus</u> (hare) | - | - | 1 | 1 | - | (2/ 0.1%) |
| <u>Martes foina</u> (beech marten) | - | - | - | 1 | - | (1/ 0.1%) |
| <u>Meles meles</u> (badger) | - | - | 2 | 2 | - | (4/ 0.2%) |
| <u>Talpidae</u> (moles) | - | - | - | 1 | - | (1/ 0.1%) |
| <u>Testudo species</u> (tortoise) | - | - | 1 | 2 | - | (3/ 0.2%) |
| <u>Ursus arctos</u> (brown bear) | - | - | - | 1 | - | (1/ 0.1%) |
| <u>Vulpes vulpes</u> (red fox) | 3 | - | - | - | - | (3/ 0.2%) |

Cremonesi 1965.

131 FONDO ALESSANDRINI (AP)

An animal's shin bone.

Lucentini 1984-6: 481.

141 MONTE TINELLO (AP)

Bos species (cow) - most important.
Ovis or Capra (sheep/goat) - scarce.
Sus species (pig) - 'a good %'.

Wilkins 1989: 2-3.

162 AREA GUZZINI WEST (MC)

Bos species (cow) - especially medium sized - most important.
Ovis or Capra (sheep/goat) - 20%.
Sus species (pig) - 'a good %'.
Wild species - 31%.

Wilkins 1989: 3, 1989: 2.

169 CASONE (MC)

Animal bones.
Helix rotundata - 1
Cyclostoma elegans - some

Pigorini 1879, 1880.

178 COLLE MORICO (MC)

Animal bones.
Pigorini 1902.

183 LA MADDALENA (MC)

Bos species (cow) - 8%
Canis familiaris (dog)
Ovis or Capra (sheep/goat) - 15%
Sus species (pig) - 50%
Cervus elaphus (red deer) - almost 25%

Barker 1975: 133, 1981a: 147; Wilkins 1989: 4.

188 MADONNA DELL'OSPEDALE (MC)

Faunal remains.
Percossi and Silvestrini 1986.

206 S. MARIA IN SELVA (MC)

2469 identified bones.

| | | | min. no. | edible meat |
|---|-----|------|-------------|----------------|
| <u>Bos taurus</u> (cow) | 993 | 40% | 28 | 50% |
| <u>Canis familiaris</u> (dog) | 32 | 1% | 7 | |
| <u>Capra hircus</u> (goat) | 3 | 0.2% | 1 | |
| <u>Ovis aries</u> (sheep) | 74 | 3% | 9 | |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 568 | 23% | 51 | 9% |
| <u>Sus scrofa domesticus</u> (domestic pig) | 273 | 11% | 16 | 6% |
| Birds | 1 | 0.1% | 1 | |
| <u>Bos primigenius</u> (aurochs) | 38 | 1.5% | 4 | 13% |
| <u>Capreolus capreolus</u> (roe deer) | 38 | 1.5% | 3 | 0.5% |
| <u>Cervus elaphus</u> (red deer) | 252 | 10% | 11 | 8% |
| <u>Lepus europaeus</u> (hare) | 1 | 0.1% | 1 | |
| <u>Lynx lynx</u> (coomon lynx) | 1 | 0.1% | 1 | |
| <u>Meles meles</u> (badger) | 1 | 0.1% | 1 | |
| <u>Sus scrofa scrofa</u> (wild boar) | 190 | 8% | 16 | 11% |
| <u>Testudo species</u> (tortoise) | 3 | 0.2% | 1 | |
| <u>Ursus arctos</u> (brown bear) | 1 | 0.1% | 1 | 0.5% |

Bos taurus (cow)

Size - large to medium-small, and the majority between these two extremes.

Age at death - fusion of epiphyses: 2 < 7-10 months, 1 < 12-14 months, 10 < 2-2½ years, 12 < 3-4 years; eruption of teeth: 10 < 24-28 months, 24 > 24-28 months; tooth wear: some old adults.

Canis familiaris (dog)

Body parts - mandibles especially, and only scarce post-cranial bones, one skull with the mandible in articulation.

Size - medium-small

Age at death - all adult

Context - especially in context 1

Ovis and Capra (sheep/goat)

Age at death - mandibles and lower teeth - 10 1-5 months, 3 8-9 months, 2 9-18 months, 10 18-24 months, 22 2-3 years, 25 4-8 years, 17 over 8 years

Sex - 1 male

Context - most abundant in context 3 and most scarce in cavity 1

Sus scrofa domesticus (domestic pig)

Size - medium

Height to the withers - 81.8 - 83.3 cm

Age at death - mandible and lower teeth - 3 < 4-6 months, 11 6-12 months, 4 12-18 months, 8 18-24 months, 3 3½-4 years.

Capreolus capreolus (roe deer)

Body parts - especially antlers

Antlers - many collected after the annual fall

Age at death - 1 7 months, 1 2 years, 1 3-4 years

213 VIA DUOMO, 109

6 identified bones from a pit.

Capra (goat) - 1 rib, 2 metatarsus, 1 scapula

Ovis or Capra (sheep/goat) - 1 phalange

Canis familiaris or lupus (dog or wolf) - 1 frag.

C. Corrain identification.

Lollini and Capitanio 1970: 4.

216 AQUATINA (AN)

Stratum 6. Final Neolithic/early Copper Age

335 identified bones.

| | | | | edible meat % |
|--|-----|------|----|------------------|
| <u>Bos taurus</u> (cow) | 47 | 14% | 3 | 40% |
| <u>Canis familiaris</u> (dog) | 2 | 0.5% | 2 | |
| <u>Capra hircus</u> (goat) | 2 | 0.5% | 1 | |
| <u>Ovis aries</u> (sheep) | 14 | 4% | 2 | |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 94 | 28% | 11 | 10% |
| <u>Sus scrofa domesticus</u> (pig) | 151 | 45% | 12 | 37% |
| <u>Capreolus capreolus</u> (roe deer) | 6 | 2% | 2 | 2% |
| <u>Cervus elaphus</u> (red deer) | 5 | 2% | 1 | 5% |
| <u>Lepus europaeus</u> (hare) | 3 | 1% | 1 | |
| <u>Martes species</u> (marten) | 4 | 1% | 1 | |
| <u>Sus scrofa scrofa</u> (wild boar) | 7 | 2% | 1 | 4% |

Bos taurus (cow)

Age at death - tooth eruption and wear: 1 < 1 month, 4 4-6 months, many < 18-20 months, others a little older; fusion of the epiphyses: 5 < 2-2½ years, 2 < 3½-4 years.

Canis familiaris (dog)

Age at death - tooth wear: 1 young, 1 old.

Ovis or Capra (sheep/goat)

Age at death - lower teeth: 8 > 10 months, 6 < 2 years

Height to the withers - 72.1 cm.

Sus scrofa domesticus (pig)

Height - 71.7 - 83 cm.

Cervus elaphus palmidactyloceros (red deer)

Body parts:

| | C a n i s | M a r t e s | L e p t e s | S u s s e r m | S u s s e r m | C e r v i d | C a p r i n i s | B o v i n a | O v i s | C a p r i n i s | O v i n a |
|--------------|-----------------------|----------------------------|----------------------------|---------------------------------|---------------------------------|----------------------------|--------------------------------------|----------------------------|------------------|--------------------------------------|-----------------------|
| Horn | - | - | - | - | - | 1 | - | - | - | - | - |
| Cranium/jaw | 2 | - | - | 5 | 32 | 2 | 2 | 8 | - | - | 29 |
| Mandible | - | - | - | 1 | 59 | - | - | 13 | - | - | 54 |
| Teeth | - | - | - | - | 13 | - | - | 2 | - | - | - |
| Atlas | - | - | - | - | 1 | - | - | - | 1 | - | - |
| Epistropheus | - | - | - | - | 1 | - | - | - | - | - | - |
| Scapula | - | 1 | - | - | 4 | - | - | 3 | - | - | - |
| Humerus | - | 1 | - | - | 12 | 1 | 2 | - | 2 | - | - |
| Radius | - | 1 | - | - | 2 | - | - | 3 | 2 | 1 | - |
| Ulna | - | - | - | - | 4 | - | - | 1 | - | - | 3 |
| Carpal | - | - | - | - | 2 | - | - | - | - | - | - |
| Metacarpal | - | 1 | - | - | 3 | - | - | 2 | 1 | 1 | - |
| Femur | - | - | 1 | - | 1 | - | - | 1 | - | - | 1 |
| Tibia | - | - | 1 | - | 1 | - | - | 2 | - | - | 3 |
| Heel | - | - | - | - | 2 | - | - | 2 | 2 | - | - |
| Astragalus | - | - | - | - | 2 | - | - | - | - | - | 2 |
| Tarsus | - | - | - | - | - | - | 1 | - | - | - | 1 |
| Metatarsus | - | - | 1 | - | 4 | - | 1 | 2 | - | - | 1 |
| Metapodium | - | - | - | 1 | - | - | - | - | 1 | - | - |
| I phalange | - | - | - | - | 5 | - | - | 2 | 4 | - | - |
| II phalange | - | - | - | - | 2 | 1 | - | 6 | 1 | - | - |
| III phalange | - | - | - | - | 1 | - | - | - | - | - | - |

Stratum 4. Copper Age

120 identified bones.

| | | | | edible meat % |
|------------------------------------|----|-----|---|------------------|
| <u>Bos taurus</u> (cow) | 32 | 27% | 2 | 56% |
| <u>Canis familiaris</u> (dog) | 1 | 1% | 1 | |
| <u>Capra hircus</u> (goat) | 1 | 1% | 1 | |
| <u>Ovis aries</u> (sheep) | 4 | 3% | 1 | |
| <u>Ovis or Capra</u> (sheep/goat) | 22 | 18% | 4 | 8% |
| <u>Sus scrofa domesticus</u> (pig) | 60 | 50% | 5 | 35% |

Bos taurus (cow)

Age at death - tooth eruption and wear: majority were adults; fusion of the epiphyses: 1 < 3½-4 years; 2 young.
Size - medium, with a few the size of Bos primigenius.

Ovis or Capra (sheep/goat)

Age at death - lower teeth: 3 > 10 months, 1 < 2 years.

Sex - 1 frag. of a female cranium.

Sus scrofa domesticus (pig)

Height to the withers - 59.8 - 75.1 cm.

Body parts:

| | C | S | B | O | C | O |
|--------------|---|----|---|---|---|----|
| | a | u | o | v | a | v |
| | n | s | s | i | p | / |
| | i | | | s | r | C |
| | s | | | | a | a |
| | | | | | | p |
| Horn | - | - | 1 | 1 | - | - |
| Cranium/jaw | 1 | 14 | 2 | - | - | 6 |
| Mandible | - | 10 | 7 | - | - | 13 |
| Teeth | - | 5 | 4 | - | - | - |
| Epistropheus | - | 1 | - | - | - | - |
| Scapula | - | 2 | - | - | - | - |
| Humerus | - | 5 | 2 | - | - | - |
| Radius | - | 2 | 1 | - | - | - |
| Ulna | - | 2 | - | - | - | - |
| Carpal | - | - | 1 | - | - | - |
| Metacarpal | - | 4 | 1 | 1 | - | - |
| Coxal | - | - | 1 | - | - | - |
| Tibia | - | 2 | - | 1 | - | 1 |
| Heel | - | 2 | 1 | - | - | 1 |
| Astragalus | - | 3 | - | - | 1 | - |
| Metatarsus | - | 1 | 2 | - | - | 1 |
| Metapodium | - | 1 | 1 | - | - | - |
| I phalange | - | 4 | 5 | 1 | - | - |
| II phalange | - | 2 | 1 | - | - | - |
| III phalange | - | - | 2 | - | - | - |

Wilkins 1989.

219 BERBENTINA (AN)

| | Barker | Wilkins |
|--|--------|---------|
| <u>Bos</u> species (cow) | 31% | 14% |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 60% | 53% |
| <u>Sus scrofa</u> (pig) | 9% | 33% |

Barker 1975: 135; Wilkins 1989: 3.

220 BORGO TUFICO (AN)

"A scarce quantity of animal bones of notable dimensions."
Silvestrini 1977.

223 CAMPOGRASSO (AN)

Abundant faunal remains.

Percossi Serenelli and Silvestrini Lavagnoli 1984-6: 382.

225 CAVA GIACOMETTI (AN)

Poorly preserved bones.

Level 7. Final Neolithic/early Copper Age

More Ovis or Capra (sheep/goat) than Bos (cattle).
Almost a third of the bones belonged to wild species, and
there were more Cervus elaphus (red deer) than in Aquatina
6 (i.e. > 2%).

Level 6. Copper Age

A major incidence of Bos (cow).
Scarce wild species.

G. Siracusano identification.
Moscoloni 1987: 34-5.

229 COPPETELLA (AN)

557 identified bones.

| | | | | edible meat % |
|--|-----|------|---|------------------|
| <u>Bos taurus</u> (cow) | 161 | 29% | 7 | 53% |
| <u>Canis familiaris</u> (dog) | 3 | 0.5% | 1 | |
| <u>Capra hircus</u> (goat) | 2 | 0.5% | 1 | |
| <u>Ovis aries</u> (sheep) | 1 | 0.5% | 1 | |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 97 | 17% | 8 | 6% |
| <u>Sus scrofa domesticus</u> (pig) | 154 | 28% | 7 | 12% |
| <u>Bufo</u> species (toad) | 1 | 0.5% | | |
| <u>Capreolus capreolus</u> (roe deer) | 12 | 2% | 2 | 2% |
| <u>Cervus elaphus</u> (red deer) | 63 | 11% | 2 | 7% |
| <u>Chamelea gallina</u> | 12 | 2% | | |
| <u>Lepus europaeus</u> (hare) | 7 | 1% | 1 | |
| <u>Lynx lynx</u> (lynx) | 1 | 0.5% | 1 | |
| <u>Meles meles</u> (badger) | 1 | 0.5% | 1 | |
| <u>Testudo/Emys</u> (tortoise) | 1 | 0.5% | | |
| Small ruminants | 6 | 1% | | |
| <u>Sus scrofa scrofa</u> (wild boar) | 33 | 6% | 5 | 15% |
| <u>Ursus arctos</u> (brown bear) | 2 | 0.5% | 1 | 4% |

Bos taurus (cow)

Age at death - fusion of the epiphyses: 5 young, but
especially adults; tooth eruption and wear: 2 < 17-20
months, 3 > 18-24 months.

Size - varying between medium and large.

Ovis or Capra (sheep/goat)

Age at death - 2 < 18-24 months, 6 > 18-24 months; wear on third molar suggests that they were killed at a mature age, but not too old.

Sus scrofa domesticus (pig)

Age at death - teeth: 1 foetus, 2 < 12-15 months, prevalently adults.

Size - medium and large.

Height to the withers - 84.1 - 98.9 cm.

Sex - canines: 3 males, 2 females.

Cervus elaphus (red deer)

Age at death - 1 3-4 years, 1 8-10 years.

Sus scrofa scrofa (wild boar)

Age at death - adults.

Height to the withers - 95.0 - 101.8 cm.

Body parts:

| | C | L | M | U | L | S | S | C | C | B | O | C | O |
|-------------------|---|---|---|---|---|---|----|----|---|----|---|---|----|
| | a | y | e | r | e | u | u | e | a | o | v | a | v |
| | n | n | l | s | p | s | s | r | p | s | i | p | / |
| | i | x | e | u | u | | | v | r | | s | r | C |
| | s | | s | s | s | s | s | u | e | | | a | a |
| | | | | | | | | s | o | | | | p |
| | | | | | | | | s | l | | | | |
| | | | | | | | | c | u | | | | |
| | | | | | | | | r | s | | | | |
| | | | | | | | | m | | | | | |
| Horns | - | - | - | - | - | - | - | 21 | 7 | 1 | - | - | - |
| Cranium/u. teeth | 1 | - | - | - | - | 3 | 21 | 1 | - | 25 | - | - | 26 |
| Mandible/l. teeth | 1 | - | - | - | - | 6 | 47 | 6 | - | 29 | - | - | 33 |
| Teeth | 1 | - | - | 1 | - | - | 21 | 4 | - | 12 | - | - | 18 |
| Atlas | - | - | - | - | - | - | 2 | - | - | 2 | - | - | - |
| Epistropheus | - | - | - | - | - | - | - | - | - | 2 | - | - | - |
| Scapula | - | - | - | - | - | - | 7 | - | - | 2 | - | - | - |
| Humerus | - | - | 1 | - | - | 1 | 14 | 2 | 2 | 4 | - | - | 5 |
| Radius | - | - | - | - | - | 2 | 3 | 4 | 1 | 8 | - | - | - |
| Ulna | - | - | - | - | - | 1 | 6 | 2 | - | 2 | - | - | - |
| Carpus | - | - | - | - | - | - | 2 | 1 | - | 4 | - | - | - |
| Metacarpus | - | - | - | - | - | 1 | 1 | 3 | - | 6 | - | 1 | 1 |
| Coxal | - | - | - | - | - | - | 5 | 4 | - | 4 | - | - | - |
| Femur | - | - | - | - | 1 | - | 3 | - | - | 2 | - | - | - |
| Tibia | - | - | - | - | 2 | 2 | 5 | - | 1 | 12 | - | - | 9 |
| Fibula | - | - | - | - | - | 1 | 3 | - | - | - | - | - | - |
| Heel | - | - | - | - | - | 1 | 2 | - | - | 4 | - | 1 | - |
| Astragalus | - | - | - | - | - | 3 | 4 | 1 | 1 | 10 | - | - | 1 |
| Tarsus | - | - | - | - | - | 1 | - | - | - | 2 | - | - | - |
| Metatarsus | - | - | - | - | 2 | 5 | 4 | 5 | - | 10 | 1 | - | 3 |
| Metapodium | - | - | - | 1 | 2 | 1 | 3 | 1 | - | - | - | - | - |
| I phalange | - | 1 | - | - | - | 5 | - | 5 | - | 11 | - | - | - |
| II phalange | - | - | - | - | - | - | 1 | 3 | - | 6 | - | - | - |
| III phalange | - | - | - | - | - | - | - | - | - | 3 | - | - | - |

Wilkins 1989.

230 DONATELLI (AN)

169 identified bones.

| | | | |
|--|----|-----|---|
| <u>Bos taurus</u> (cow) | 35 | 21% | 3 |
| <u>Canis familiaris</u> (dog) | 8 | 5% | 2 |
| <u>Ovis aries</u> (sheep) | 3 | 2% | |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 13 | 8% | 3 |
| <u>Sus scrofa</u> (pig) | 85 | 50% | 6 |
| <u>Bos primigenius</u> (aurochs) | 3 | 2% | 1 |
| <u>Capreolus capreolus</u> (roe deer) | 3 | 2% | 1 |
| <u>Cervus elaphus</u> (red deer) | 11 | 6% | 1 |
| <u>Meles meles</u> (badger) | 3 | 2% | 1 |
| <u>Ursus arctos</u> (brown bear) | 5 | 2% | 1 |

Bos taurus (cow)

Age at death - 3 < 24-28 months, ? rest were adults.

Canis familiaris (dog)

Size - small. Age at death - adults.

Ovis or Capra (sheep/goat)

Age at death - 1 < 17-24 months, majority were adults.

Sus scrofa (pig)

Age at death - 3 < 18-24 months, majority were adults.

C M U S C C B B O O
a e r u e a o o v v
n l s s r p s s i /
i e u v r s s C
s s s u e p t a
s o r a p
u m r r a

Body parts:

| | | | | | | | | | | |
|-------------------|---|---|---|----|---|---|---|----|---|---|
| Horns | - | - | - | - | 3 | 3 | - | - | - | - |
| Cranium/u. teeth | 1 | - | 2 | 22 | 1 | - | - | 6 | - | 7 |
| Mandible/l. teeth | 3 | 1 | - | 8 | - | - | - | 18 | - | 6 |
| Teeth | 2 | - | 1 | 12 | - | - | - | - | - | - |
| Atlas | - | - | - | 1 | - | - | - | - | - | - |
| Scapula | - | - | 1 | 2 | - | - | - | 1 | 1 | - |
| Humerus | - | - | - | 12 | 1 | - | - | - | 1 | - |
| Radius | - | - | - | 1 | - | - | - | 1 | - | - |
| Ulna | - | 1 | - | 3 | - | - | - | 1 | - | - |
| Metacarpus | - | - | - | 3 | 1 | - | 1 | 1 | - | - |
| Femur | - | - | - | 1 | - | - | - | - | - | - |
| Tibia | 1 | - | - | 2 | - | - | - | - | - | - |
| Heel | 1 | 1 | - | 1 | - | - | - | - | - | - |
| Astragalus | - | - | - | 5 | - | - | 1 | 3 | - | - |
| Tarsus | - | - | - | 1 | - | - | - | - | - | - |
| Metatarsus | - | - | - | 3 | - | - | - | 1 | - | - |
| Metapodium | - | - | - | - | 3 | - | - | - | - | - |
| I phalange | - | - | 1 | 4 | 1 | - | 1 | - | 1 | - |
| II phalange | - | - | - | 2 | 1 | - | - | 3 | - | - |
| III phalange | - | - | - | 2 | - | - | - | - | - | - |

Wilkins 1987

234 FONDO ARGENTINI (AN)

Faunal remains present.
Rellini 1931a: 178.

237 GROTTA DEI BAFFONI (AN)

Stratum F. ? final Neolithic/early Copper age

Bos species (cow) - small sized
Ovis or Capra (sheep/goat) - small sized
Sus scrofa (pig)
Canis lupus (wolf)
Capra ibex (ibex)

Stratum E. Copper Age

Bos species (cow)
Capra species (goat) - small sized
Sus scrofa domesticus (pig)
Capra ibex (ibex)
Capreolus capreolus (roe deer)

Radmilli 1953: 120 and 122.

238 GROTTA DEL MEZZOGIORNO (AN)

Bos species (cow) 1
Canis species (dog/wolf) ?1
Ovis (sheep) 1
Capra ibex (ibex)
Equus caballus (horse) - from the lowest layer

Tongiorgi 1956.

242 LE CONELLE (AN)

Bos taurus (cow) very abundant
Canis familiaris (dog) quite abundant
Capra hircus (goat)
Ovis aries (sheep)
Ovis or Capra (sheep/goat) quite abundant
Sus scrofa domesticus (pig)
Bufo species (toad) 1
Corvus corone conix (hooded crow) 2
Lepus (hare) very scarce
Canis lupus (wolf) 3
Capreolus capreolus (roe deer) rather scarce
Cervus elaphus (red deer) one of the most important wild species
Martes species (marten) very scarce
Meles meles (badger) very scarce
Sus scrofa scrofa (wild pig)

Ursus arctos (bear) more abundant
Vulpes vulpes (red fox) very scarce

Rumina decollata scarce
Monacha cartusiana scarce
Cernuella virgata scarce

Bos taurus (cow)
Size - medium, with a few very small and gracile.
Height to the withers - 109-133 cm.
Age at death - 42% < 2-2½ years, 58% > 2-2½ years.

Canis familiaris (dog)
Size - small.
Age at death - 1 < 6 months, 1 4-5 months, all the rest were adults.
Height - 39-45 cm.

Cervus elaphus (red deer)
Size - large.
Age - mandibles: 1 < 23 months, rest were middle-aged, or much older, up to 13-16 years.
Body parts - all body parts represented.

Ovis or Capra (sheep/goat)
Body parts - especially mandibles, jaws, and isolated teeth.
Age at death - mandibles: 38% < 2 years, 62 % > 2 years.
90% Ovis (sheep) against 10% Capra (goat).
Height - sheep: 59-69 cm; goat: 57 cm.

Sus scrofa domesticus (pig)
Age at death - mandibles: 32% about 1 year, 28 % about 2 years, 9% > 2 years, 9% 2 years or more.
Height to the withers - 63-89 cm.

Sus scrofa scrofa (wild boar)
Age at death - 2 years or more.
Height to the withers - 86-110 cm.

Ursus arctos (brown bear)
Size - very large, larger than the modern Marsican brown bear.

Wilkens 1987.

258 PIANETTI (AN)

Animal bones were present.
Brizio 1899b: 622.

262 RIPABIANCA (AN)

| | |
|--|---------------------|
| <u>Bos</u> species (cow) | 6% |
| <u>Canis familiaris</u> (dog) | quite a lot |
| <u>Ovis</u> or <u>Capra</u> (sheep/goat) | 64%, predominant. |
| <u>Sus scrofa</u> (pig) | 19% |
| <u>Cervus elaphus</u> (red deer) | quite insignificant |
| <u>Capreolus capreolus</u> (roe deer) | quite insignificant |
| <u>Sus scrofa scrofa</u> (wild boar) | |
| <u>Ursus arctos</u> (brown bear) | |
| <u>Felis sylvestris</u> (wild cat) | |
| <u>Vulpes vulpes</u> (red fox) | |
| <u>Putorius putorius</u> (polecat) | |

Borzatti von Löwenstern, Barker, and Wilkens analyses.
Broglia and Lollini 1963: 148; Barker 1975: 134; Wilkens
1989: 3 and 4.

268 S. LORENZO (AN)

Great quantity of bones.

Bos species (cow) - small sized, like those at Le Conelle;
bones included 1 astragalus.

Ovis or Capra (sheep/goat)

Sus species (pig)

Deer

Rellini 1912: 675.

290 S. LORENZO IN CAMPO (PO)

Animal bones present.

Rellini 1909: 60.

APPENDIX 5. MESOLITHIC SITES IN ABRUZZO AND MARCHE

1. Campo di Giove (AQ)

Surface finds, scattered over a very limited area on the edge of the small lake Tescino, included tools with beaks and points, notched bladelets, perforators, and awls. The site is located in the Maiella mountains of Abruzzo, on the small 'altopiano' of Campo di Giove, at 1065 m above sea level (Plate 22). (Radmilli 1981: 244.)

2. Capo d'Acqua (AQ)

Lithics and faunal remains were found here in a 20 cm thick layer of blackish clay which had a high organic content. There was a high percentage of tools in the lithic assemblage, including beaks/points, backed blades/bladelets, backed points, end scrapers, burins, and perforators. The animal bones included red deer (79 bone fragments, 50% of the total number of identified bones), aurochs (64, 41%), roe deer (8, 5%), ibex (3, 2%), wild pig (2, 1%), and wolf (2, 1%). The site is located at 343 m above sea level, 40 km inland from the Adriatic coast, on Holocene deposits of clay and gravel on the flat plain of the Ofena basin, about 400 m away from the perennial Capo d'Acqua springs and lake, which lie at the head of one of the streams which feeds the River Tirino (Plates 16 and 17). (Tozzi 1966.)

3. Grotta Continenza (AQ)

Stratified Mesolithic deposits were found in this cave. Spits 31-24, which measured a total thickness of 40-65 cm, contained traces of hearths and an assemblage of lithic, bone, and shell artefacts, and faunal remains. The lithics included beaks/points, geometrics (triangles), notches, truncations, backed bladelets, backed points, and a burin; there were some perforated red deer canines and a bone awl; and the shell artefacts included perforated shells of Columbella rustica, one with red colouring, and another oval piece decorated with groups of notches along the edges. 14 pieces of a red mineral possibly used as a colouring material were also found. The faunal remains included red deer, wild pig, roe deer, wolf, ibex, shrew, mole, badger, wild cat, and hare. Edible Helix snail shells were very abundant in spit 27; significant quantities of fish bones, especially trout, were found in small heaps in spit 28; and large numbers of bird bones, especially belonging to marsh and water fowl (ducks, herons, and bitterns) were also found. Mesolithic human remains are also supposed to have been found in the cave (Grifoni Cremonesi pers. comm. 1986), although they are not mentioned in publications, and might possibly date to the early Neolithic. The cave is located at 700 m above sea

level on the lower slope of the limestone Monte Alto, which flanks the southern edge of the Fucino lake basin (Fig. 84, plate 11). (Grifoni Cremonesi 1985, 1987-88.)

4. Ortucchio (AQ)

The excavation of a 10 cm thick, dark, clay layer, containing only a little sand, produced a lithic assemblage which included notches/beaks, geometrics (semi-lunates, and a triangle), truncations, backed bladelets, end scrapers, and side scrapers (Cremonesi 1962).

The site is located at 658 m above sea level on Holocene deposits on the floor of the lake Fucino basin, 1.6 km away from the edge of the basin, and 75 km inland from the Adriatic coast (Fig. 84, Plate 9). The precise position of the Neothermal lake edge is difficult to reconstruct, and it may have fluctuated as in historic times, but the clayey composition of the Ortucchio deposits suggests that the site may have been located close to the edge of the lake, possibly in a band of marshes which surrounded the freshwater lake in historical and recent times. The site is also located close to the point where the Lecce stream is likely to have joined the lake. Ortucchio was known as in historical times as the best place for catching brown trout from the lake (Phoebonius 1678: 62), which is of particular interest considering the groups of trout bones found in Grotta Continenza.

5. Ripoli (TE)

A 20-25 cm thick, dark grey, layer with a high organic content was excavated here, and contained an assemblage of lithic artefacts and faunal remains. The lithics included a notch/beak, geometrics (rhomboids, triangles, and semi-lunates), truncations, backed bladelets, end scrapers, burins, and a side scraper. The animal bones included red deer (14 bone fragments), wild pig (9), aurochs (7), roe deer (7), red fox (3), hare (3), wolf (2), mole (2), and tortoise (1). The site lies in the coastal lowlands of northern Abruzzo, 4 km inland from the present-day Adriatic coastline, and at 36 m above present-day sea level, on the end of a Pleistocene fluvial terrace which flanks the lower section of the River Vibrata (Fig. 83, Plate 27). (Radmilli and Cremonesi 1963.)

6. Lucciano, Pieve Torina (MC)

An assemblage of Mesolithic artefacts was found during excavations here. It included geometrics (semi-lunates, triangles, and trapezes), backed points, end scrapers, and burins. The site is located at 461 m above sea level, 62 km inland from the Adriatic coast, in the bottom of the narrow valley of the River Chienti, which leads down from the

Umbria-Marche Apennines (Fig. 86). (Lollini 1979; Broglio and Lollini 1981.)

7. Cava Romita (AN)

Unspecified Mesolithic remains were found in this cave, which is situated in the Gola della Rossa, a gorge cut by the River Esino, 36 km inland from the Adriatic coast (Fig. 85) (Broglio and Lollini 1981: 27).

8. Grotta del Prete (AN)

Excavations in the upper stratum of this cave produced a lithic assemblage which included notches/beaks, geometrics, truncations, backed blades, backed points, and endscrapers, and faunal remains which included red deer, wild pig, and ibex, and a few bones of marmot and microfauna. The cave is located at about 228 m above sea level near to the western mouth of the Sentino gorge, 41 km inland from the Adriatic coast (Fig. 85). (Lollini 1964, 1970; Broglio and Lollini 1981; Bisi et al. 1983.)

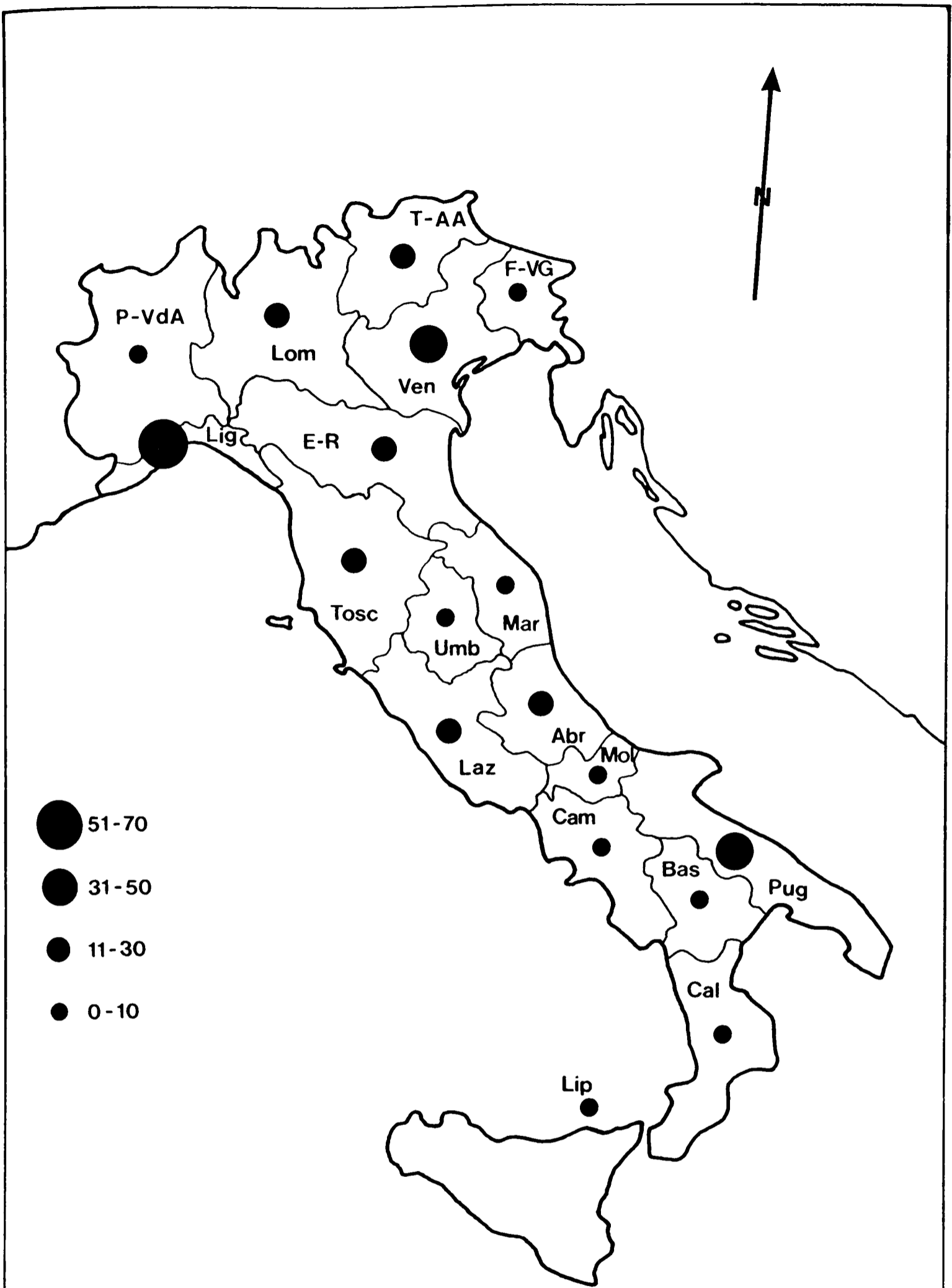


Fig. 1. Numbers of radiocarbon dates from the regions of peninsular Italy and Lipari.

Fig. 2. Distribution of radiocarbon dates from the provinces of Abruzzo and Marche. (The numbers equate to the C14 serial numbers used in Appendix 2.)

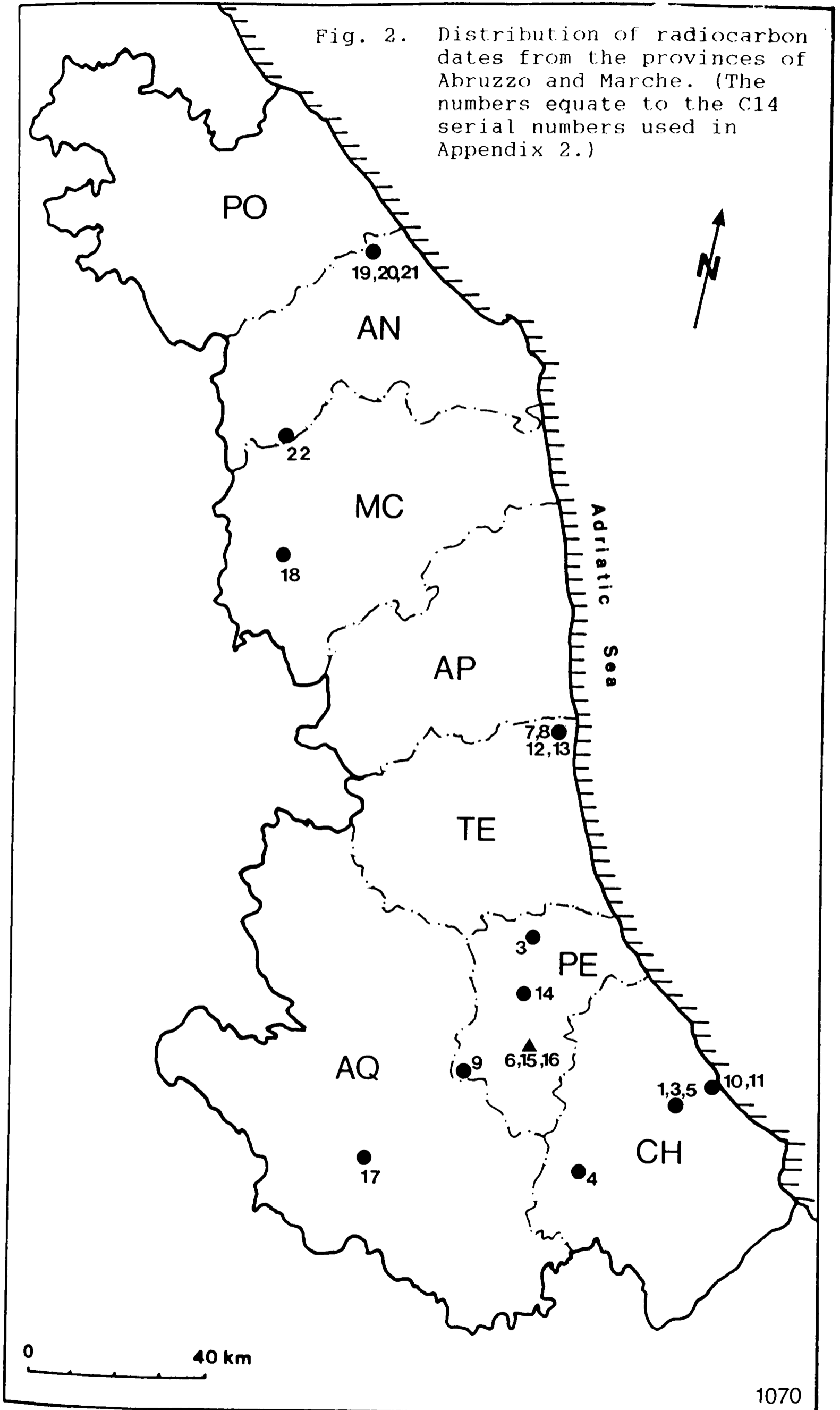


Fig. 3. Distribution of excavated stratified deposits in Abruzzo and Marche. (The numbers equate to the site serial numbers used in Appendix 1.)

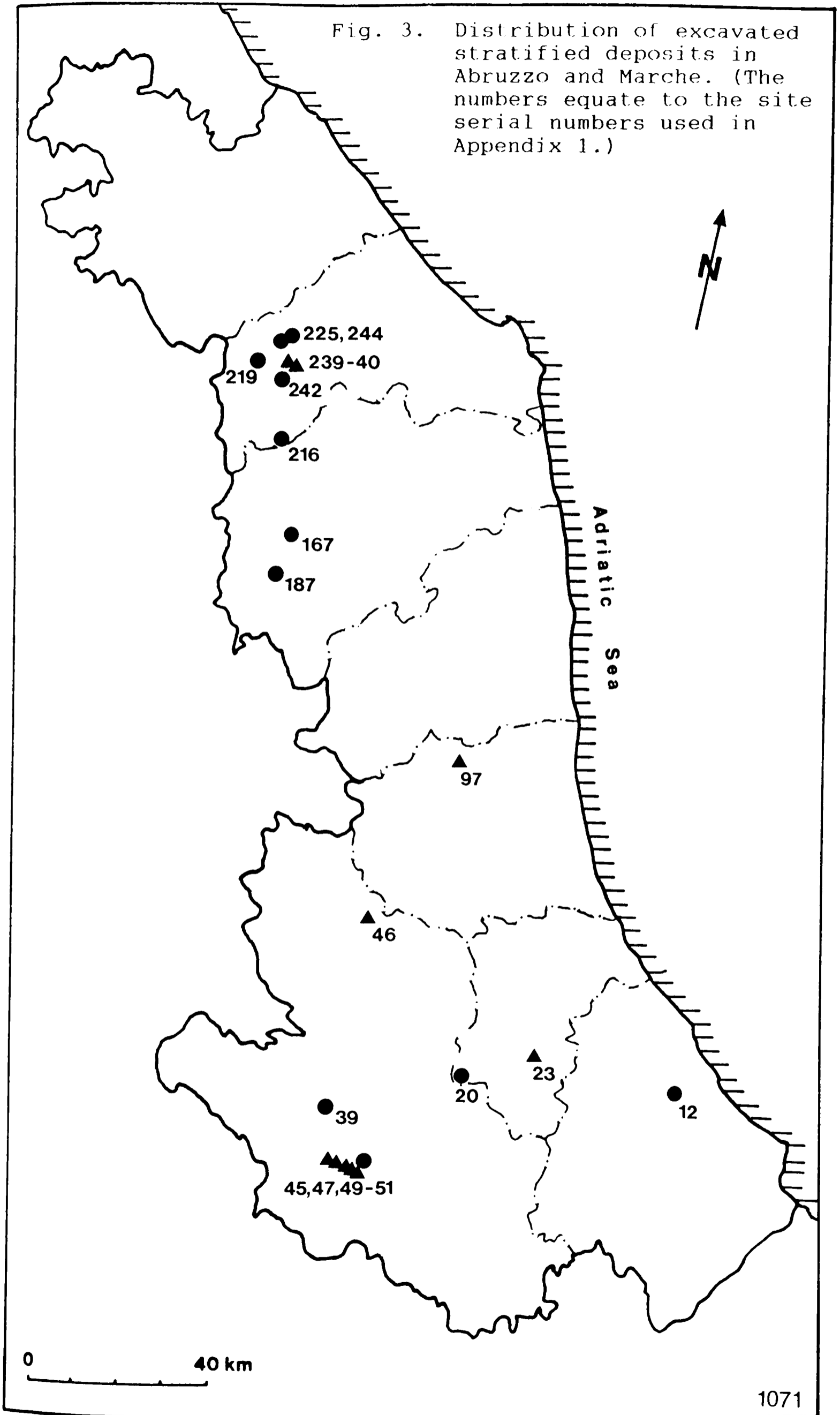
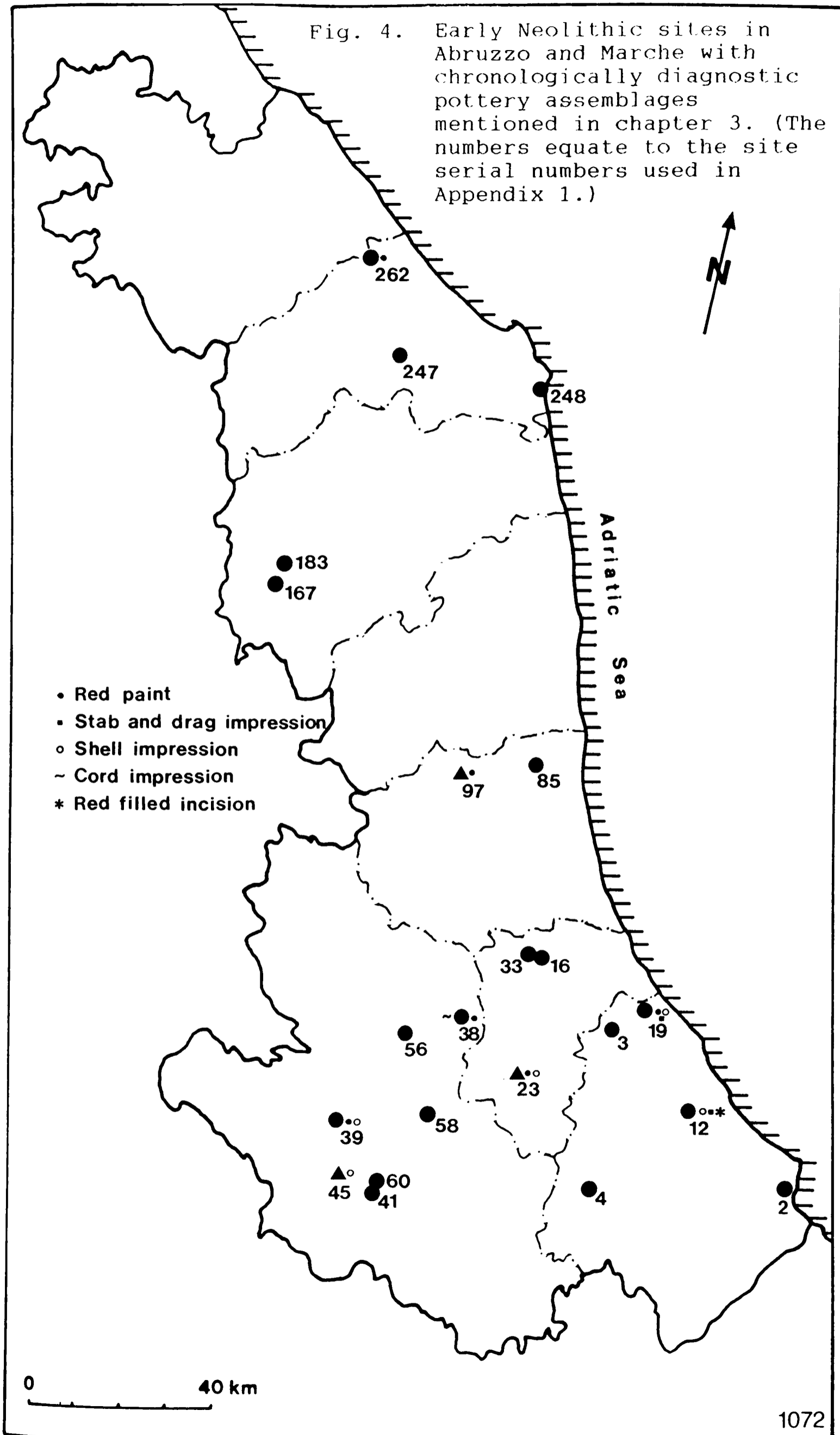


Fig. 4. Early Neolithic sites in Abruzzo and Marche with chronologically diagnostic pottery assemblages mentioned in chapter 3. (The numbers equate to the site serial numbers used in Appendix 1.)



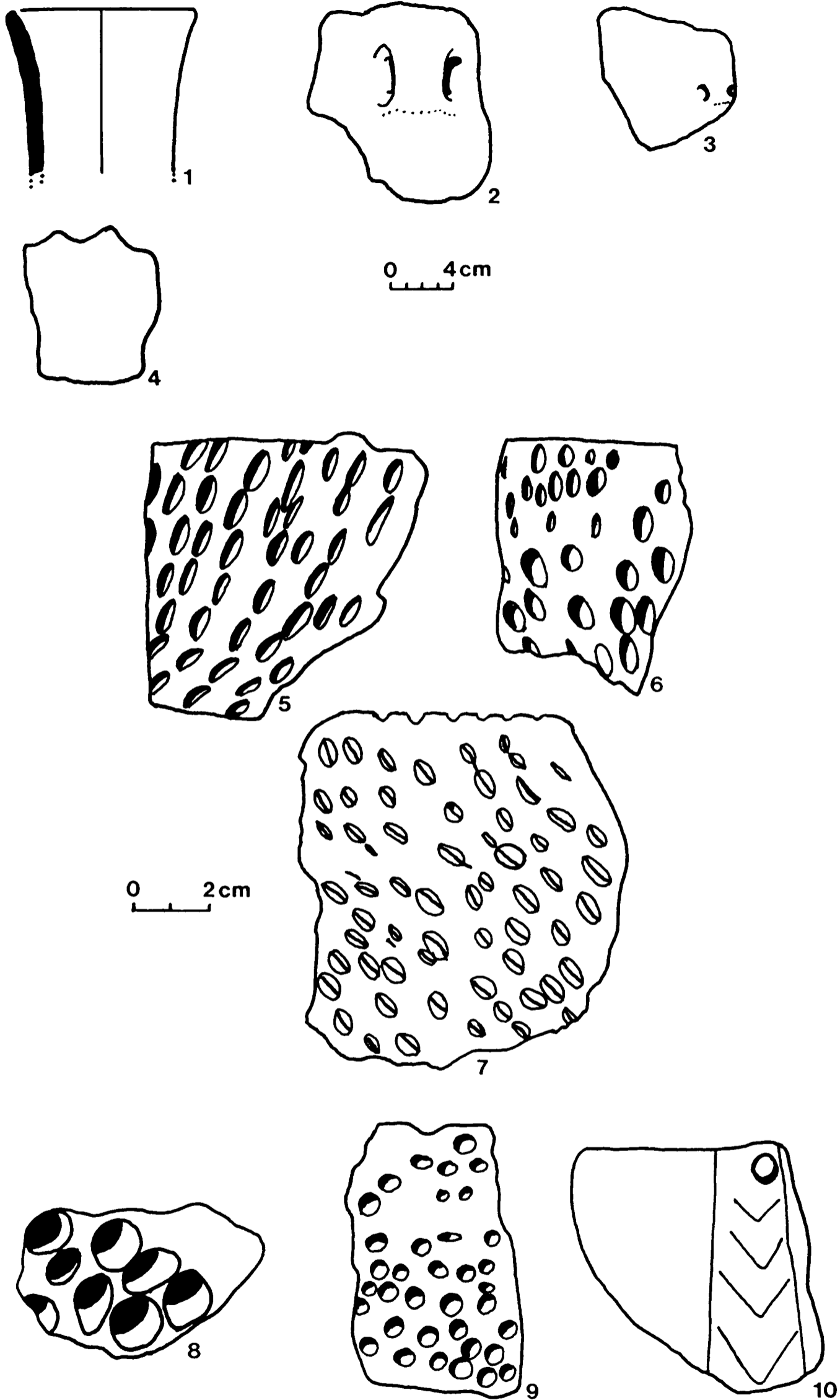


Fig. 5. Early Neolithic pottery from Villaggio Leopardi (after Cremonesi 1967).

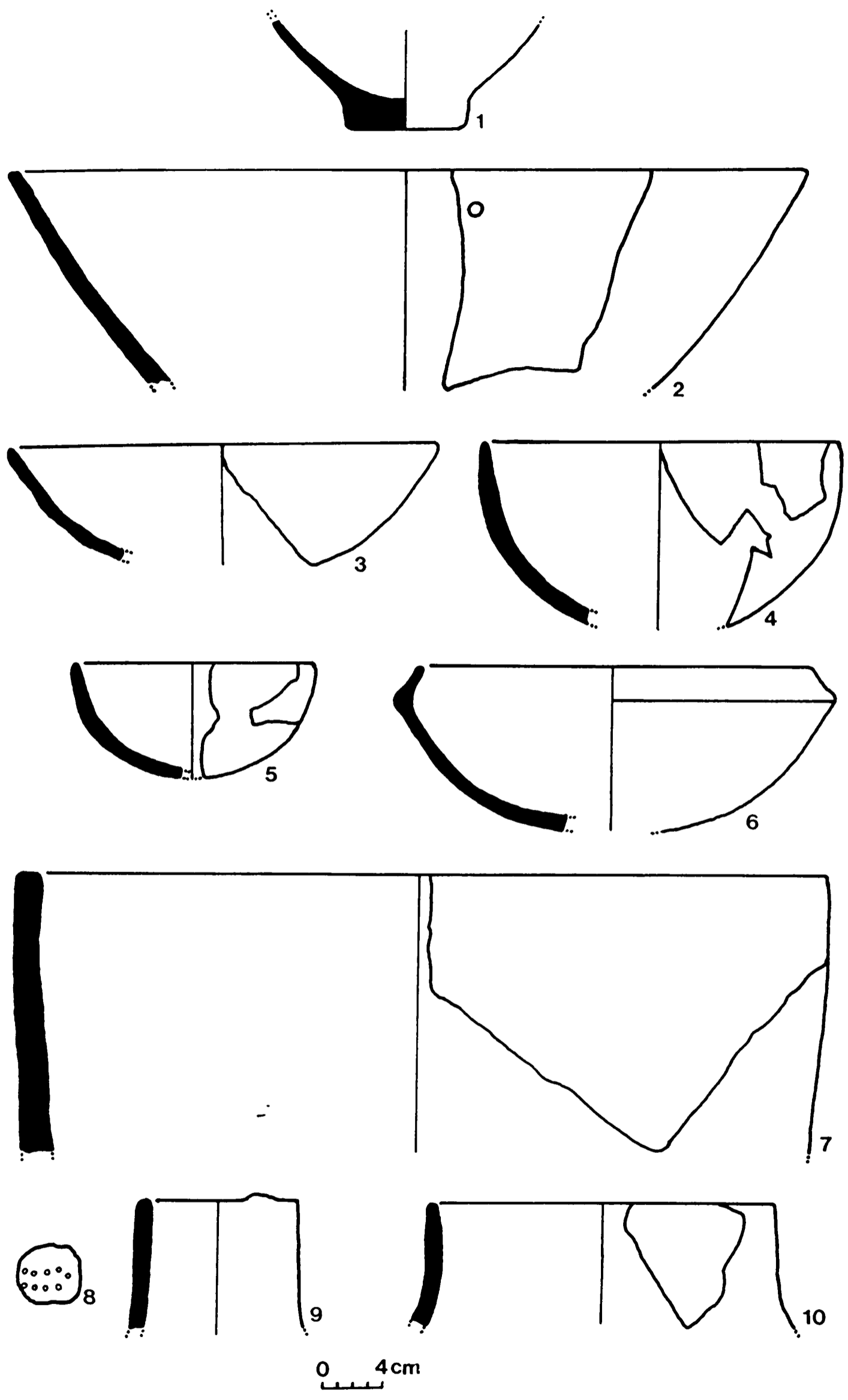


Fig. 6. Early Neolithic pottery from Villaggio Leopardi (1-4 and 10 after Cremonesi 1967; 5-9 after Radmilli 1981).

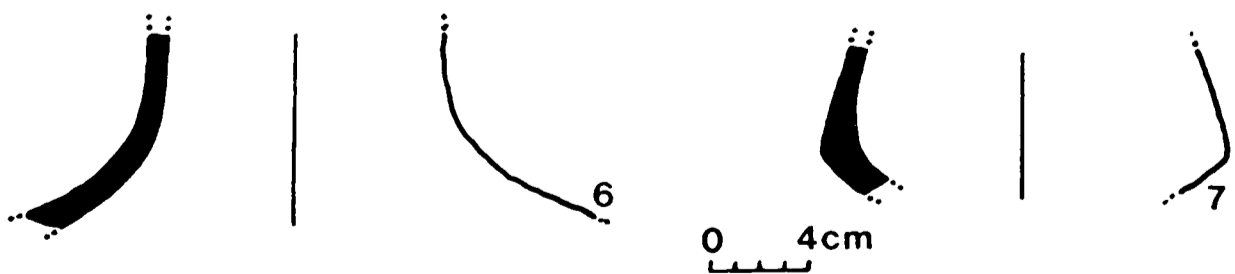
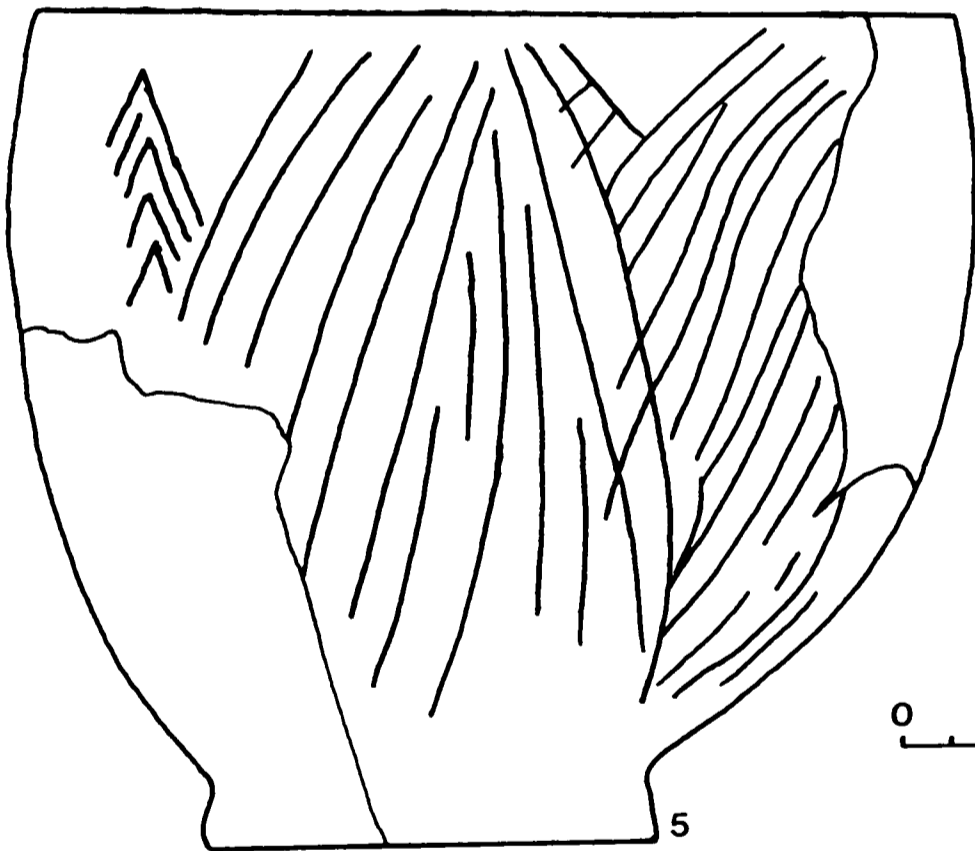
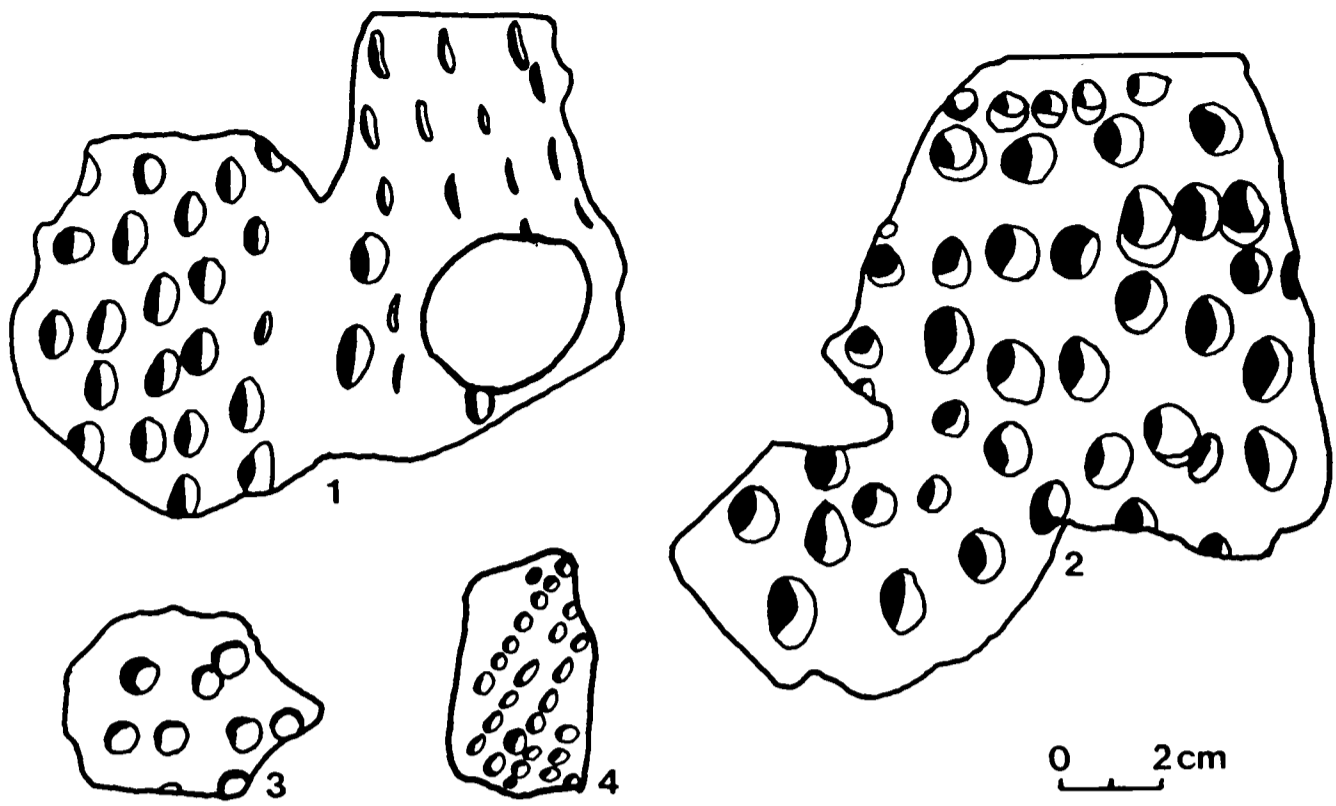


Fig. 7. Early Neolithic pottery from La Maddalena (after Lollini 1965).

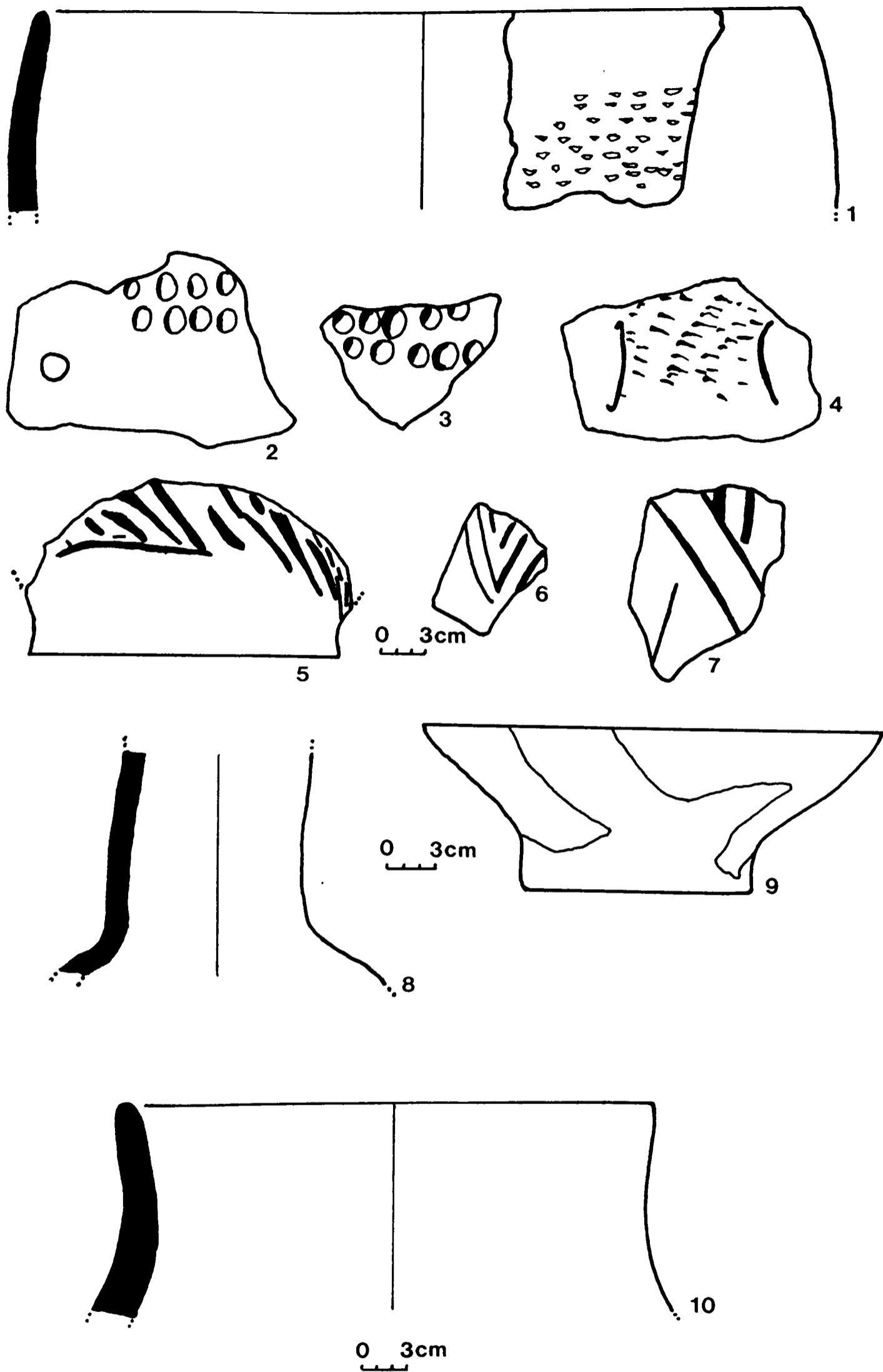


Fig. 8. Early Neolithic pottery from Villaggio Rossi, area IA, levels V-III (after Geniola 1982b). 1076

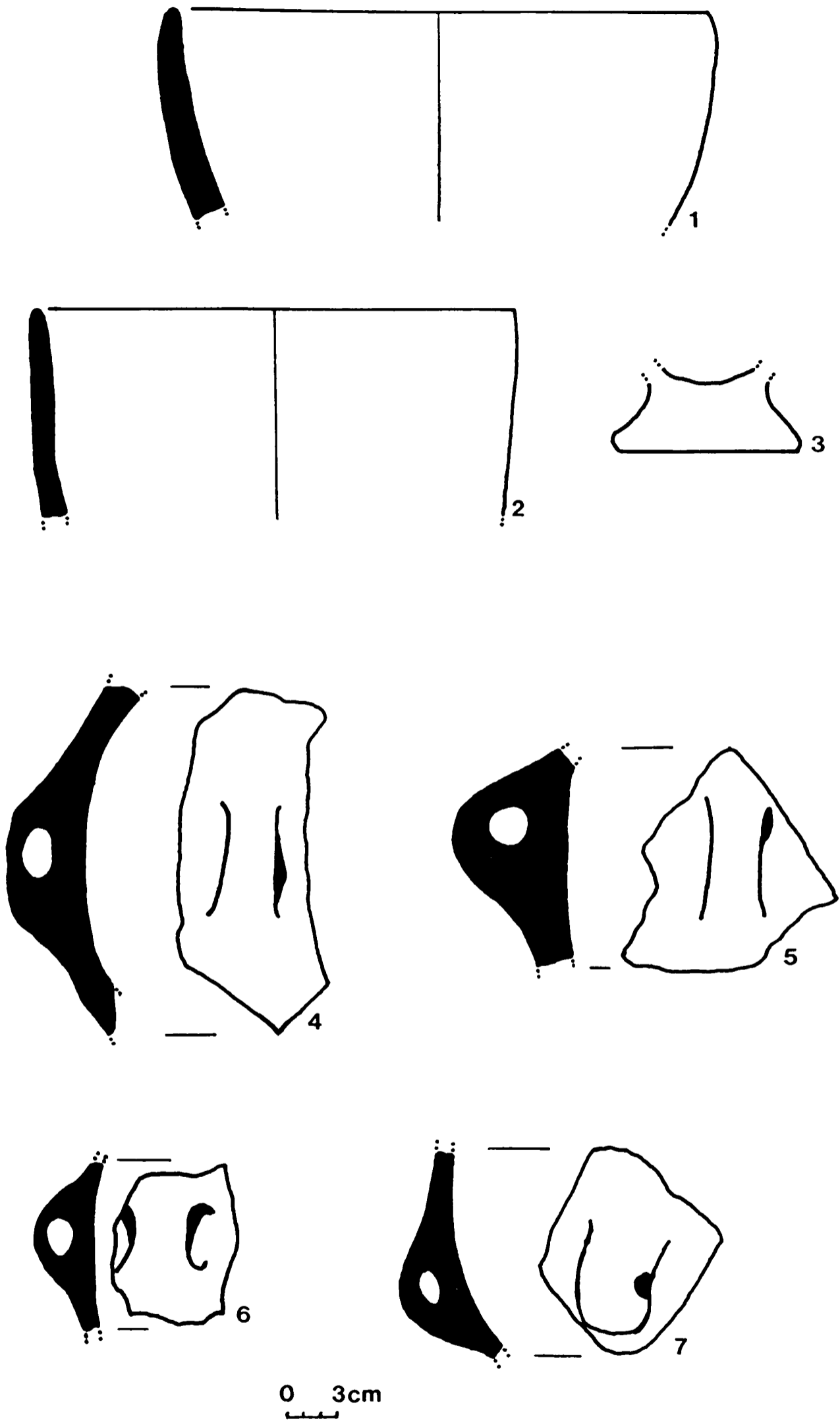


Fig. 9. Early Neolithic pottery from Villaggio Rossi, area IA, levels V-III (after Geniola 1982b).

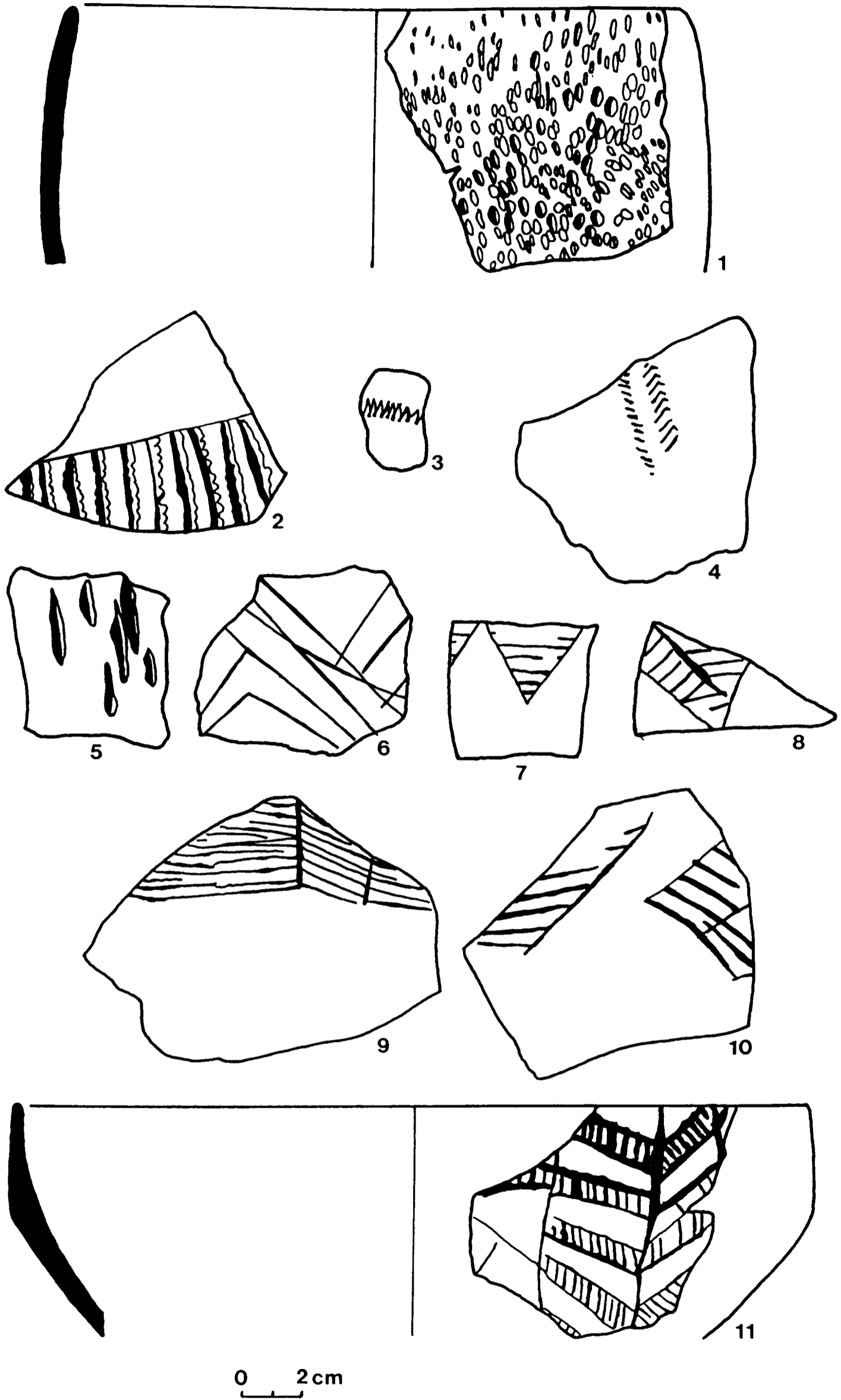


Fig. 10. Early Neolithic pottery from Villaggio Rossi, area IA, levels II-I (after Geniola 1982b).

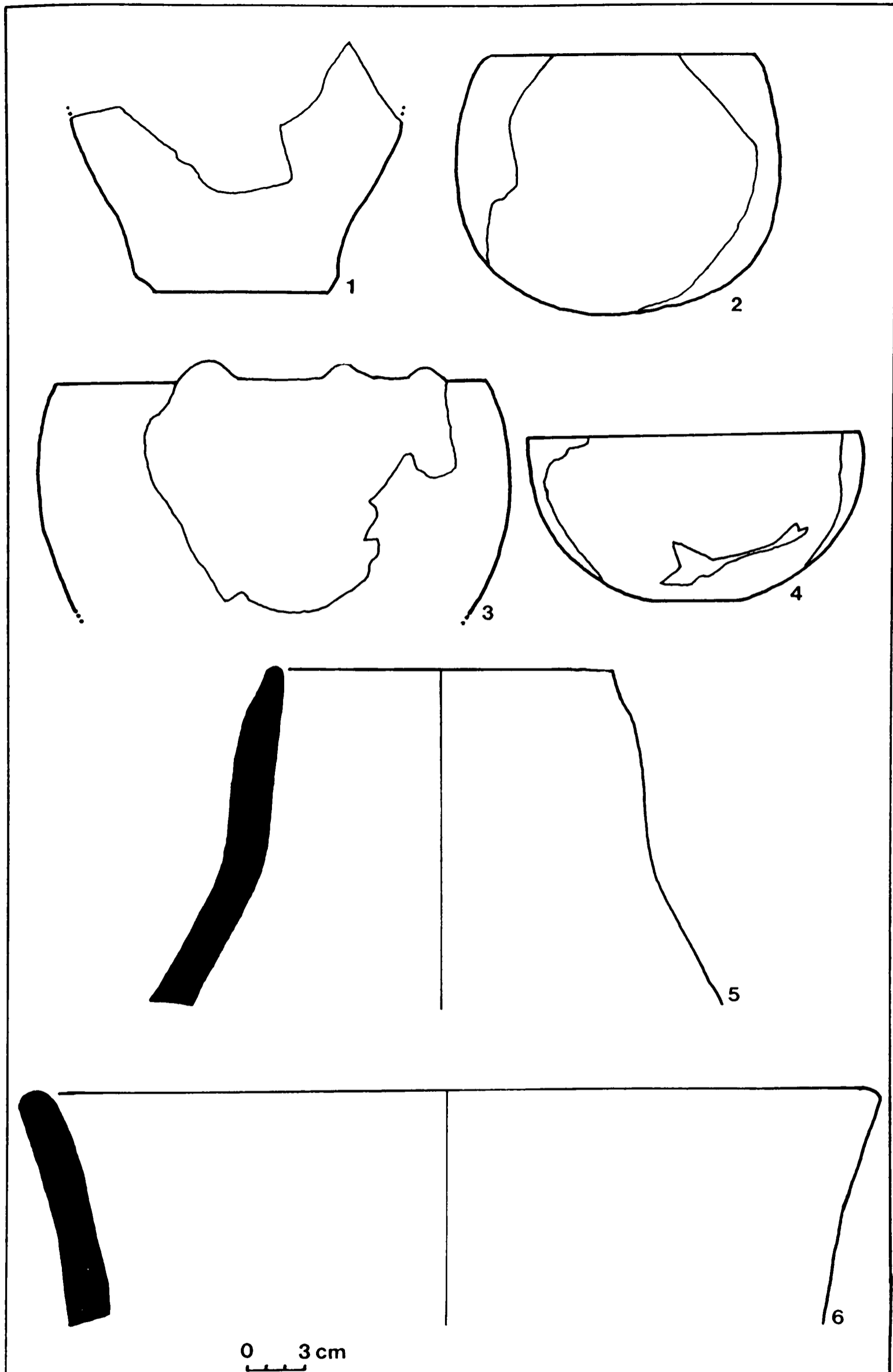


Fig. 11. Early Neolithic pottery from Villaggio Rossi, area IA, levels II-I (after Geniola 1982b).

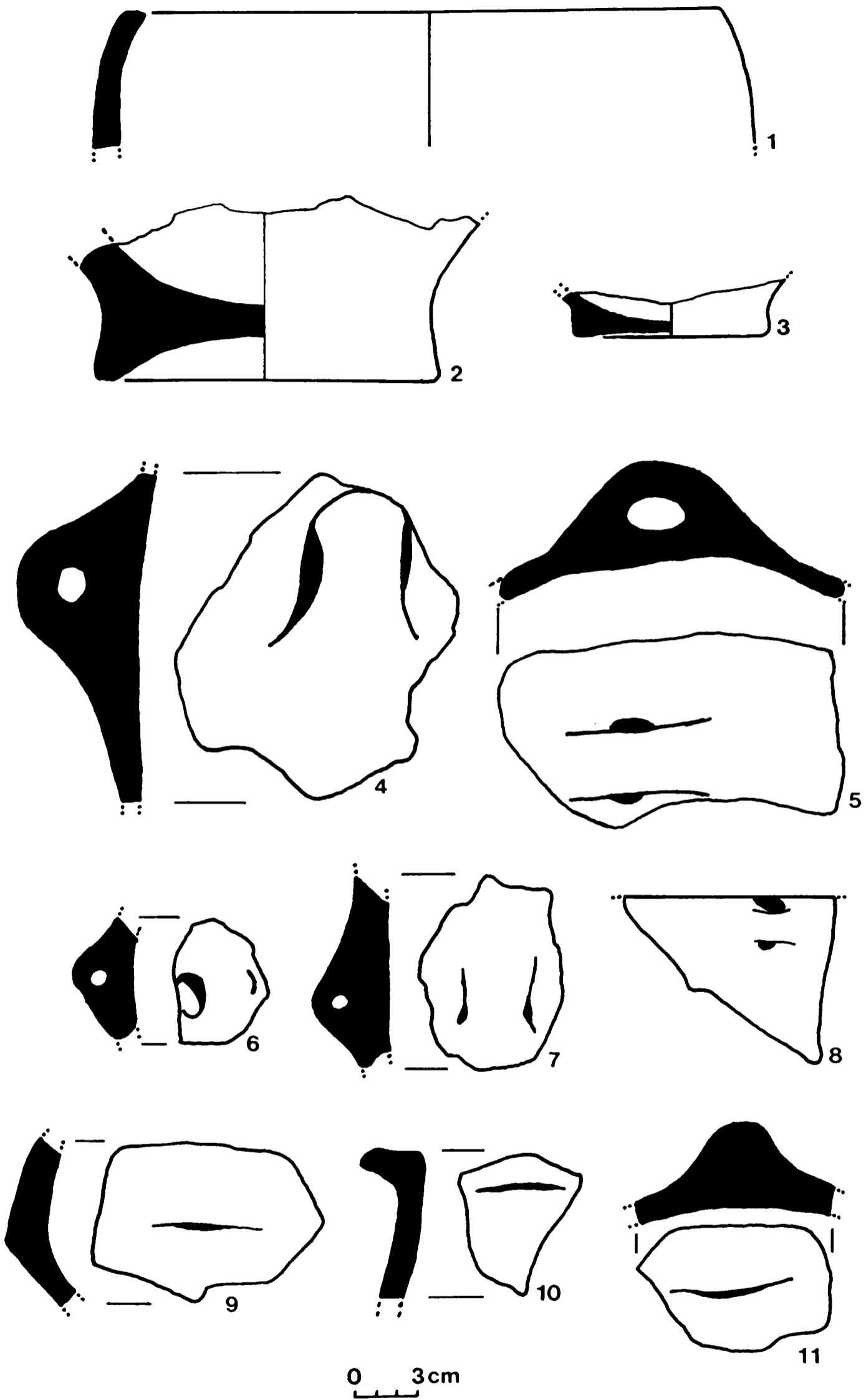


Fig. 12. Early Neolithic pottery from Villaggio Rossi, area IA, levels II-I (after Geniola 1982b). 1080

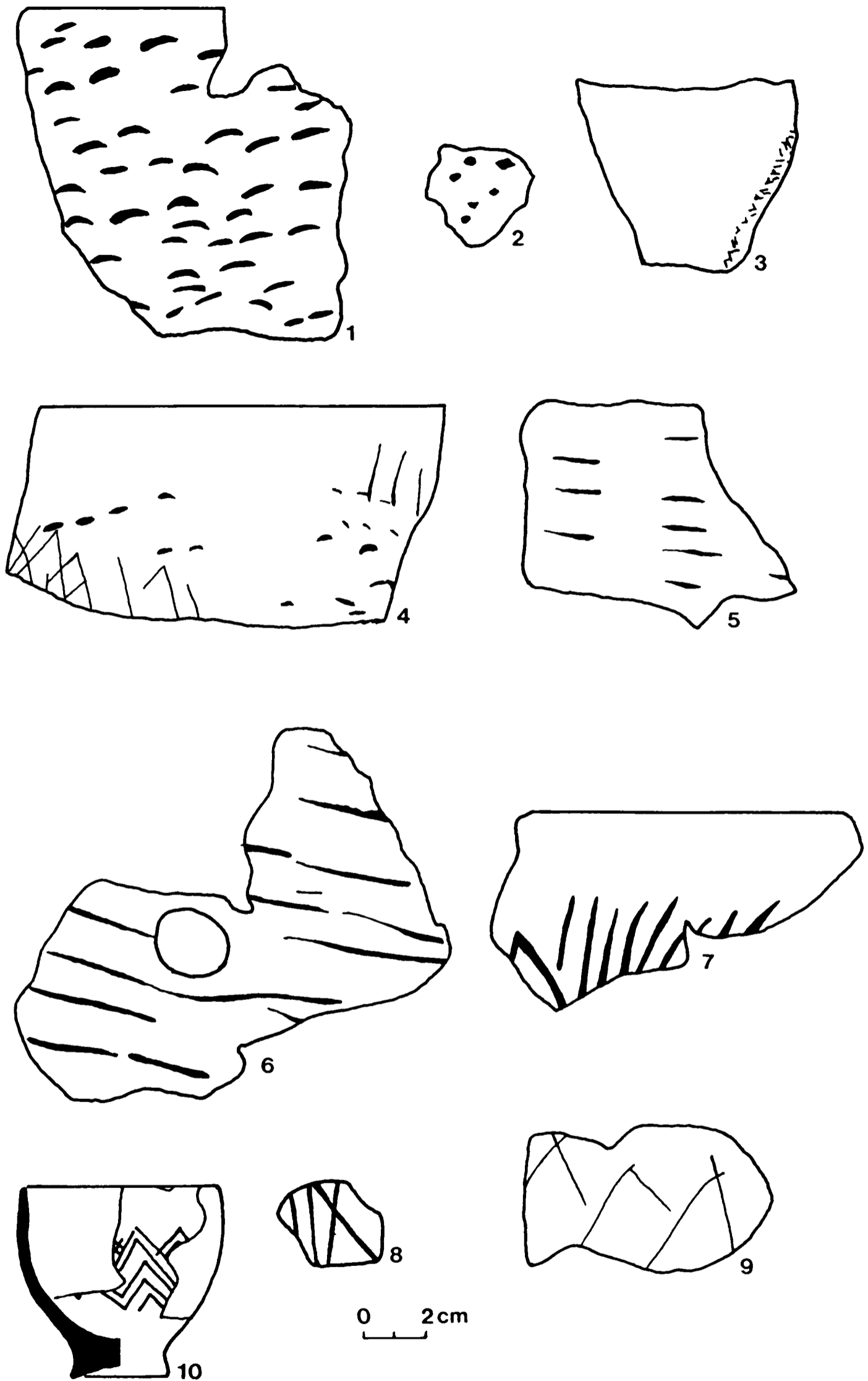


Fig. 13. Early Neolithic pottery from Grotta dei Piccioni, spits 26-21 (after Cremonesi 1976).

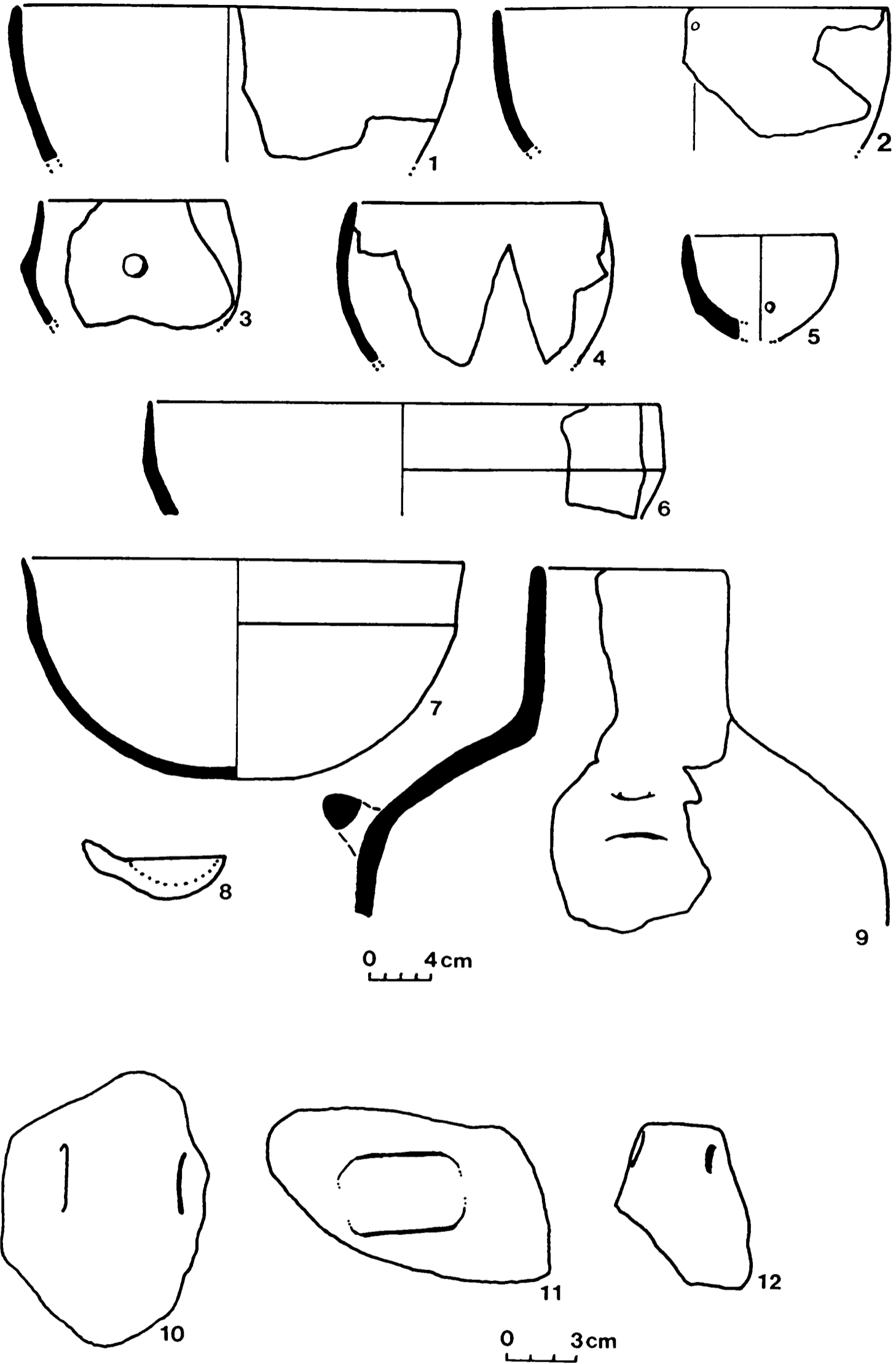


Fig. 14. Early Neolithic pottery from Grotta dei Piccioni, spits 26-21 (after Cremonesi 1976).

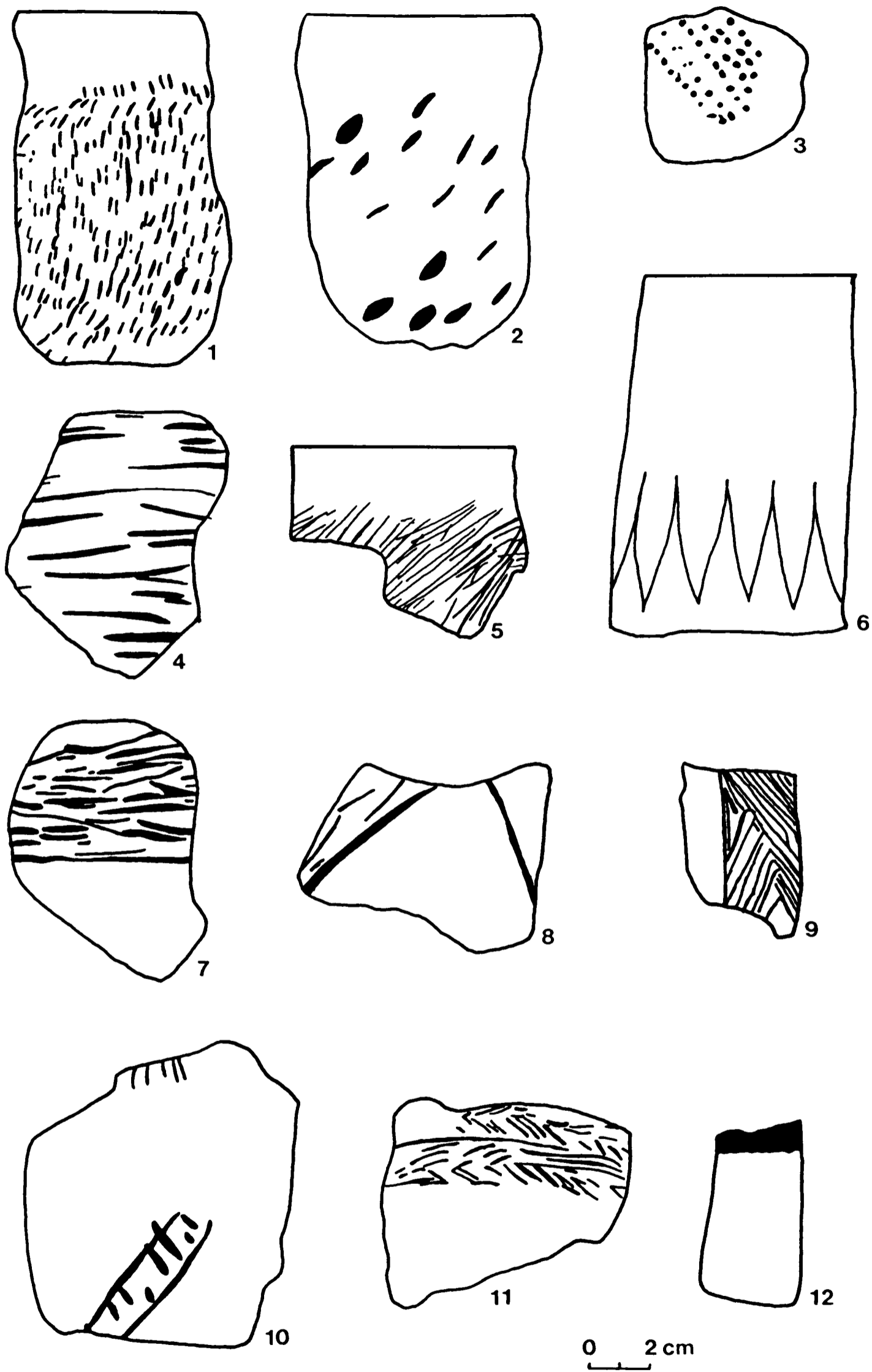
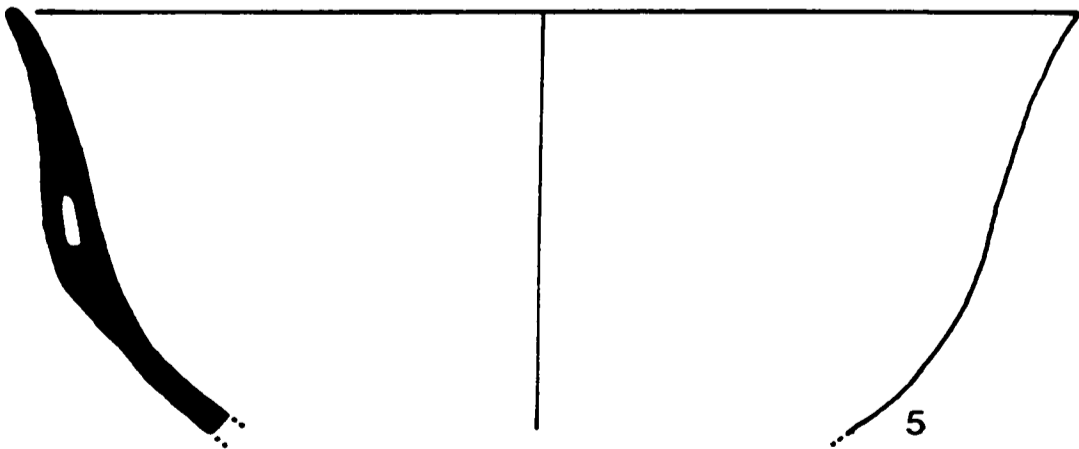
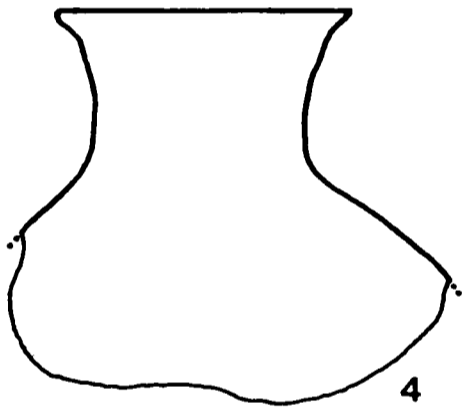
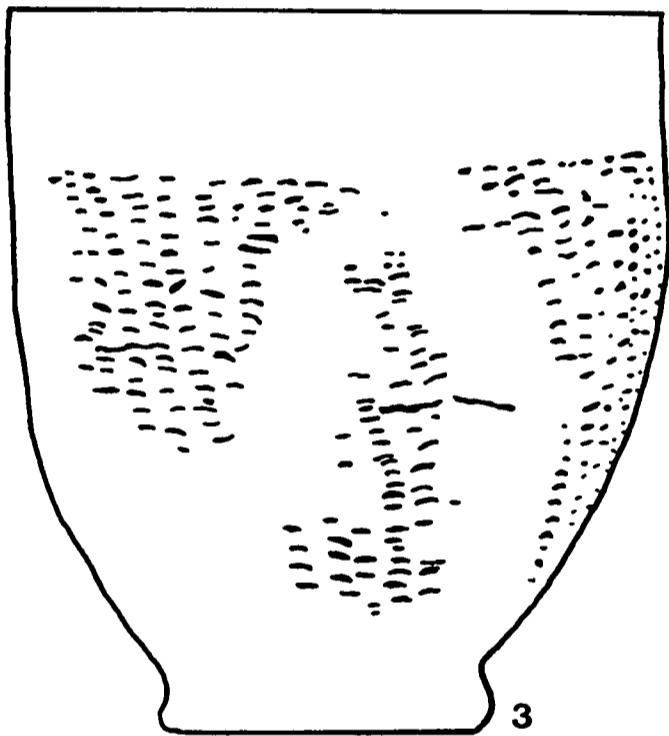
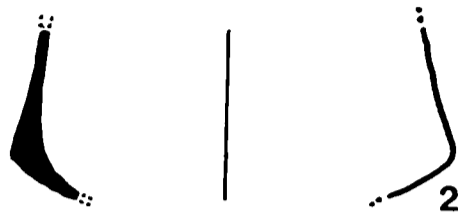
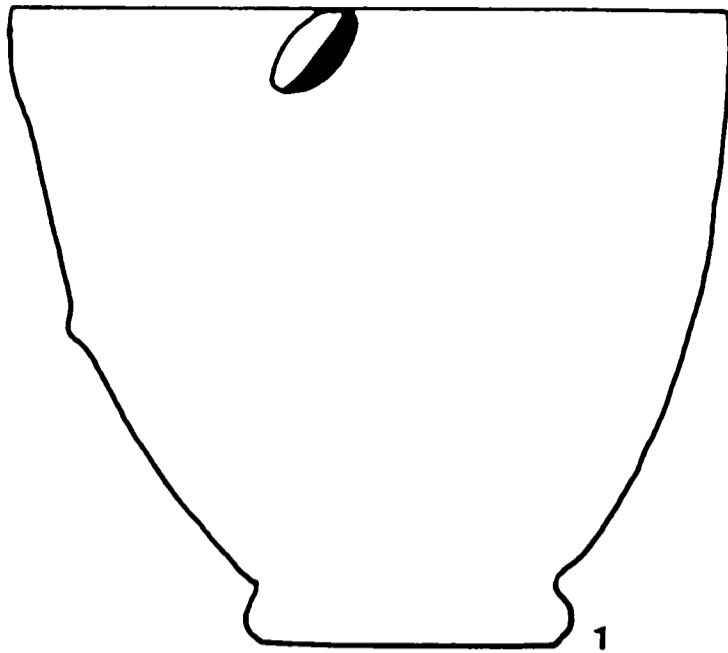
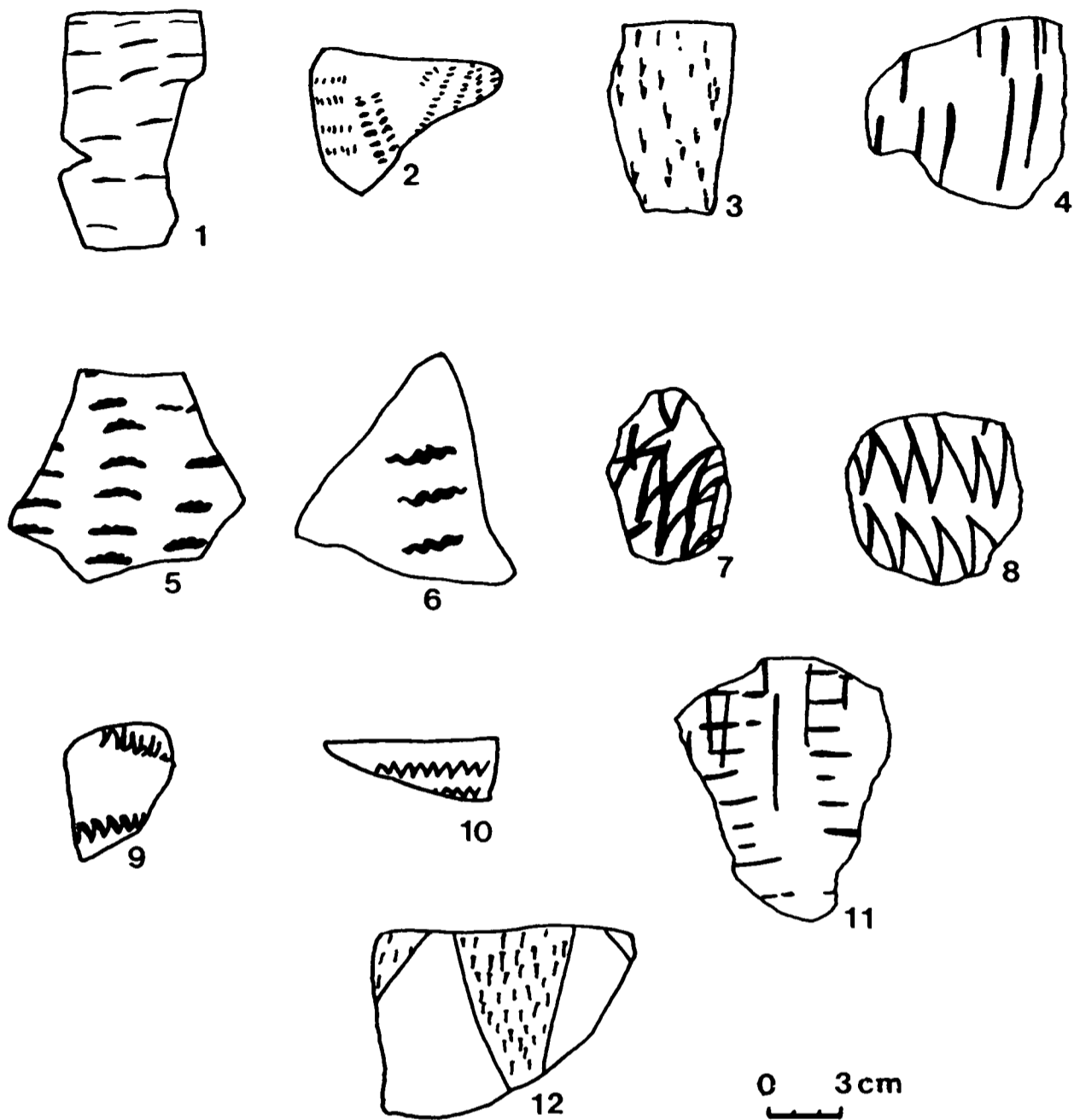


Fig. 15. Early Neolithic pottery from Ripabianca (2,4,7,8,10,11 after De Sanctis 1961; 1,3,5,9,12 after Lollini 1965; 6 unpublished in Fano Museum).

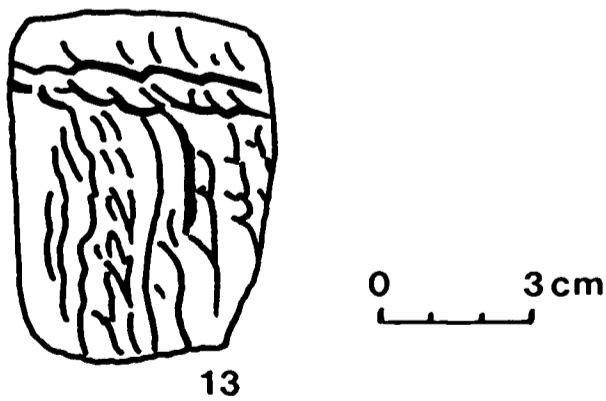


0 3cm

Fig. 16. Early Neolithic pottery from Ripabianca (4 after Broglio and Lollini 1963; 1-3 and 5 after Lollini 1965).



1-12. Early Neolithic pottery from Fontanelle (after Ducci et al. 1986-7).



13. Early Neolithic pottery from Capo d'Acqua (after Cremonesi 1968).

Fig. 17. Early Neolithic pottery from Fontanelle and Capo d'Acqua.

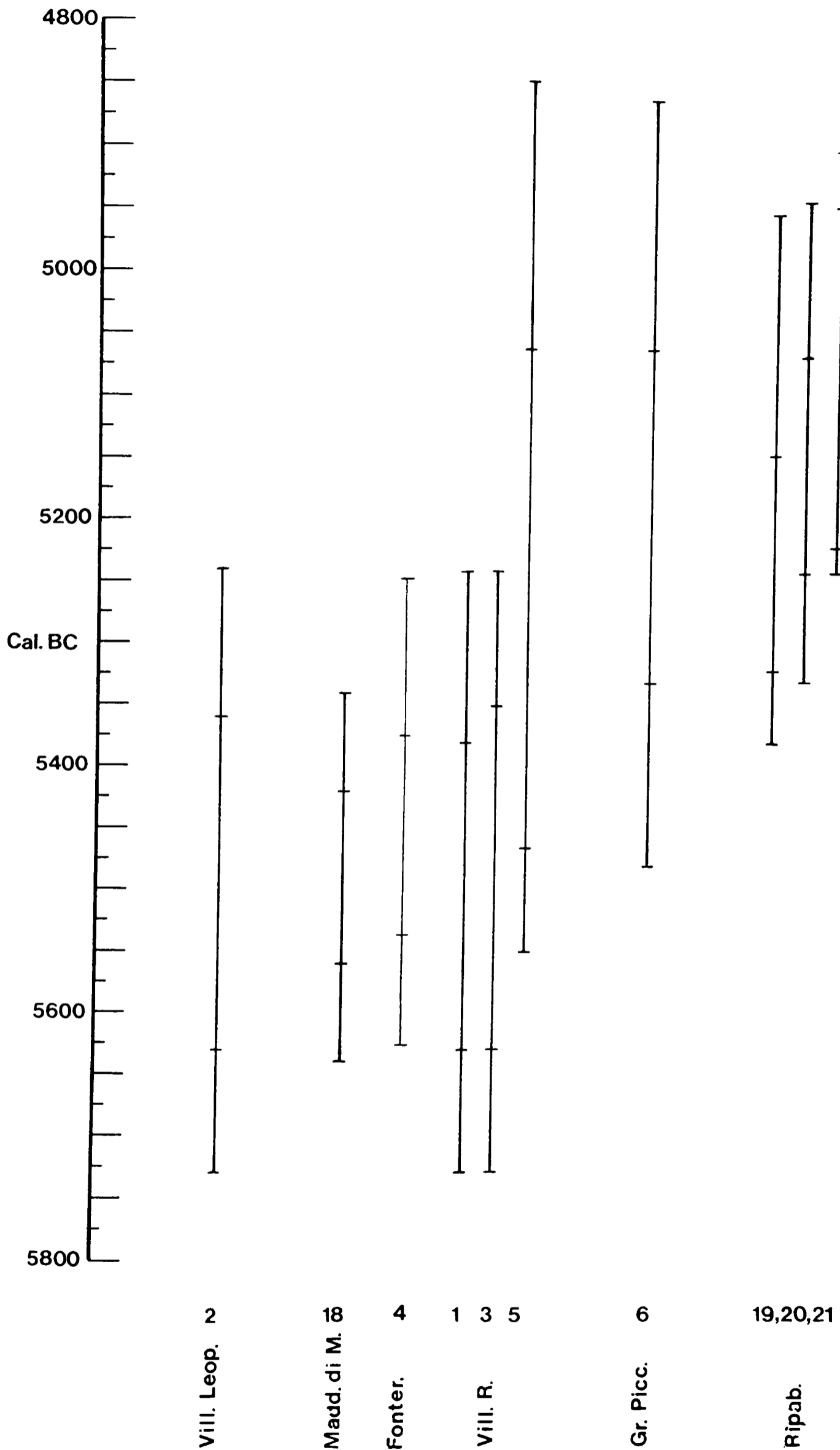


Fig. 18. Calibrated 2-sigma radiocarbon date ranges for the early Neolithic in Abruzzo and Marche. (The numbers equate to the C14 serial numbers used in Appendix 2.)

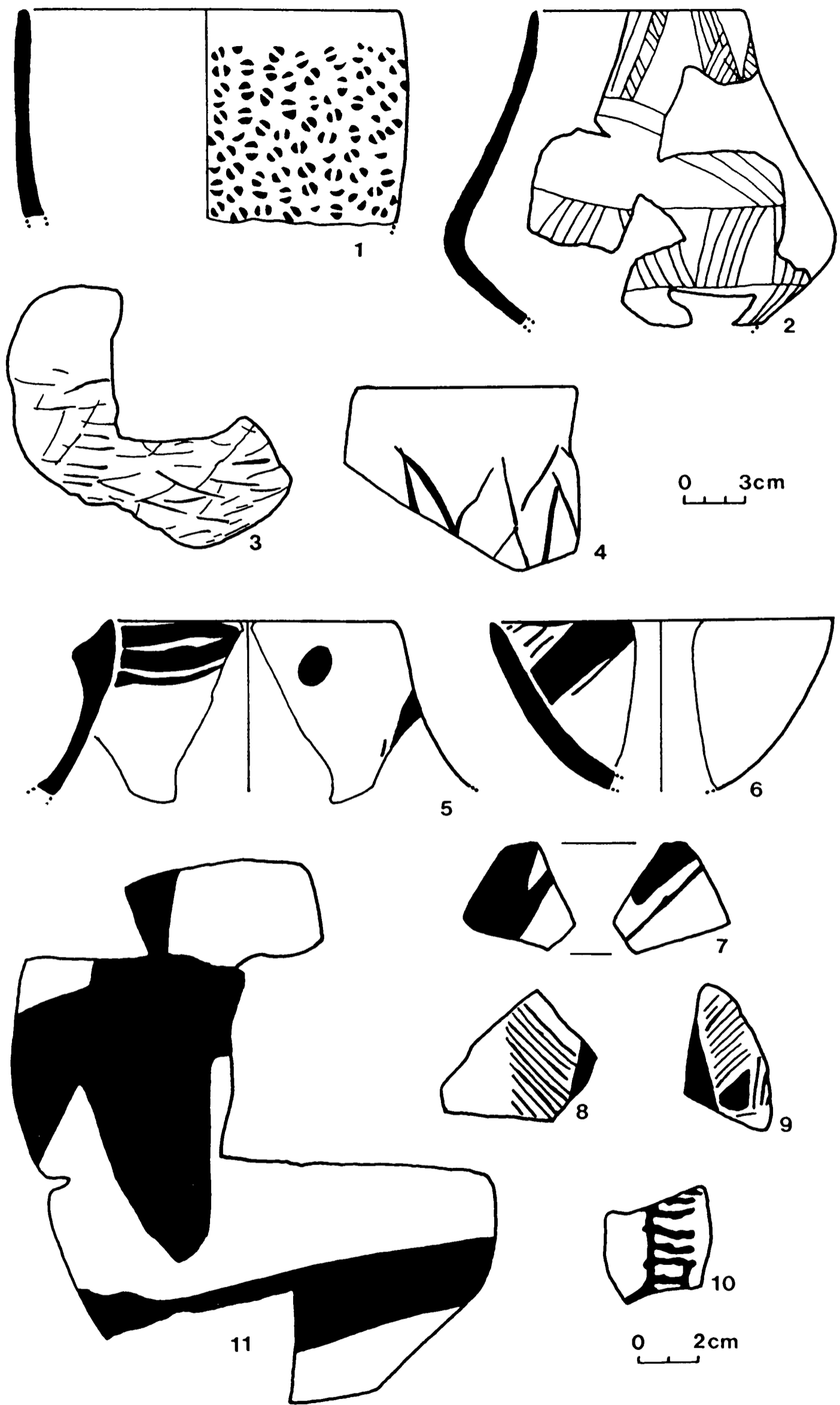


Fig. 19. Middle Neolithic pottery from Grotta dei Piccioni, spits 20-18 (after Cremonesi 1976).

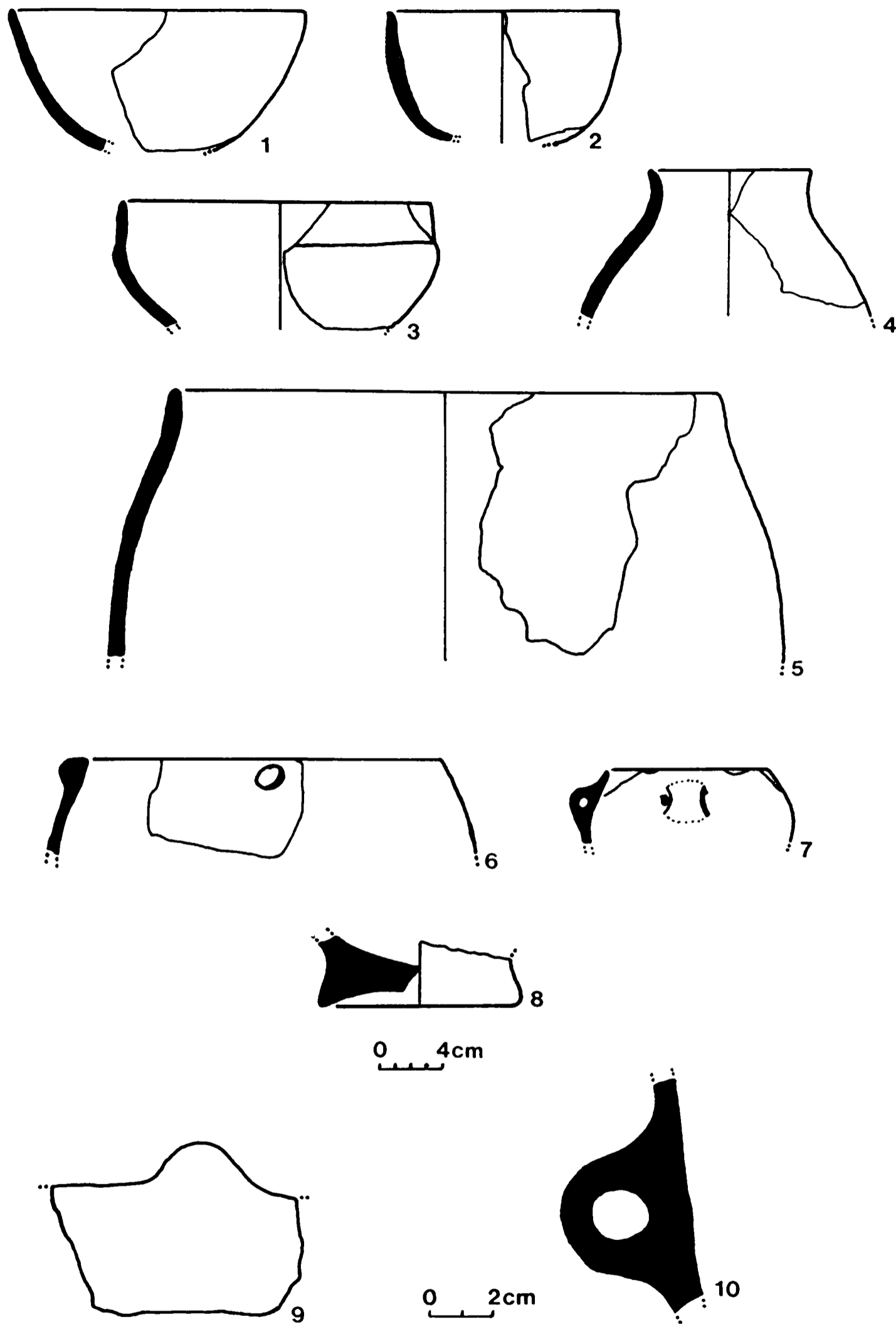


Fig. 20. Middle Neolithic pottery from Grotta dei Piccioni, spits 20-18 (after Cremonesi 1976).

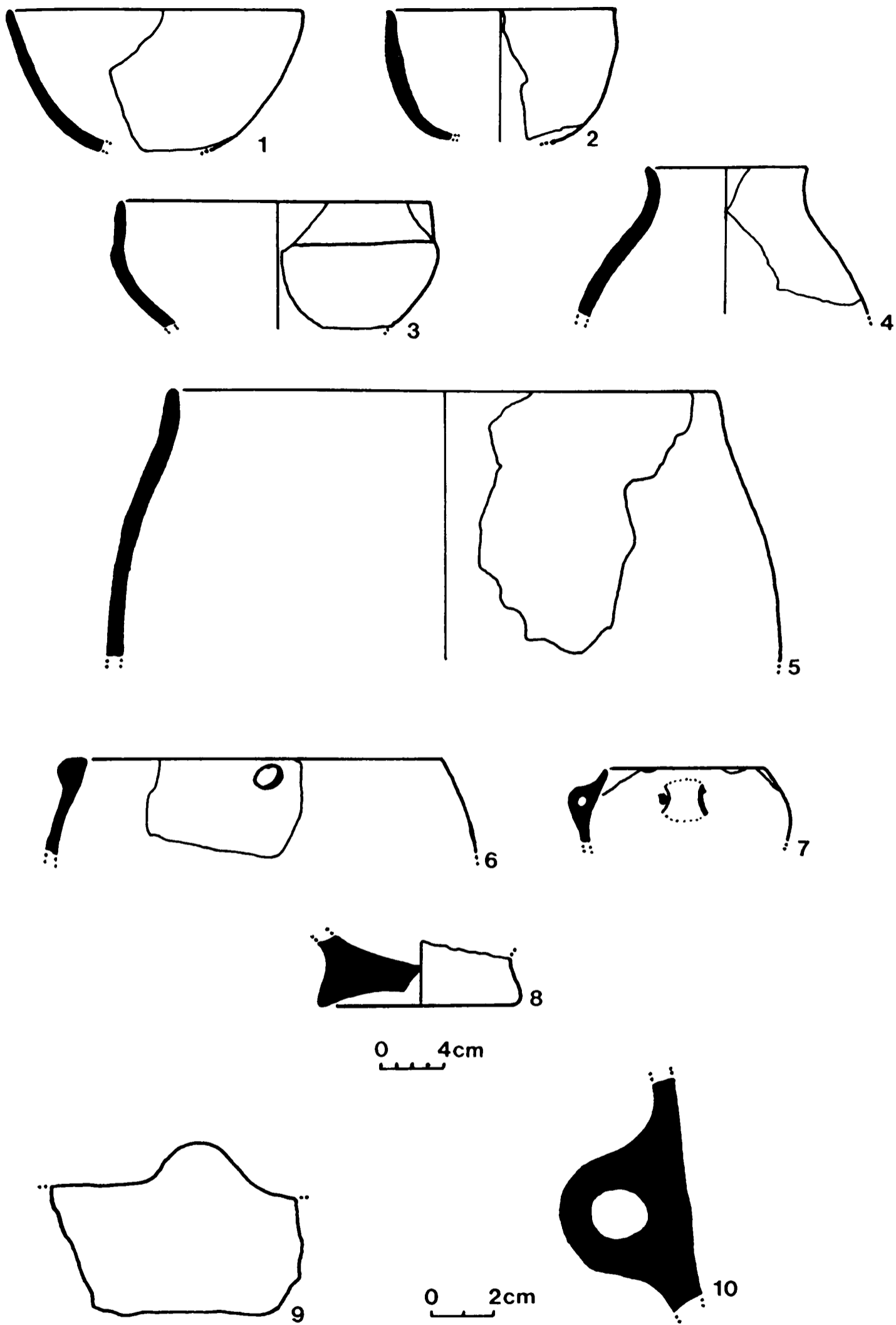


Fig. 20. Middle Neolithic pottery from Grotta dei Piccioni, spits 20-18 (after Cremonesi 1976).

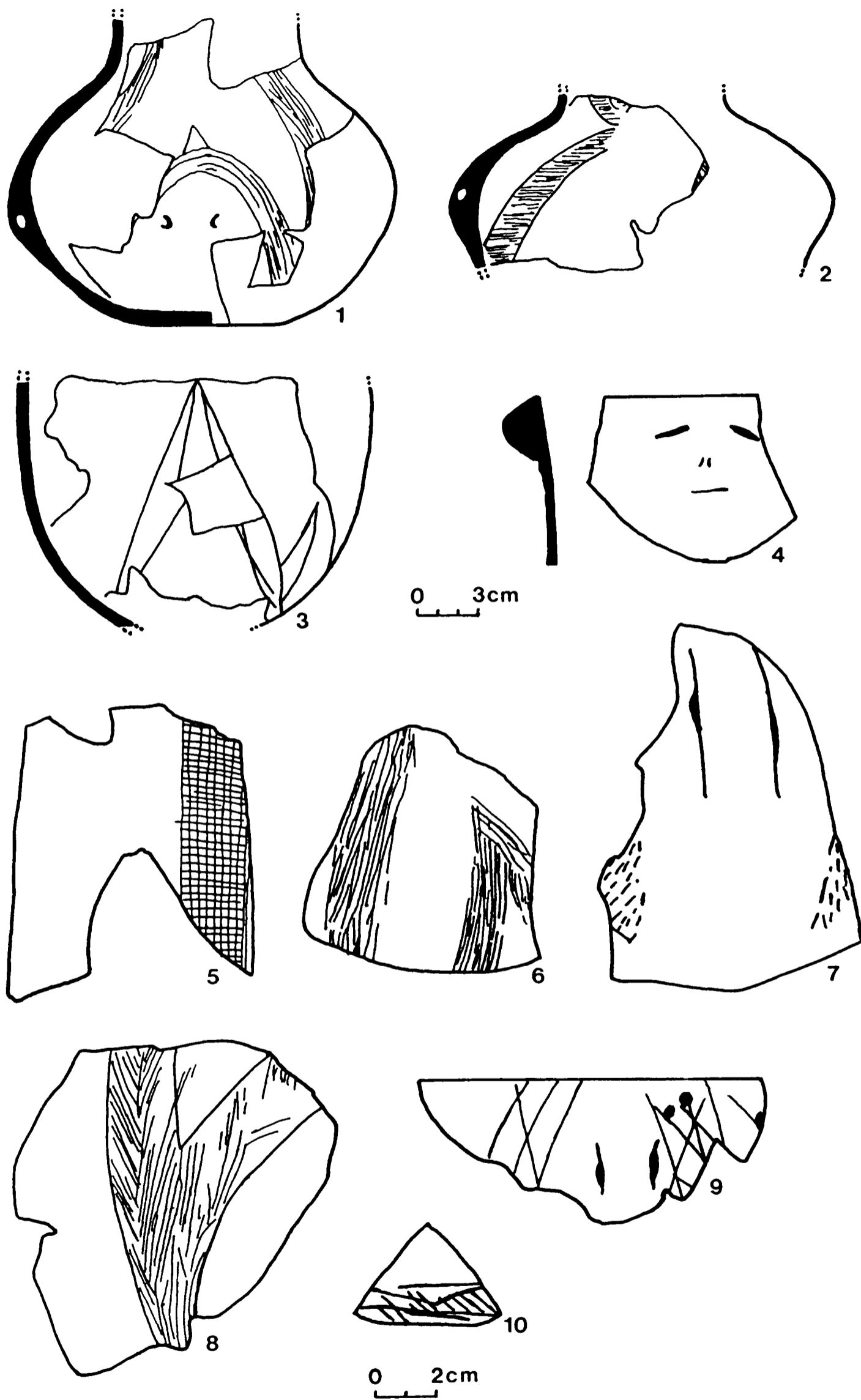
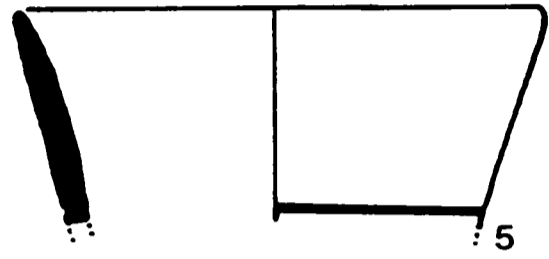
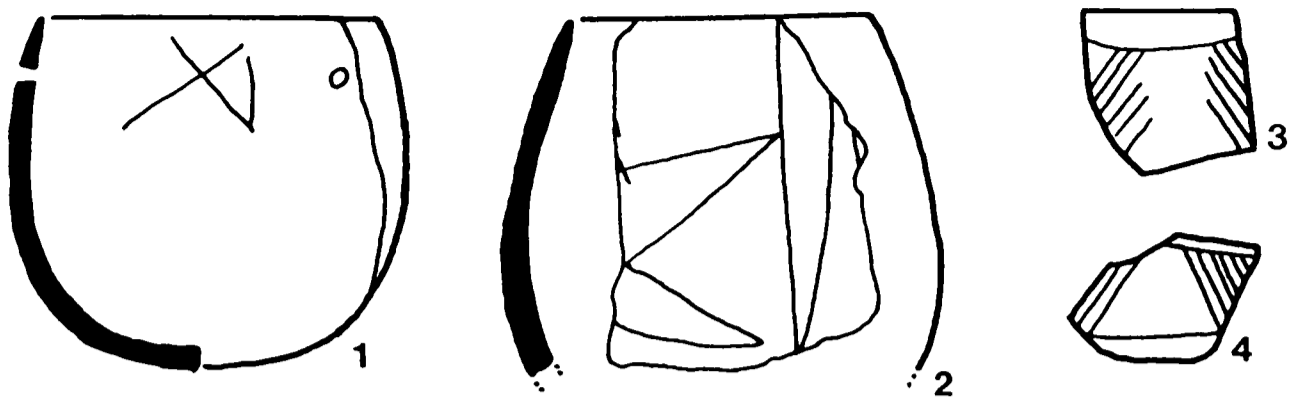
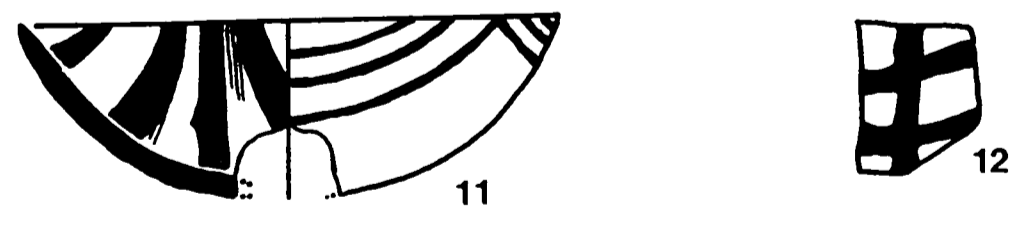
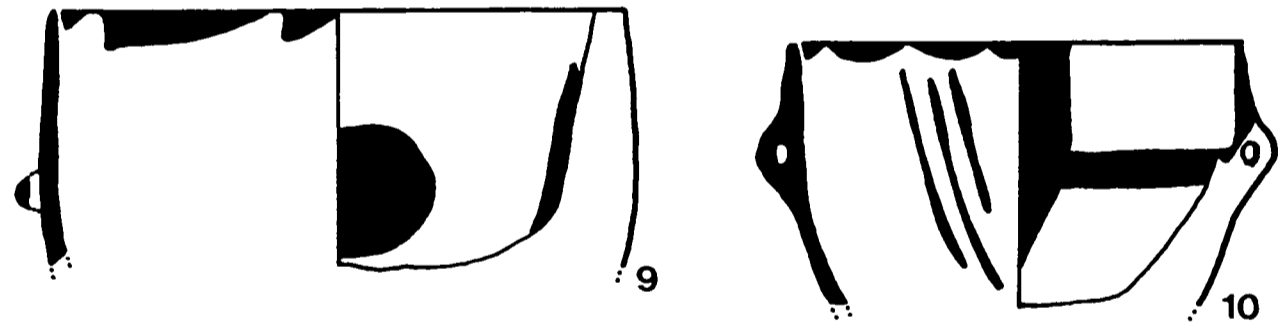
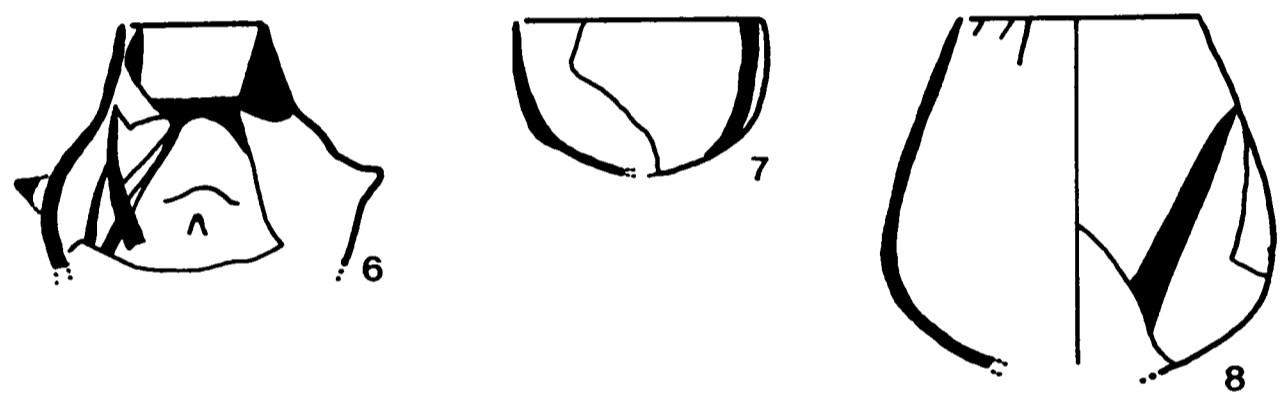


Fig. 21. Middle Neolithic pottery from Catignano (5-8 after Tozzi 1977; 10 after Tozzi 1978; 9 after Radmilli 1981; 1-4 after Tozzi 1982).



0 3cm



0 4cm

Fig. 22. Middle Neolithic pottery from Catignano (5-6,9,11-12 after Pitti and Tozzi 1976; 6-8,10 after Tozzi 1978; 1-4 after Tozzi 1977).

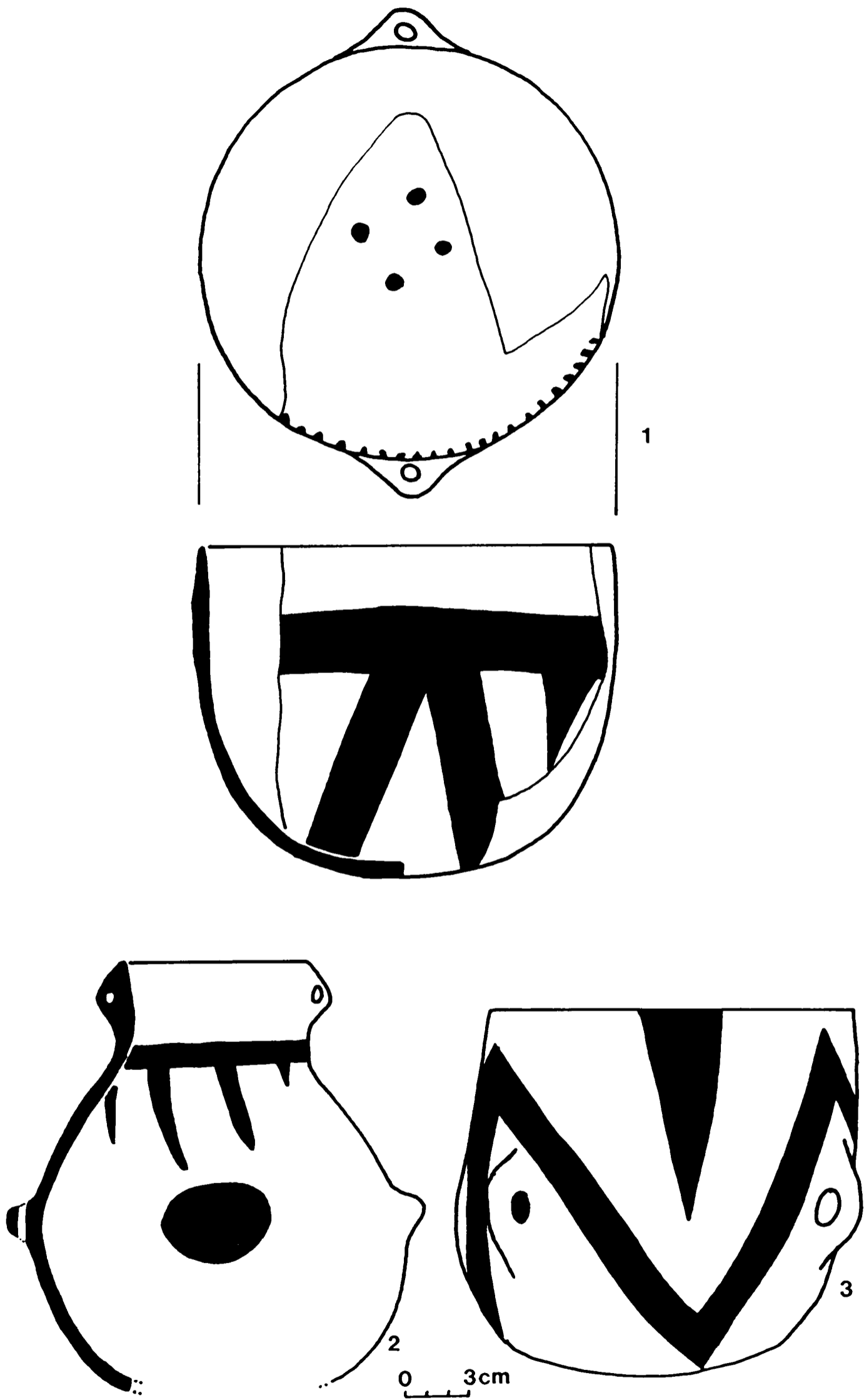


Fig. 23. Middle Neolithic pottery from Catignano (3 after Tozzi 1978; 1-2 after Tozzi 1982).

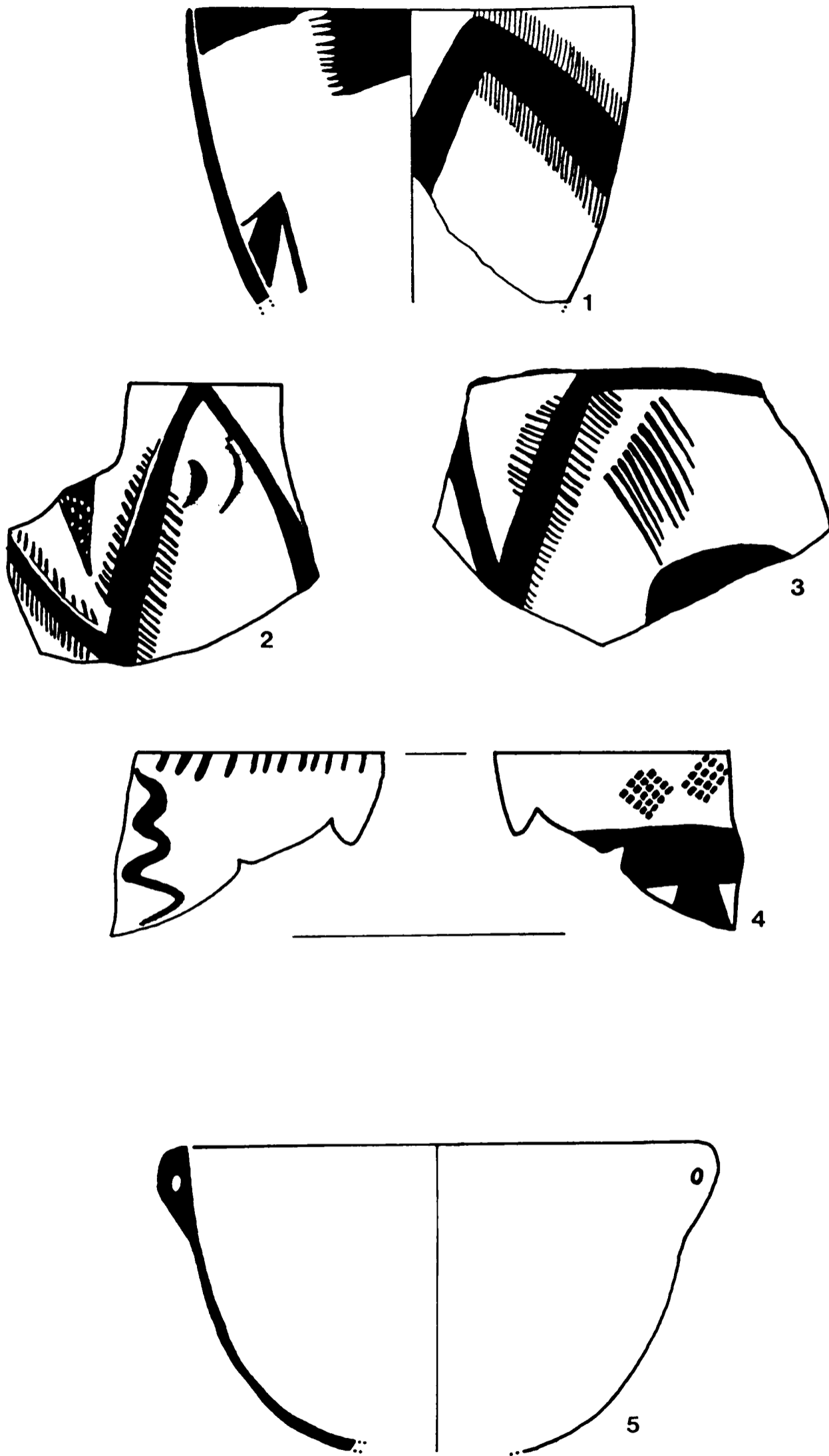


Fig. 24. Middle Neolithic pottery from Catignano (1 and 5 after Pitti and Tozzi 1976; 2-4 after Tozzi 1978).

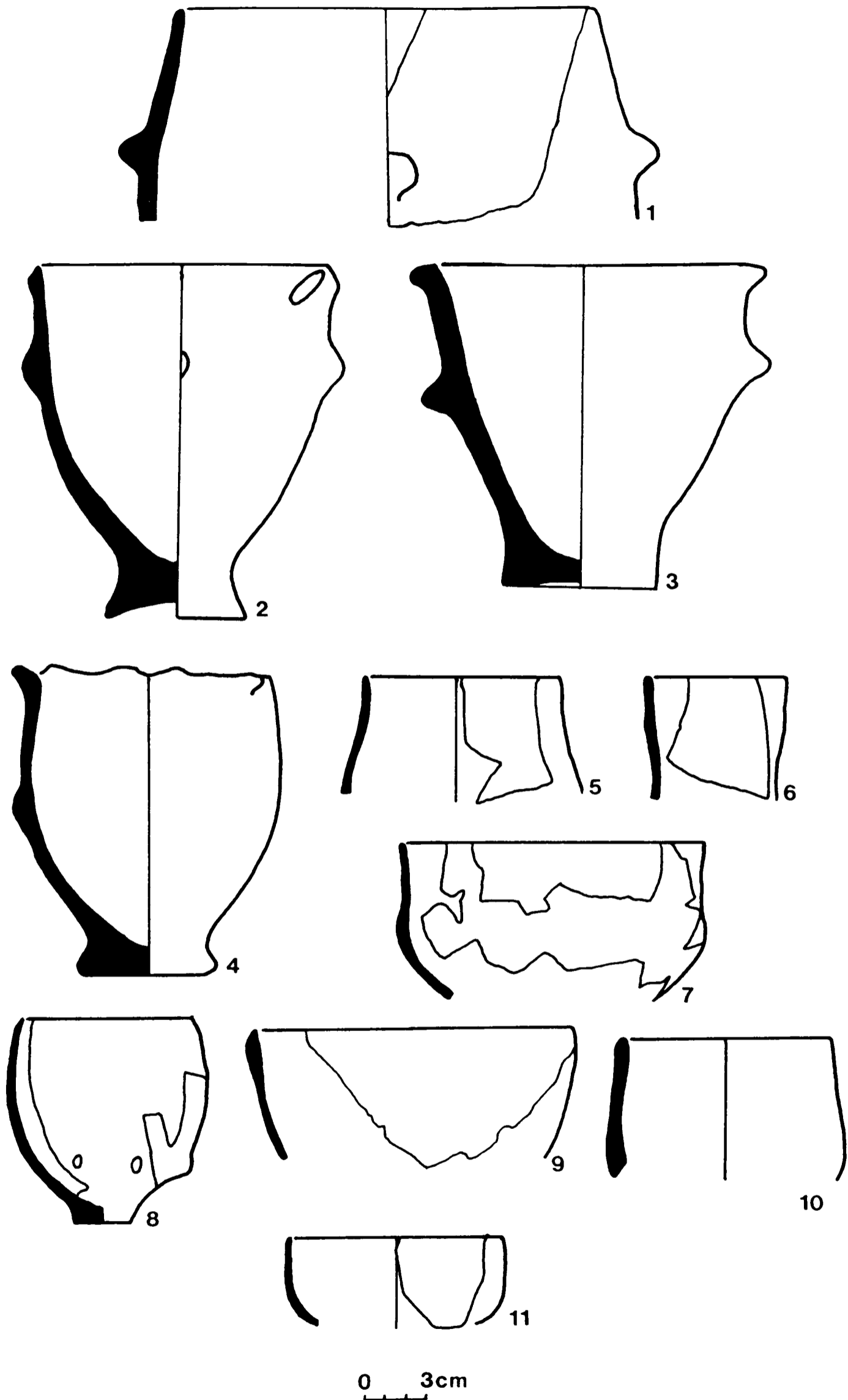
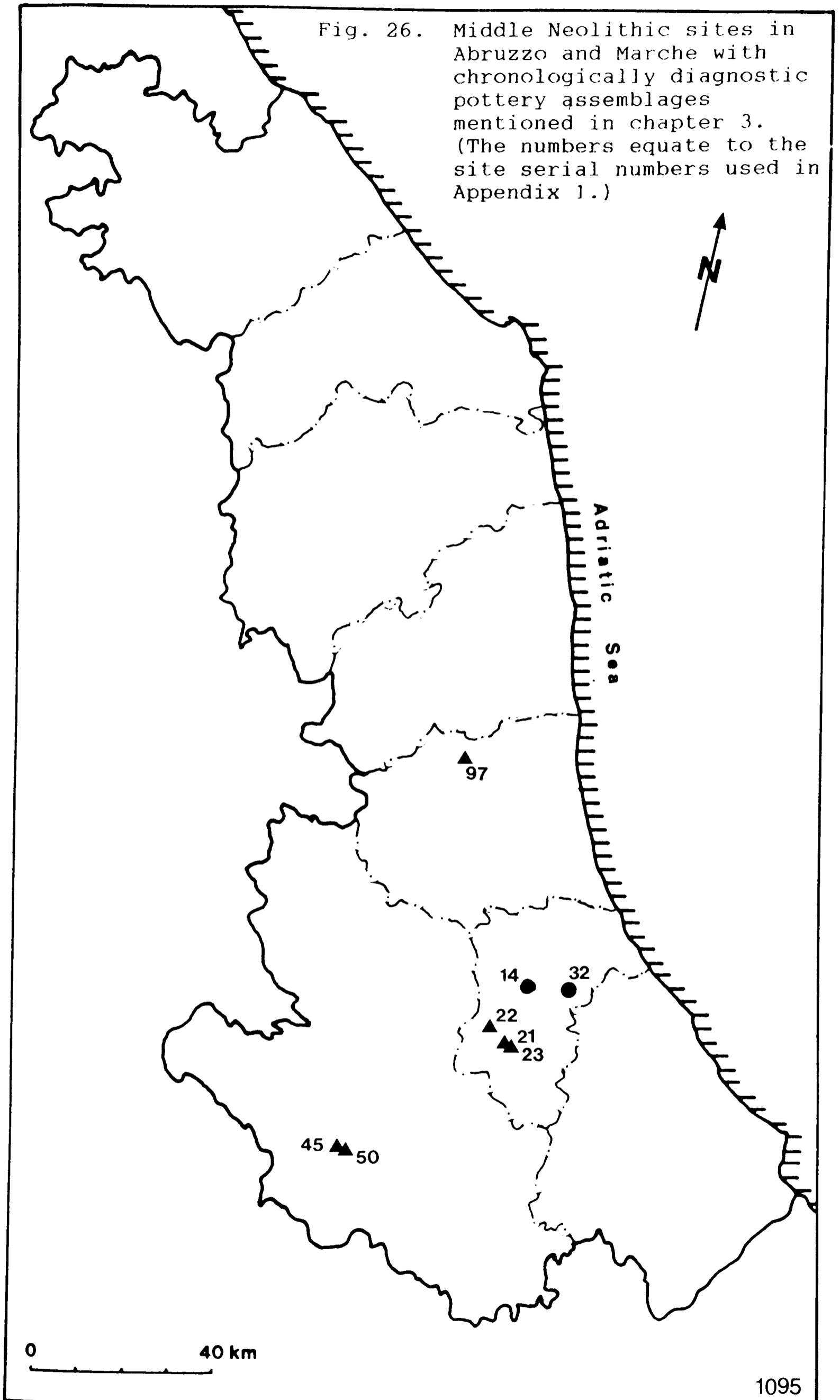


Fig. 25. Middle Neolithic pottery from Catignano (1-2,5-7,9-11 after Pitti and Tozzi 1976; 8 after Tozzi 1978; 3-4 after Tozzi 1982).

Fig. 26. Middle Neolithic sites in Abruzzo and Marche with chronologically diagnostic pottery assemblages mentioned in chapter 3. (The numbers equate to the site serial numbers used in Appendix 1.)



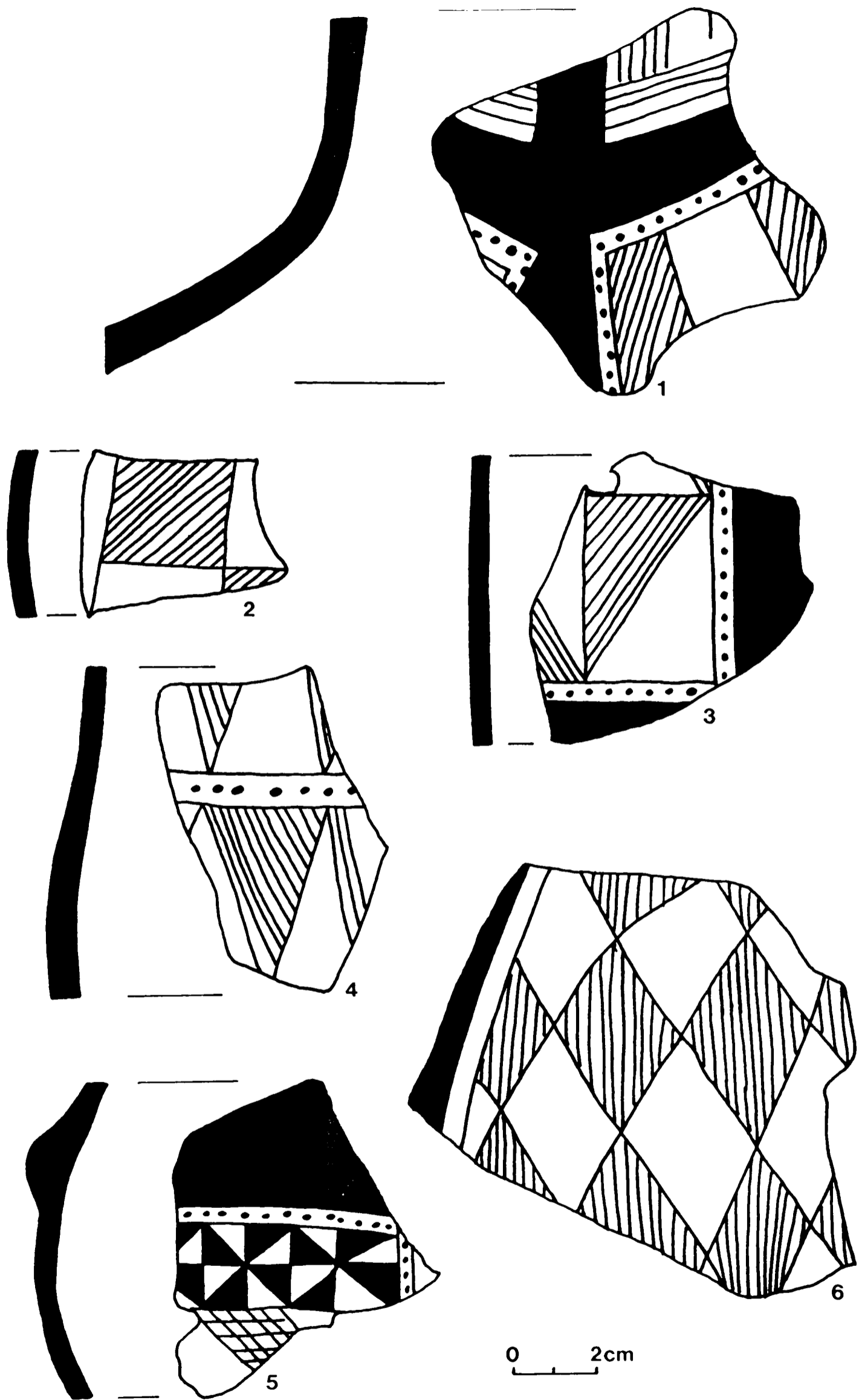


Fig. 27. Late Neolithic pottery from Ripoli, cavity 12 (drawn from the originals in Atri Museum).

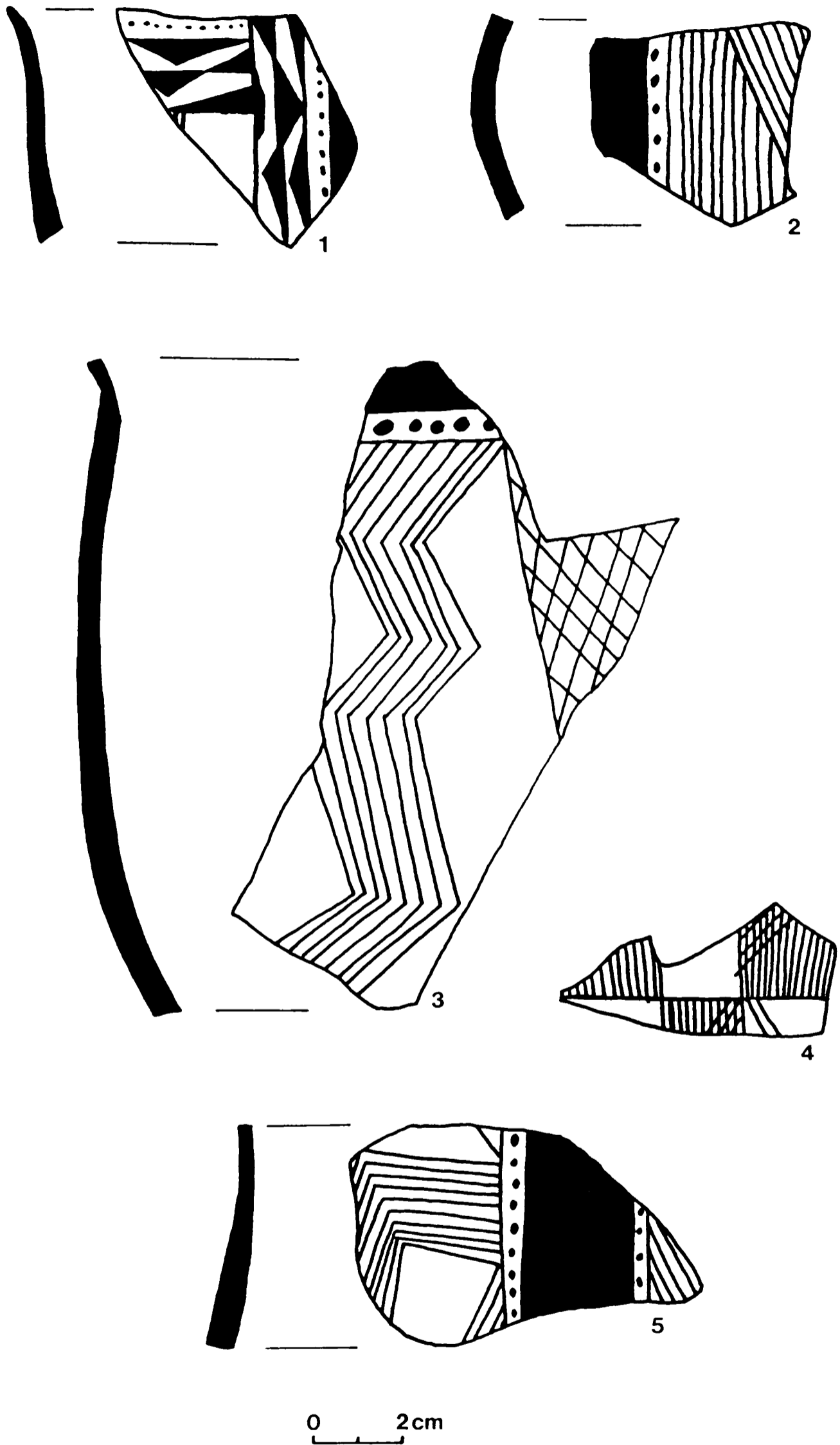


Fig. 28. Late Neolithic pottery from Ripoli, cavity 12 (drawn from the originals in Atri Museum).

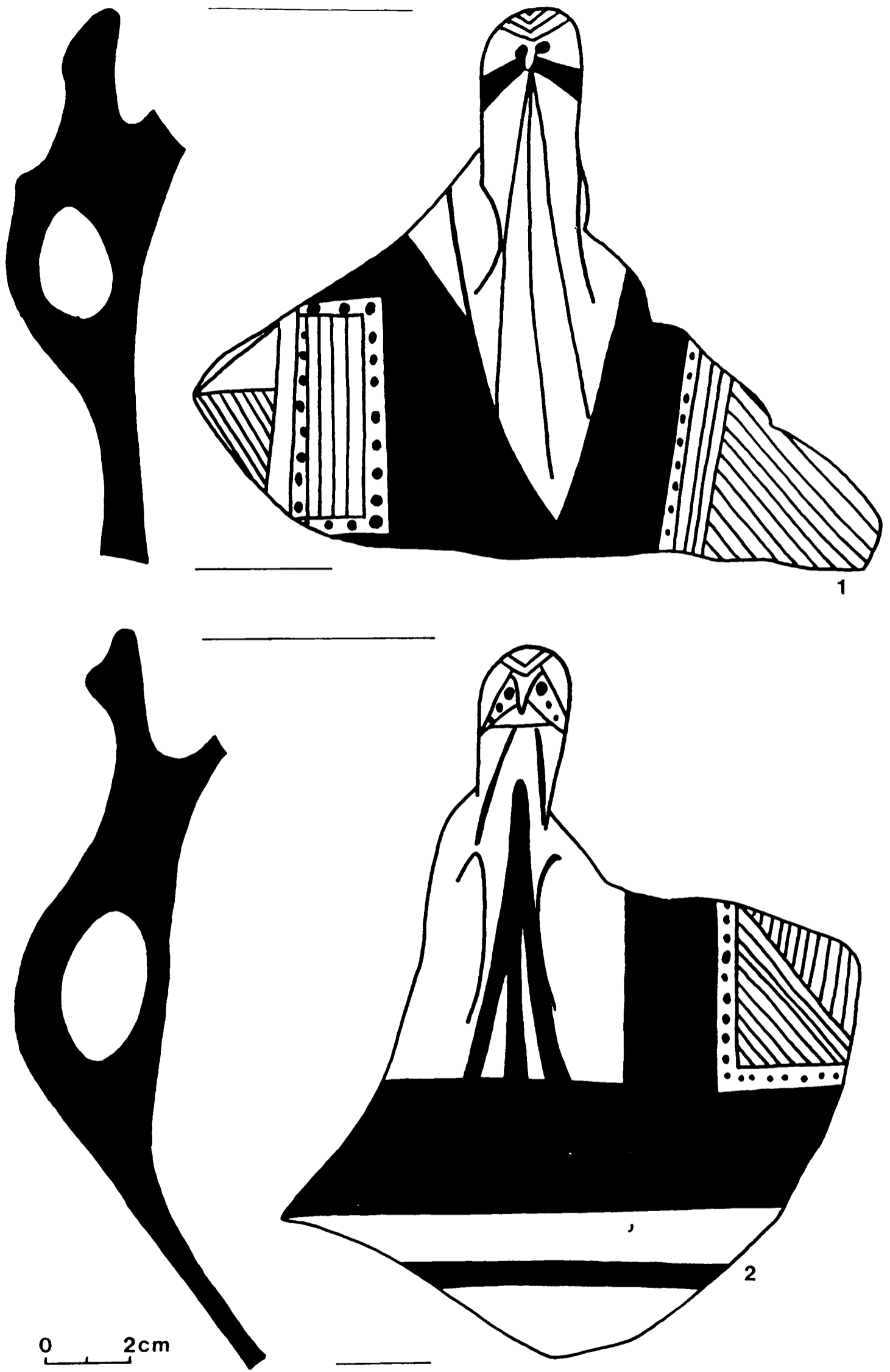


Fig. 29. Late Neolithic pottery from Ripoli, cavity 12 (drawn from the originals in Atri Museum).

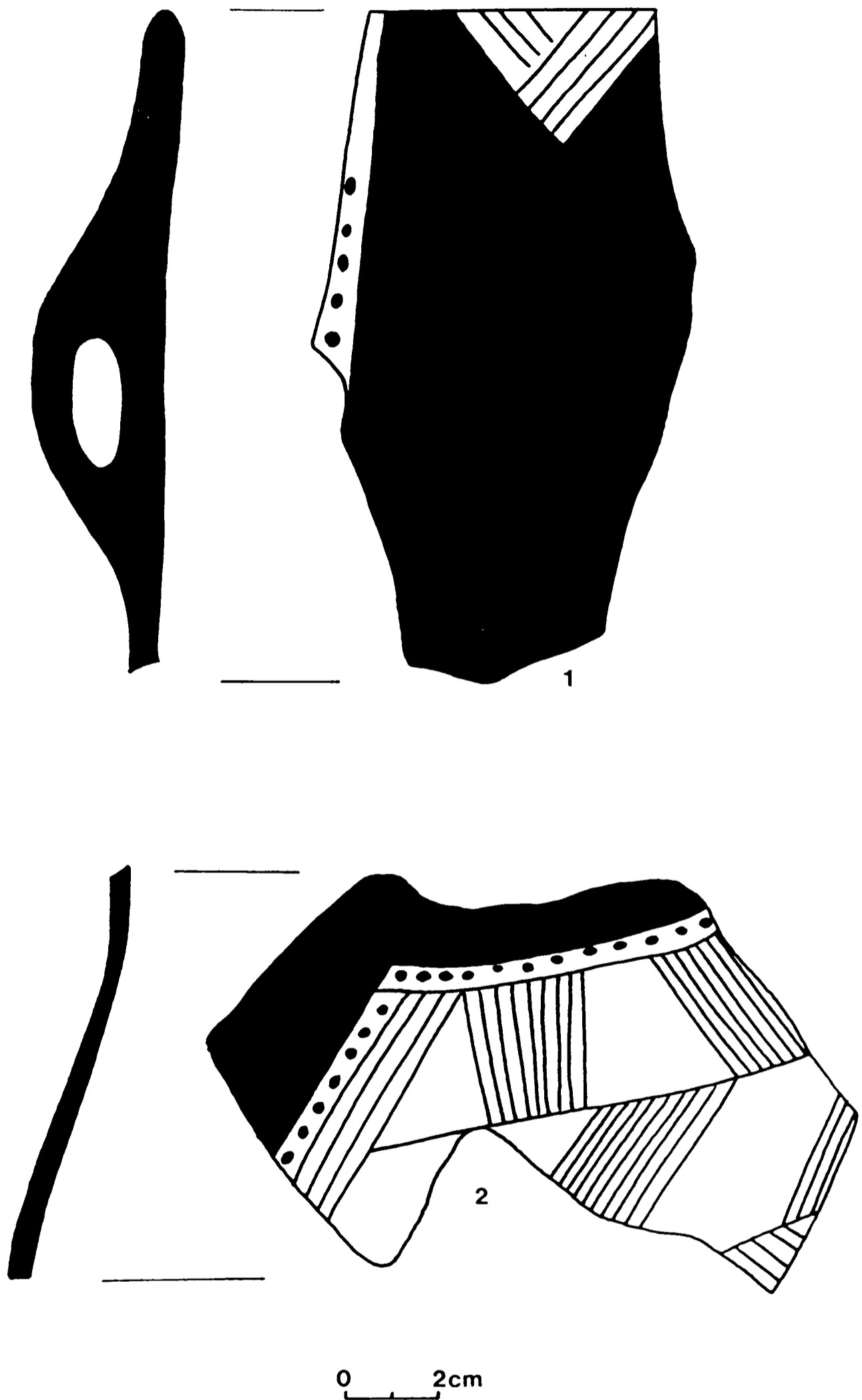


Fig. 30. Late Neolithic pottery from Ripoli, cavity 12
(drawn from the originals in Atri Museum).

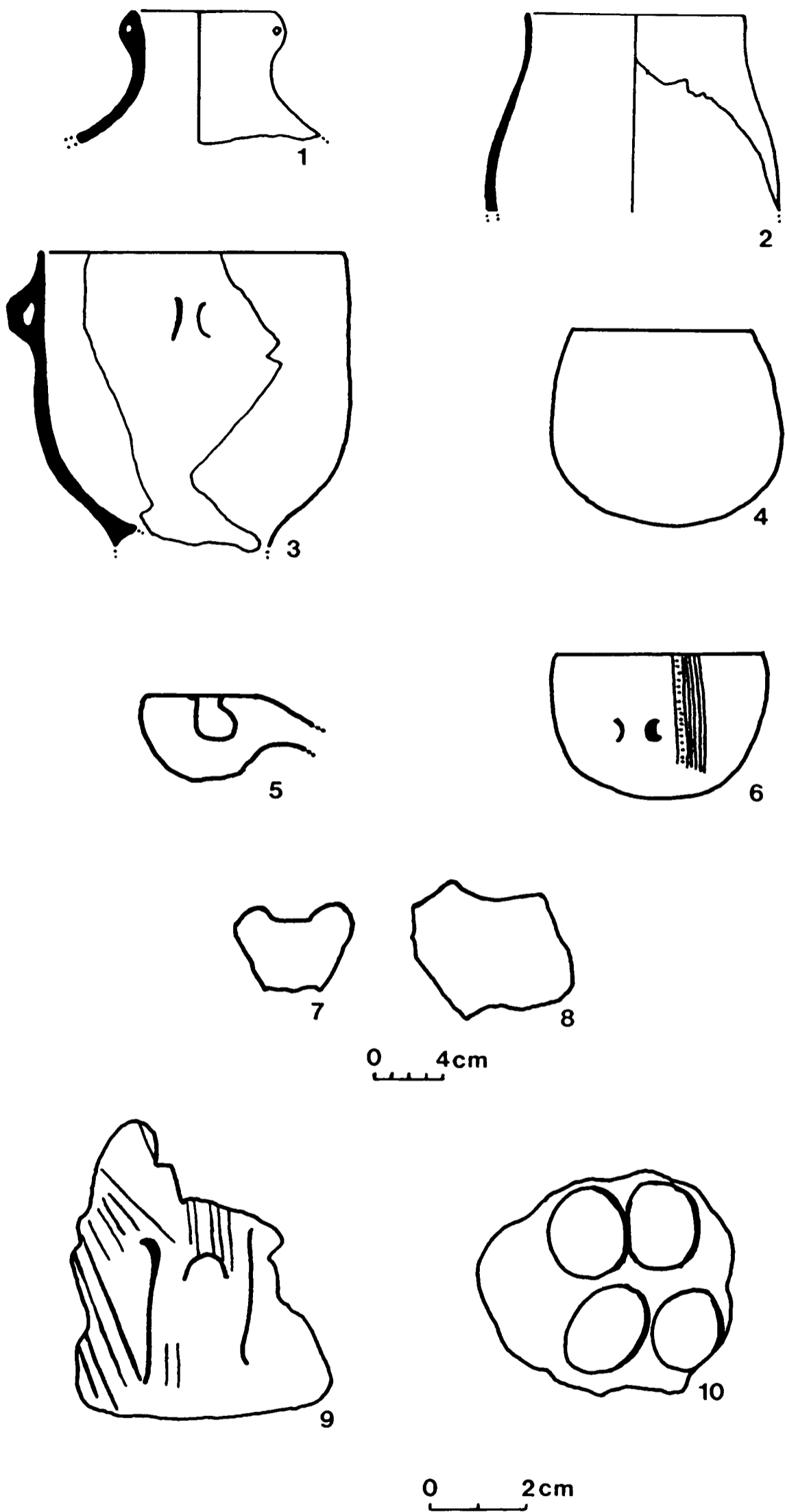
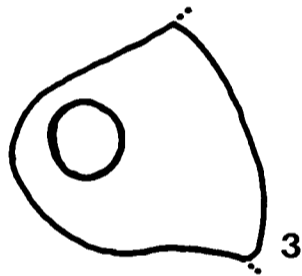
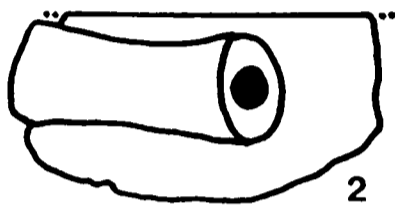


Fig. 31. Late Neolithic pottery from Ripoli, cavity 12 (after Cremonesi 1965).



0 2cm

Fig. 32. Late Neolithic pottery from Ripoli, cavity 6 (after Cremonesi 1965).

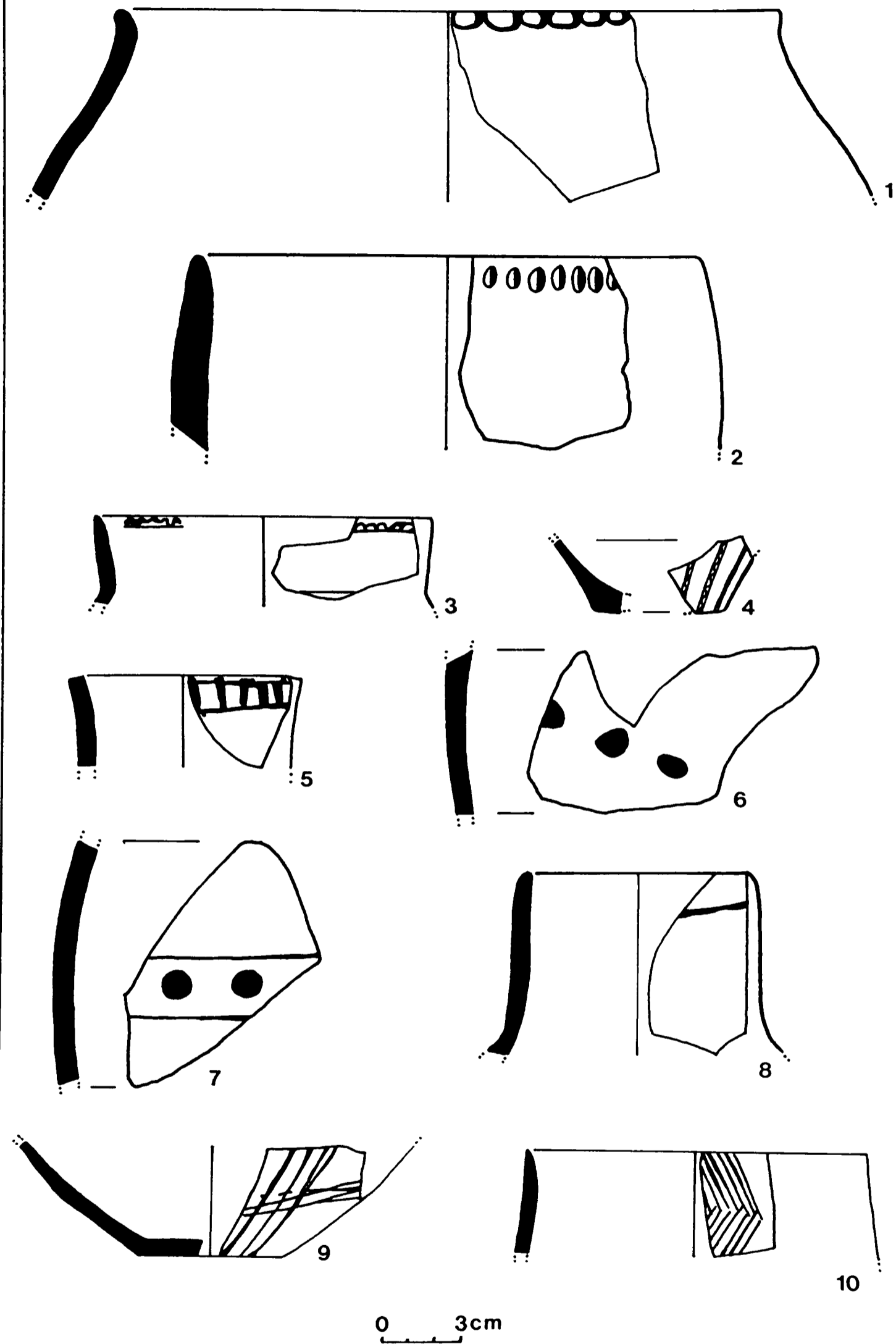


Fig. 33. Late Neolithic pottery from Fonti di S. Callisto, lower level (after Radi 1986-7).

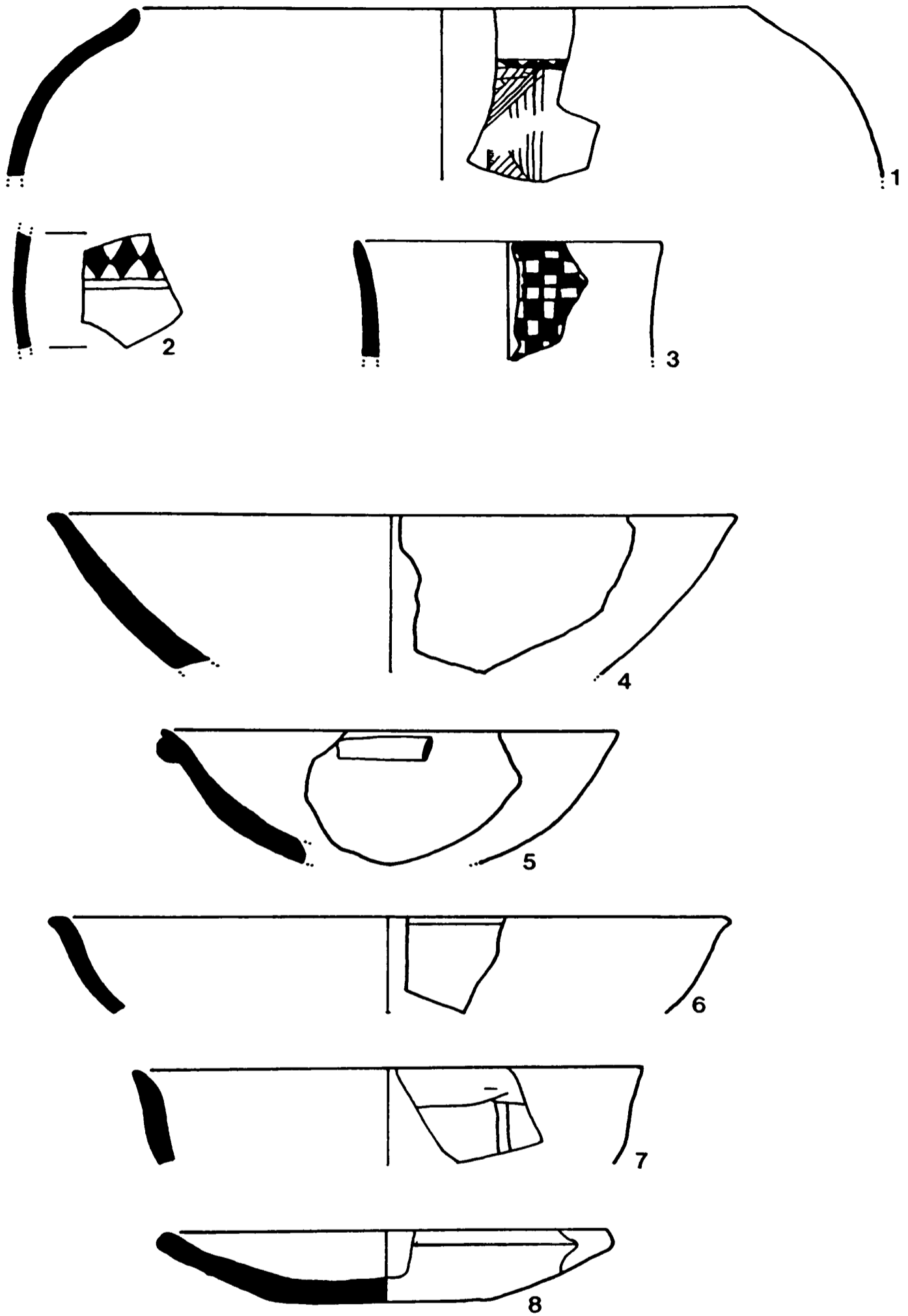


Fig. 34. Late Neolithic pottery from Fonti di S. Callisto, lower level (after Radi 1986-7).

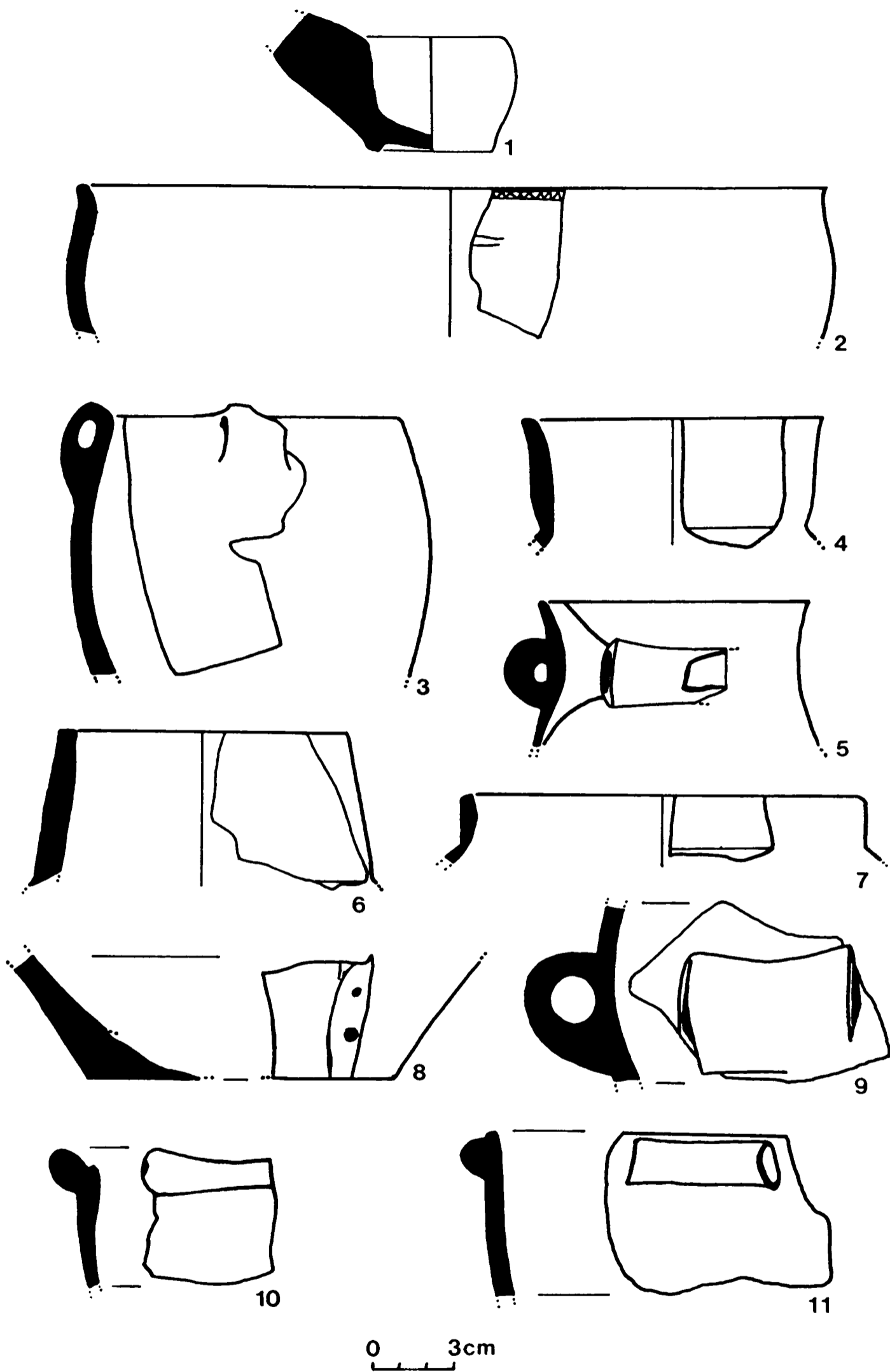
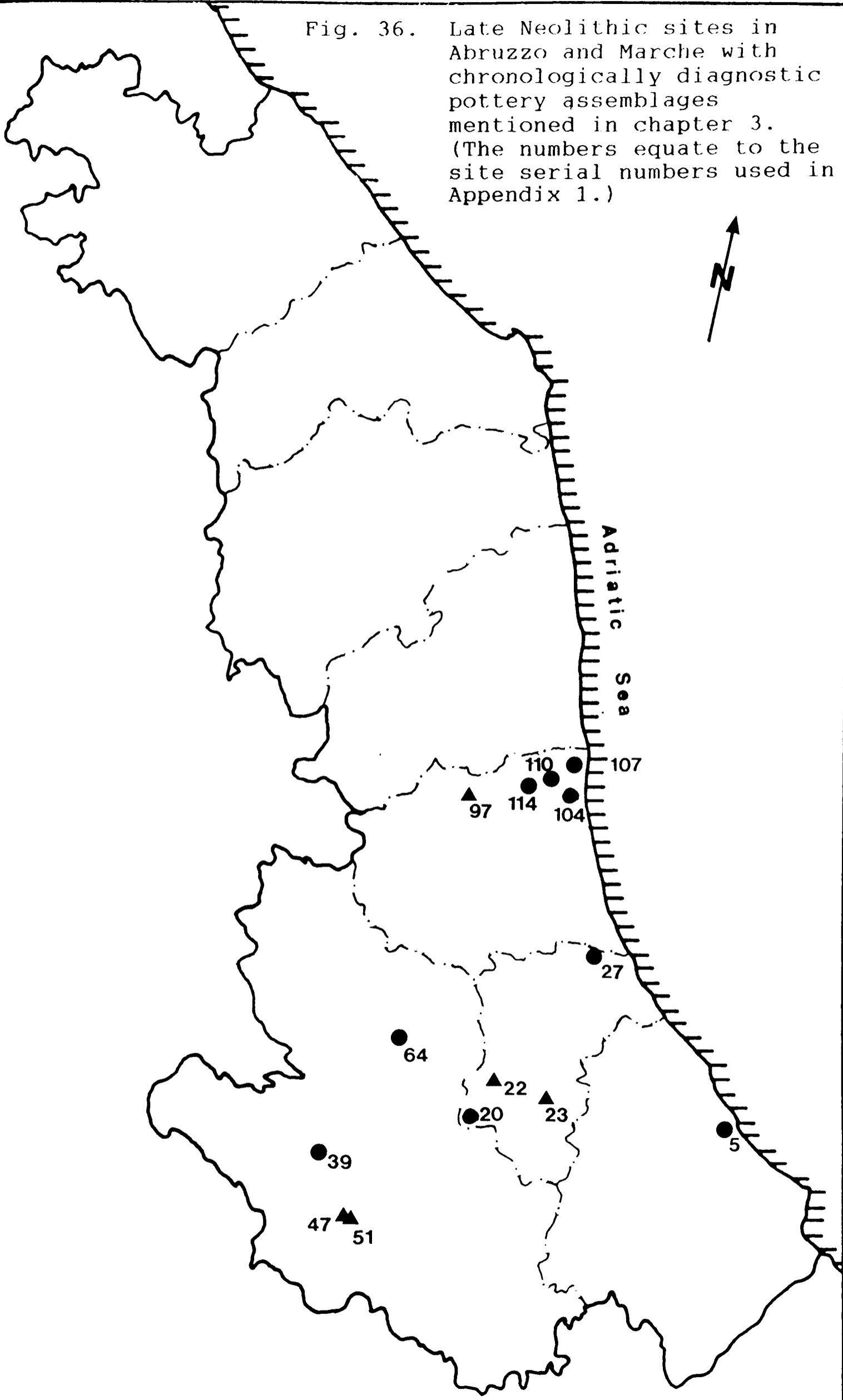


Fig. 35. Late Neolithic pottery from Fonti di S. Callisto. lower level (after Radi 1986-7).

Fig. 36. Late Neolithic sites in Abruzzo and Marche with chronologically diagnostic pottery assemblages mentioned in chapter 3. (The numbers equate to the site serial numbers used in Appendix 1.)



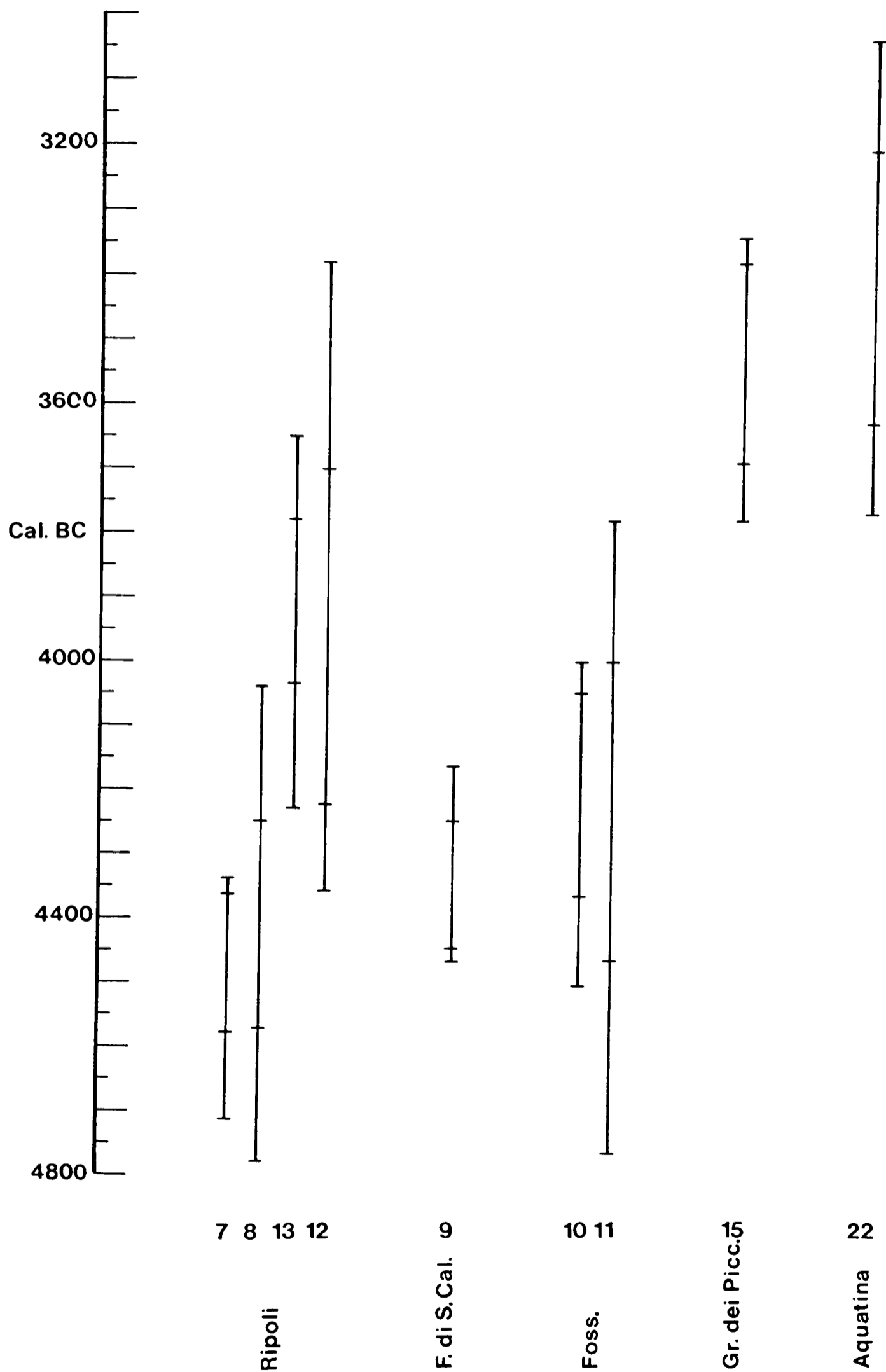


Fig. 37. Calibrated 2-sigma radiocarbon date ranges for the late Neolithic and final Neolithic/early Copper Age in Abruzzo and Marche. (The numbers equate to the C14 serial numbers used in Appendix 2.)

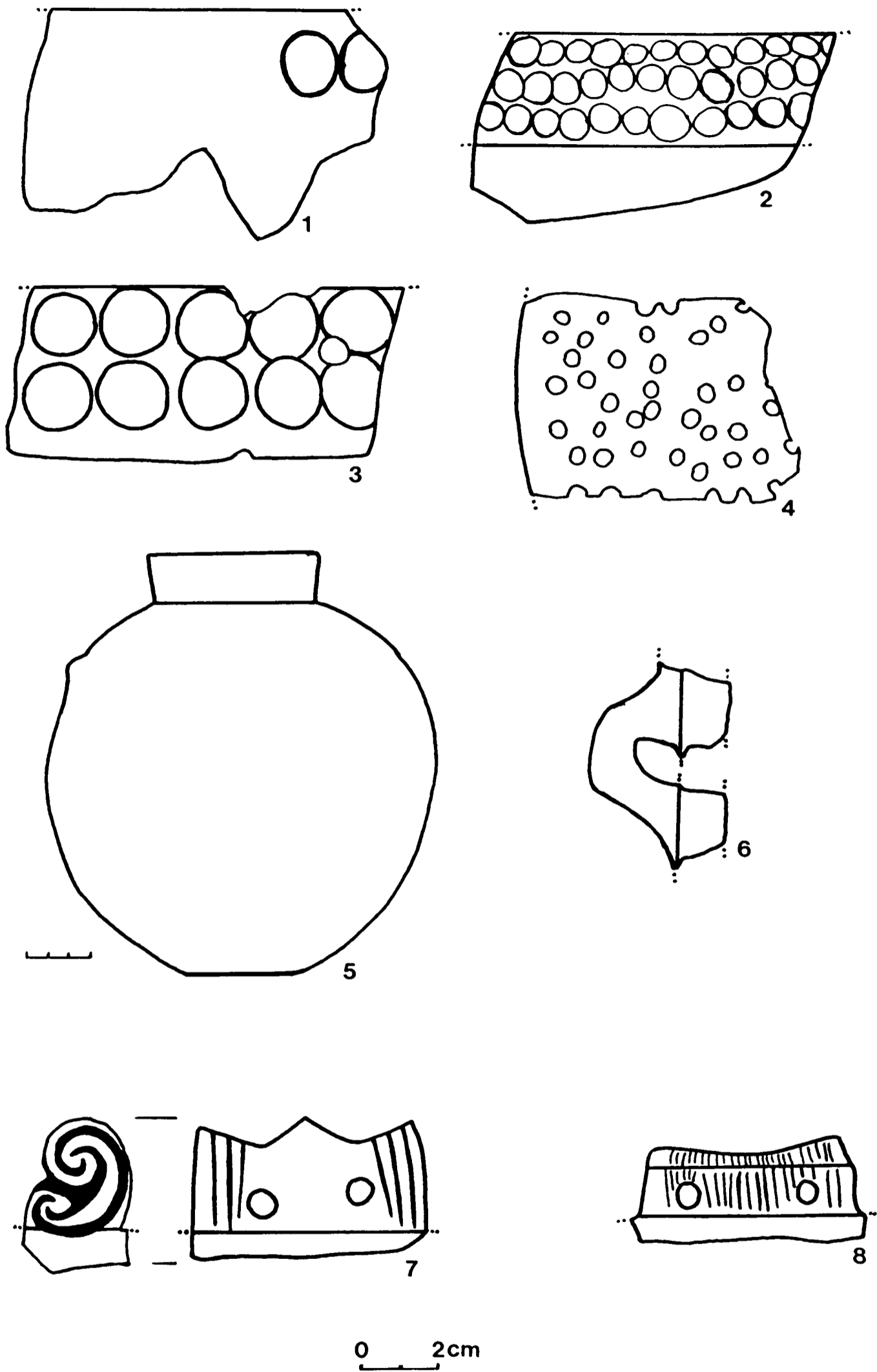


Fig. 38. Late Neolithic - final Neolithic/early Copper Age transition pottery from Fossacesia (after Radmilli 1981).

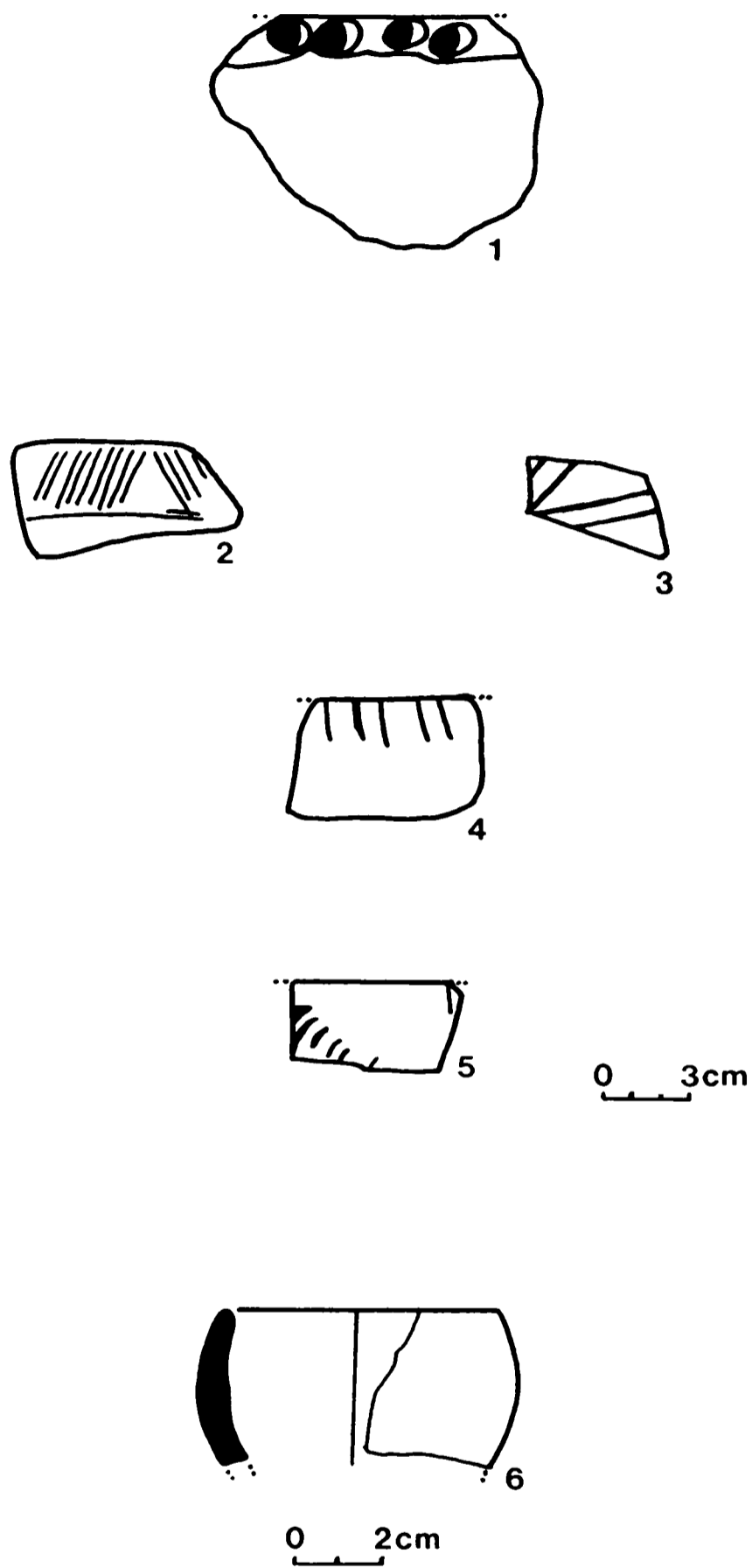


Fig. 39. Final Neolithic/early Copper Age pottery from Ripoli, cavity 3 (after Cremonesi 1965).

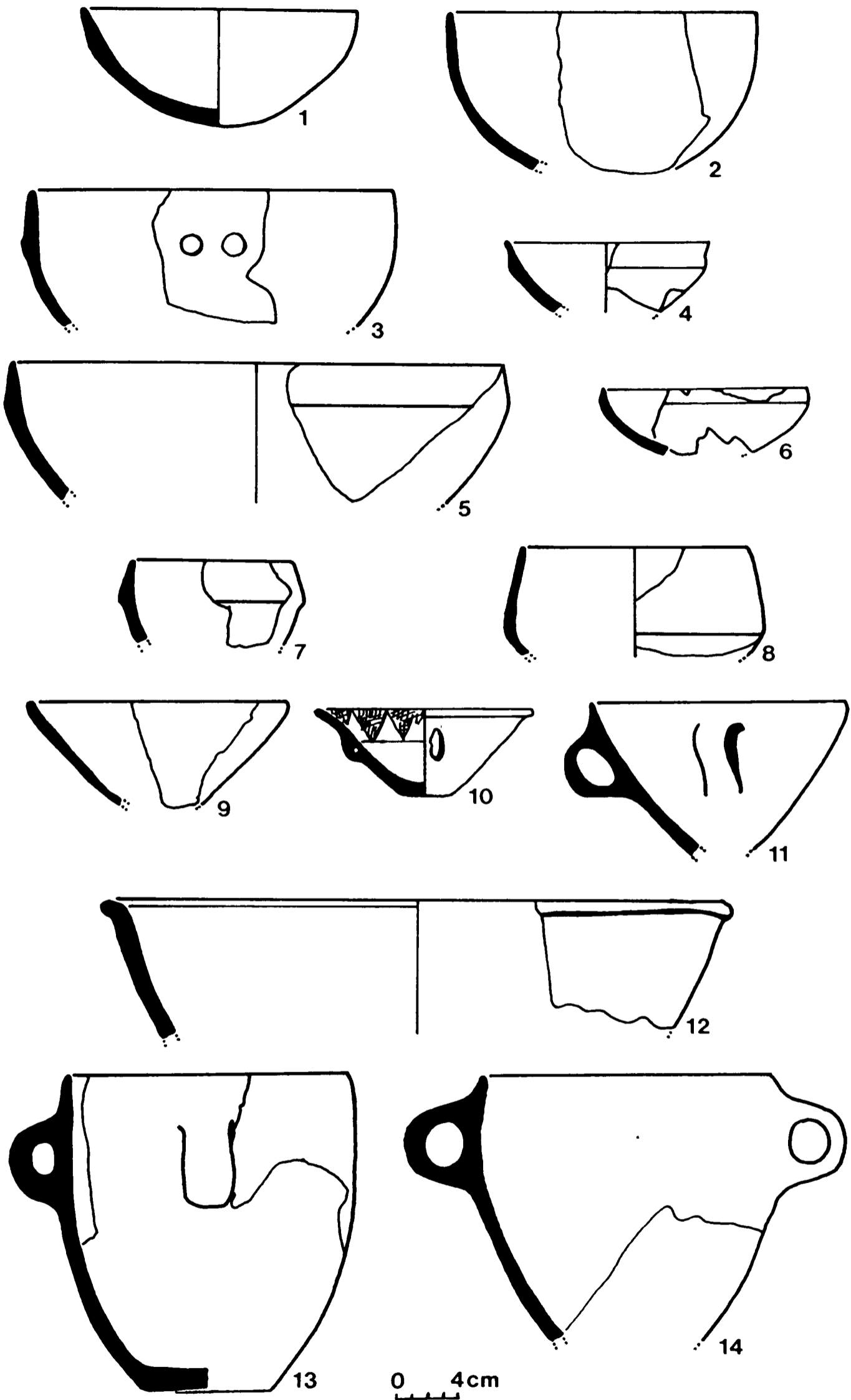


Fig. 40. Final Neolithic/early Copper Age pottery from Grotta dei Piccioni, spits 13-12 (after Cremonesi 1976).

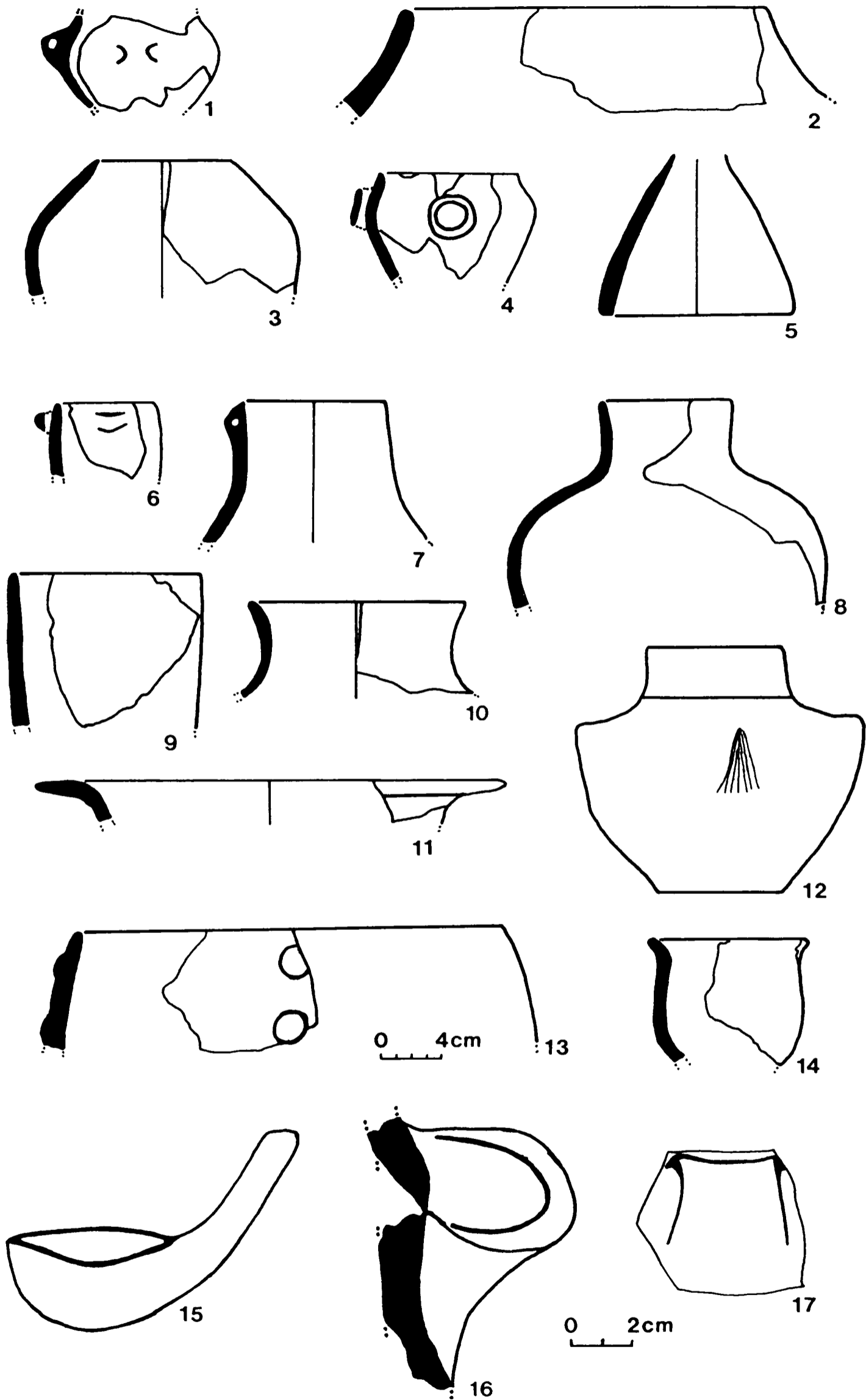


Fig. 41. Final Neolithic/early Copper Age pottery from Grotta dei Piccioni, spits 13-12 (after Cremonesi 1976).

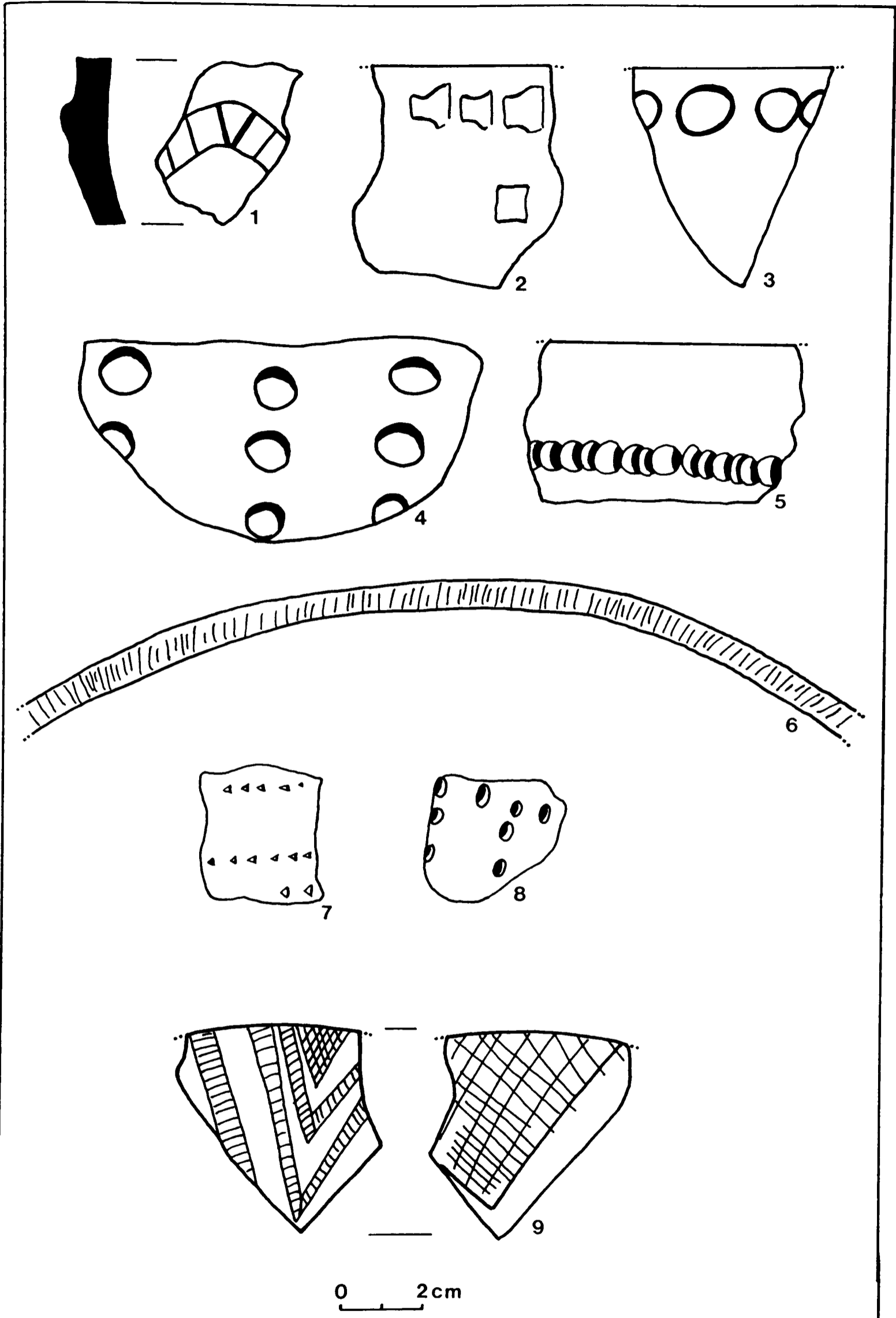


Fig. 42. Final Neolithic/early Copper Age pottery from Aquatina (drawn from the originals in Ancona Museum).

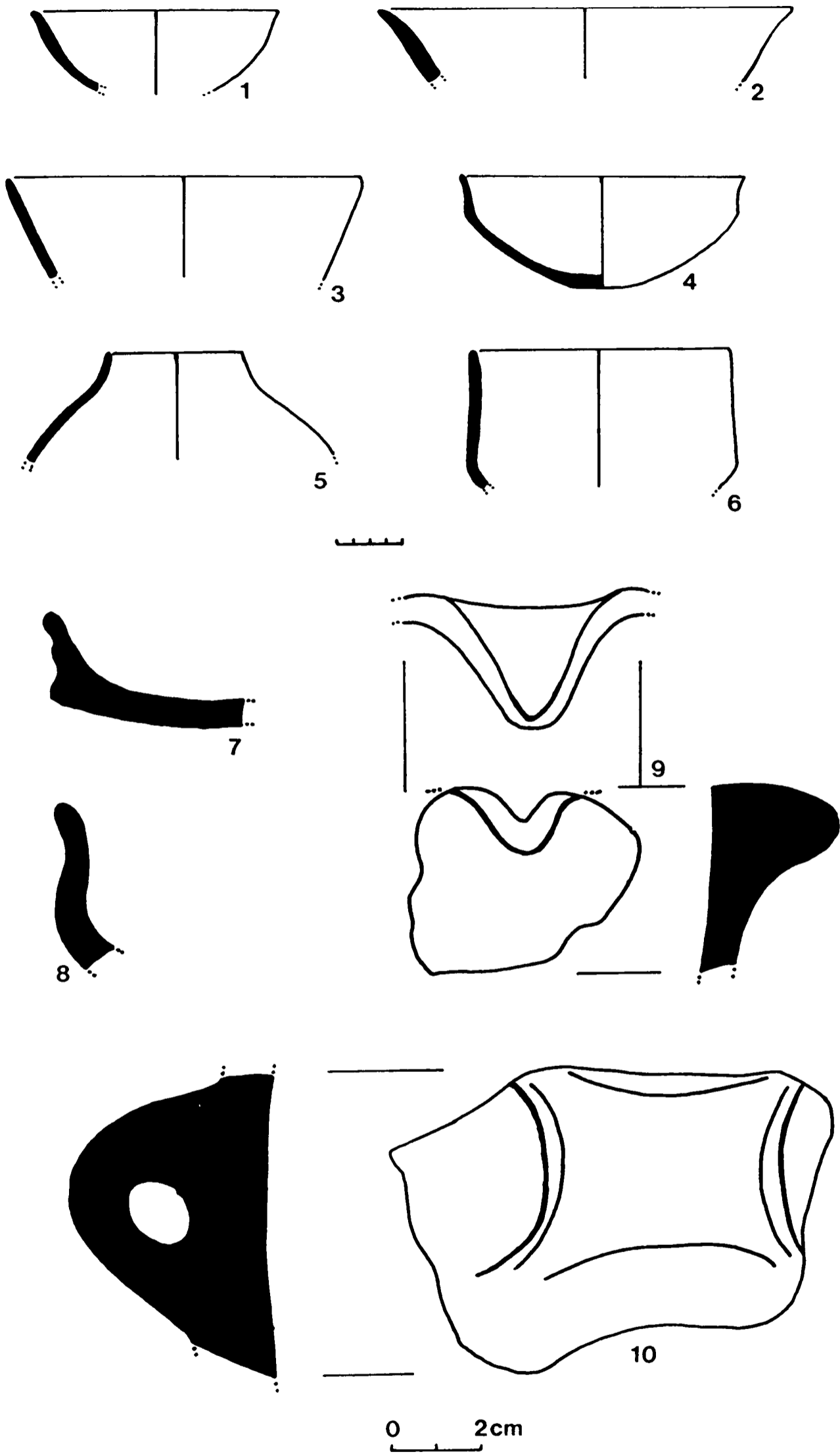
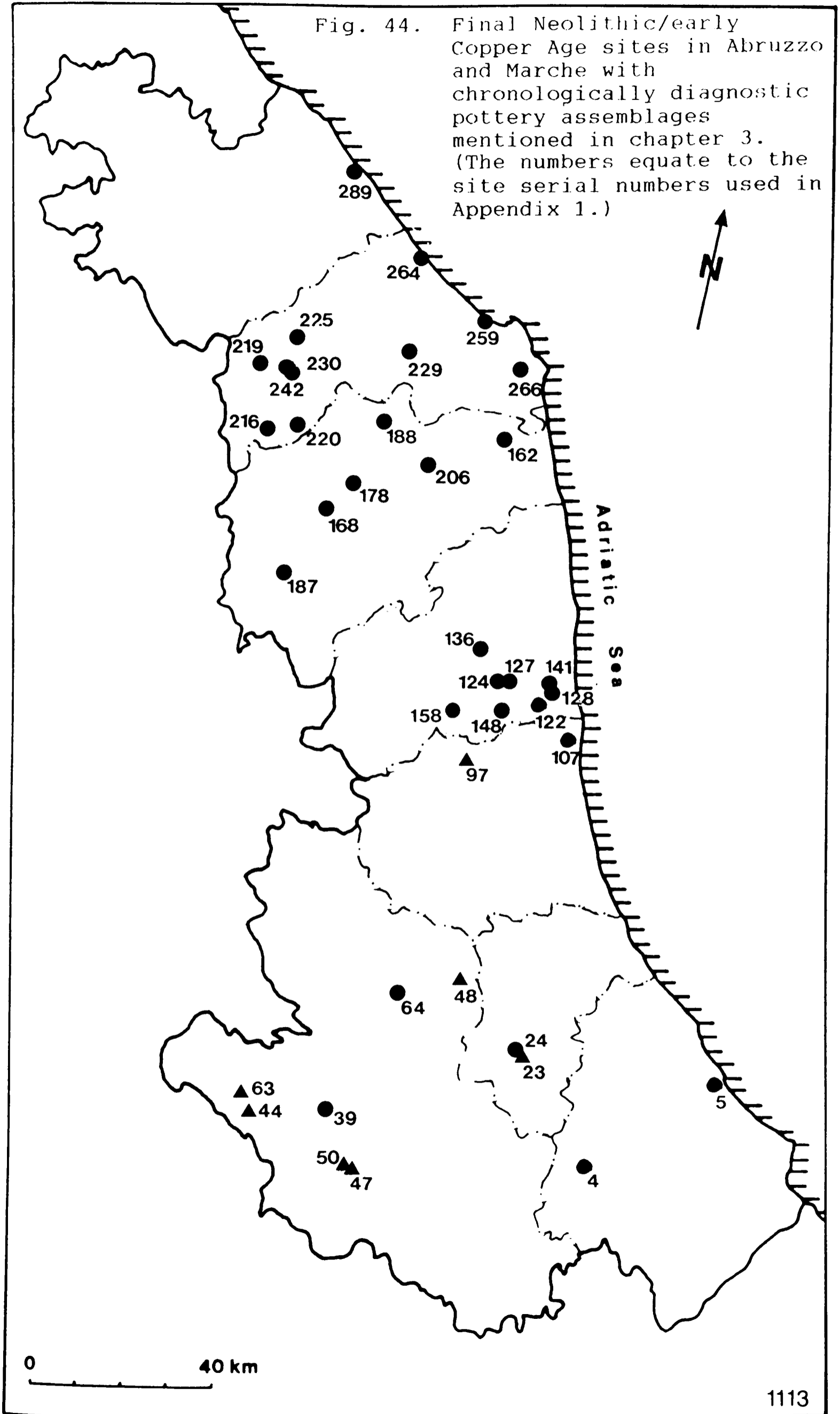


Fig. 43. Final Neolithic/early Copper Age pottery from Aquatina (1-6 after Lollini 1965; 7-10 drawn from the originals in Ancona Museum).

Fig. 44. Final Neolithic/early Copper Age sites in Abruzzo and Marche with chronologically diagnostic pottery assemblages mentioned in chapter 3. (The numbers equate to the site serial numbers used in Appendix 1.)



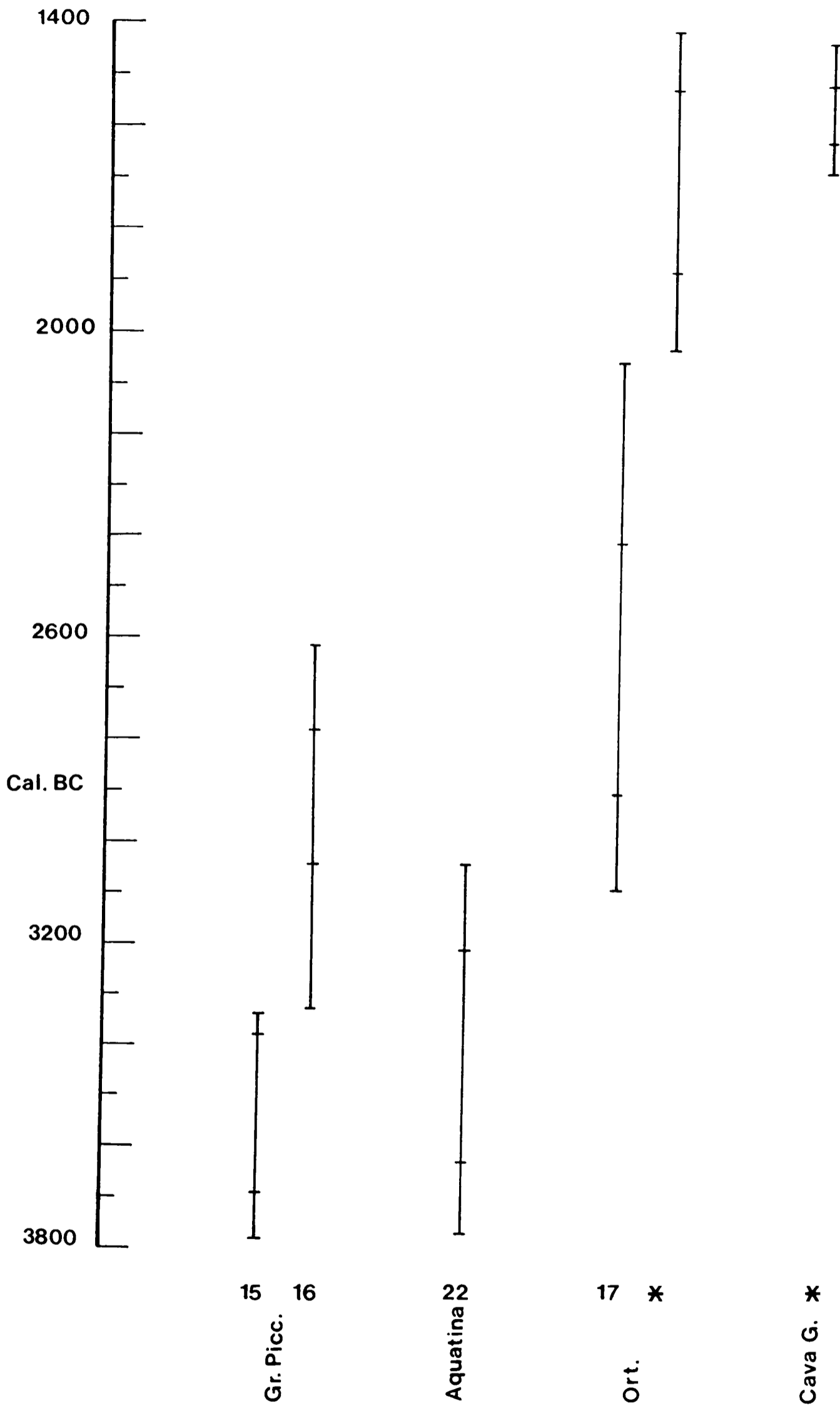


Fig. 45. Calibrated 2-sigma radiocarbon date ranges for the Final Neolithic/early Copper Age, middle-late Copper Age and Bronze Age in Abruzzo and Marche. (The numbers equate to the C14 serial numbers used in Appendix 2.)

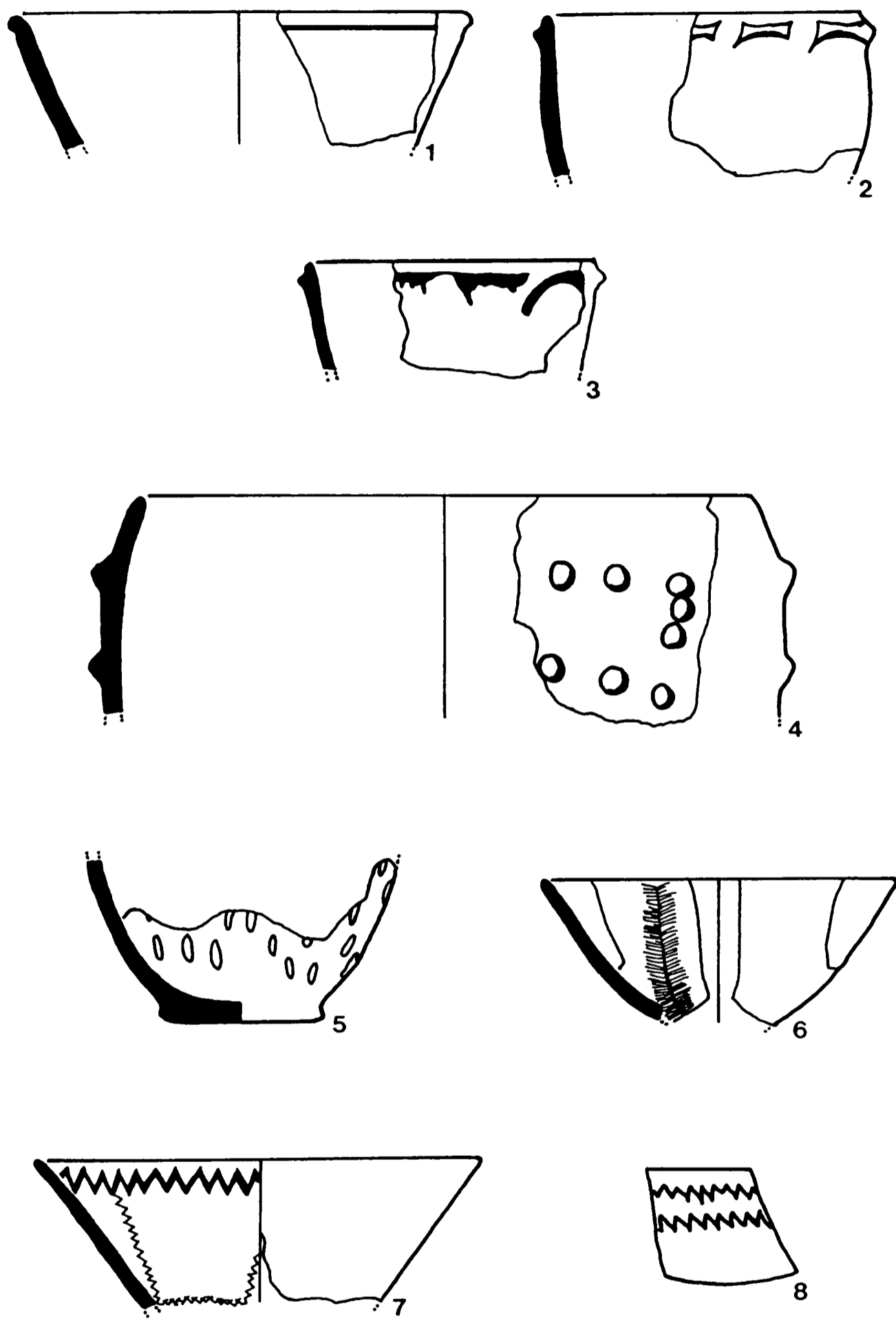
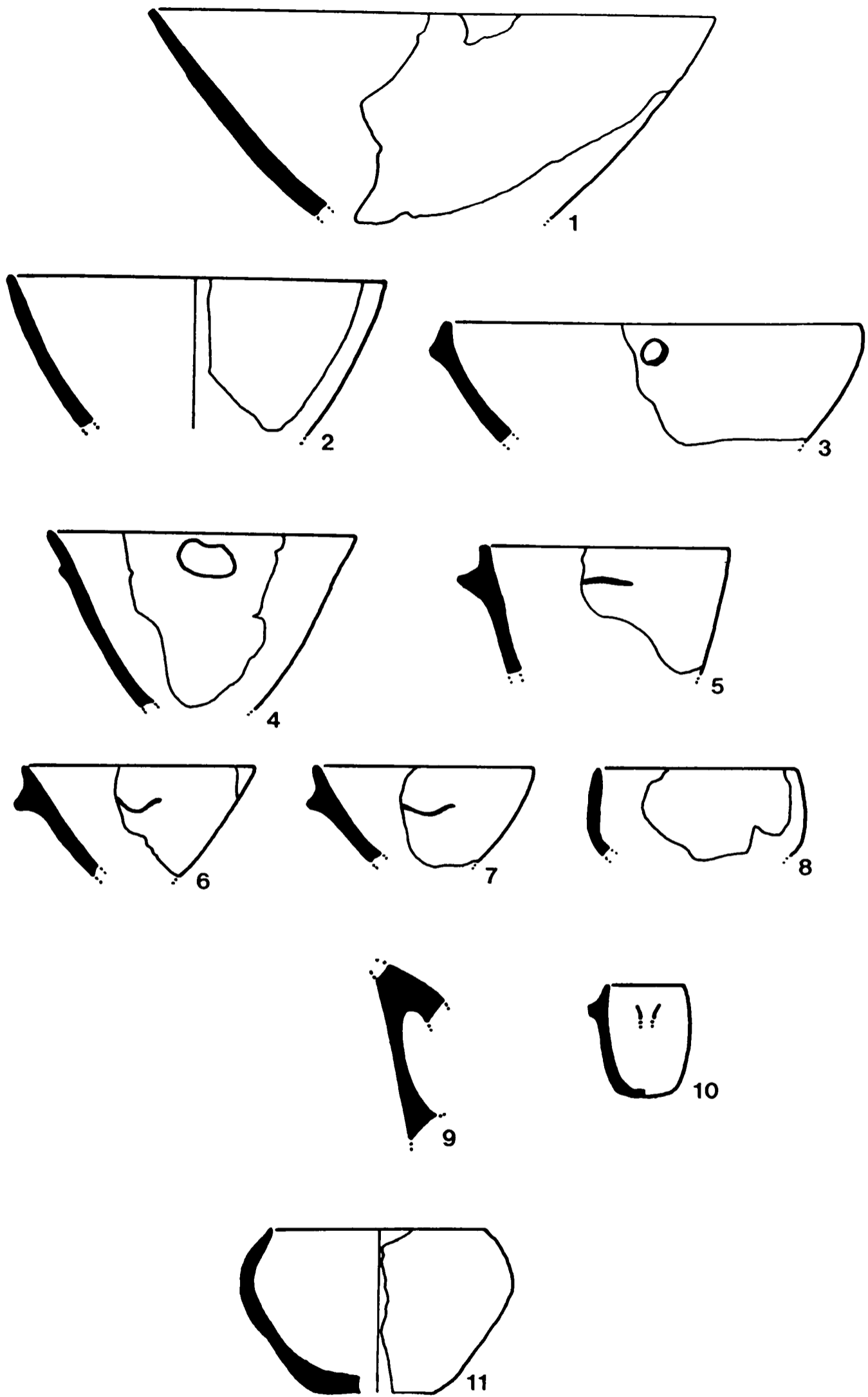
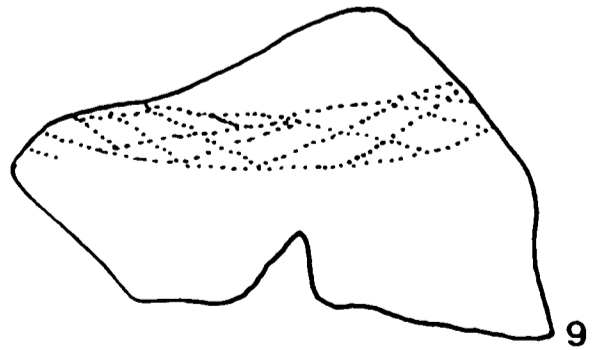
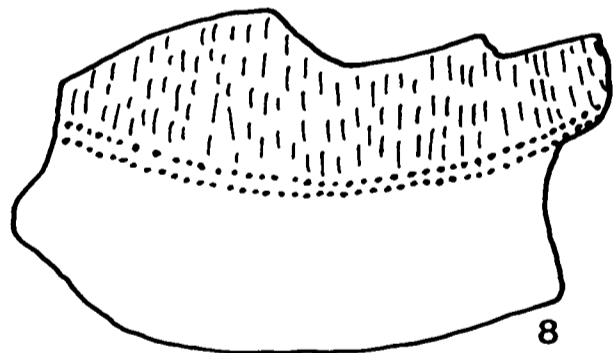
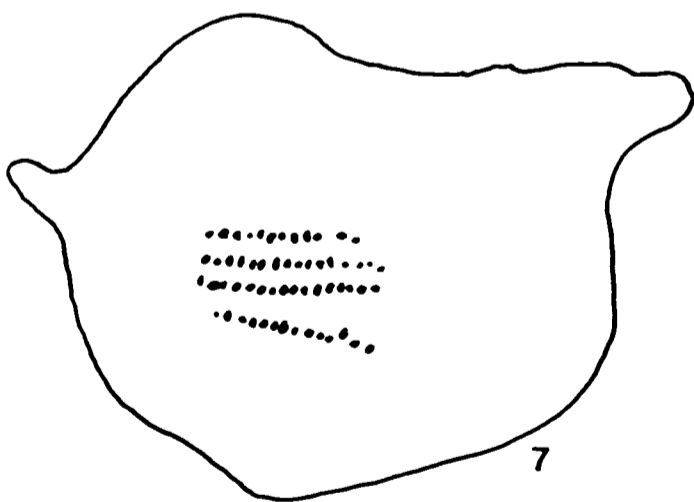
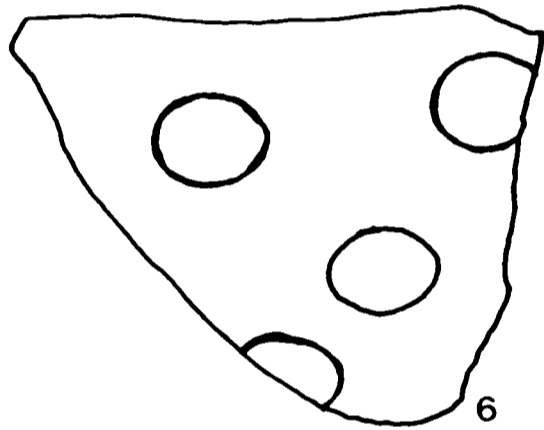
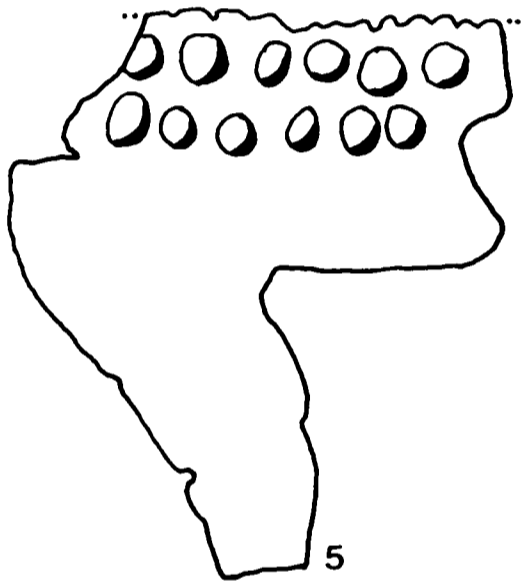
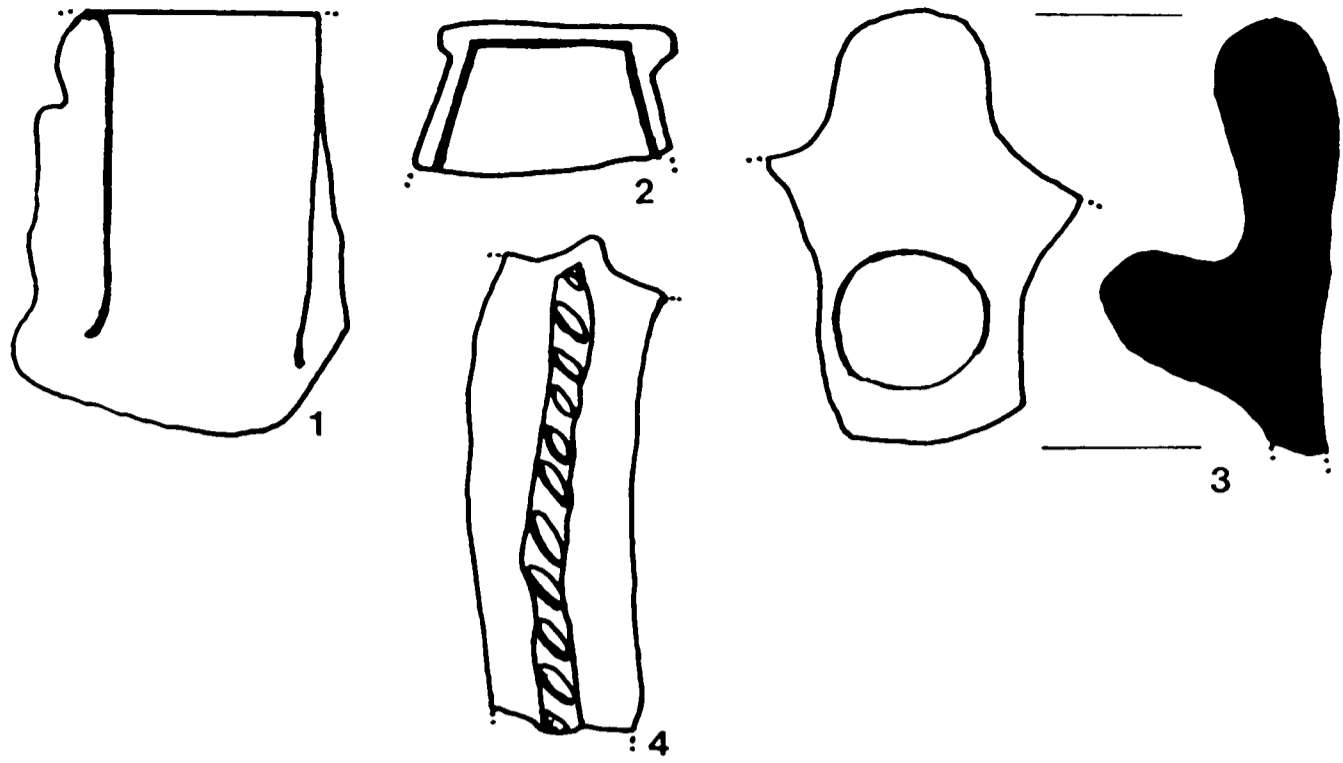


Fig. 46. Middle Copper Age pottery from Grotta dei Piccioni, spits 10-9 (after Cremonesi 1976).



0 4cm

Fig. 47. Middle Copper Age pottery from Grotta dei Piccioni, spits 10-9 (after Cremonesi 1976).



0 3cm

Fig. 48. Late Copper Age pottery from Ortucchio (1-8 after Radmilli 1981; 9 after Cremonesi 1984).

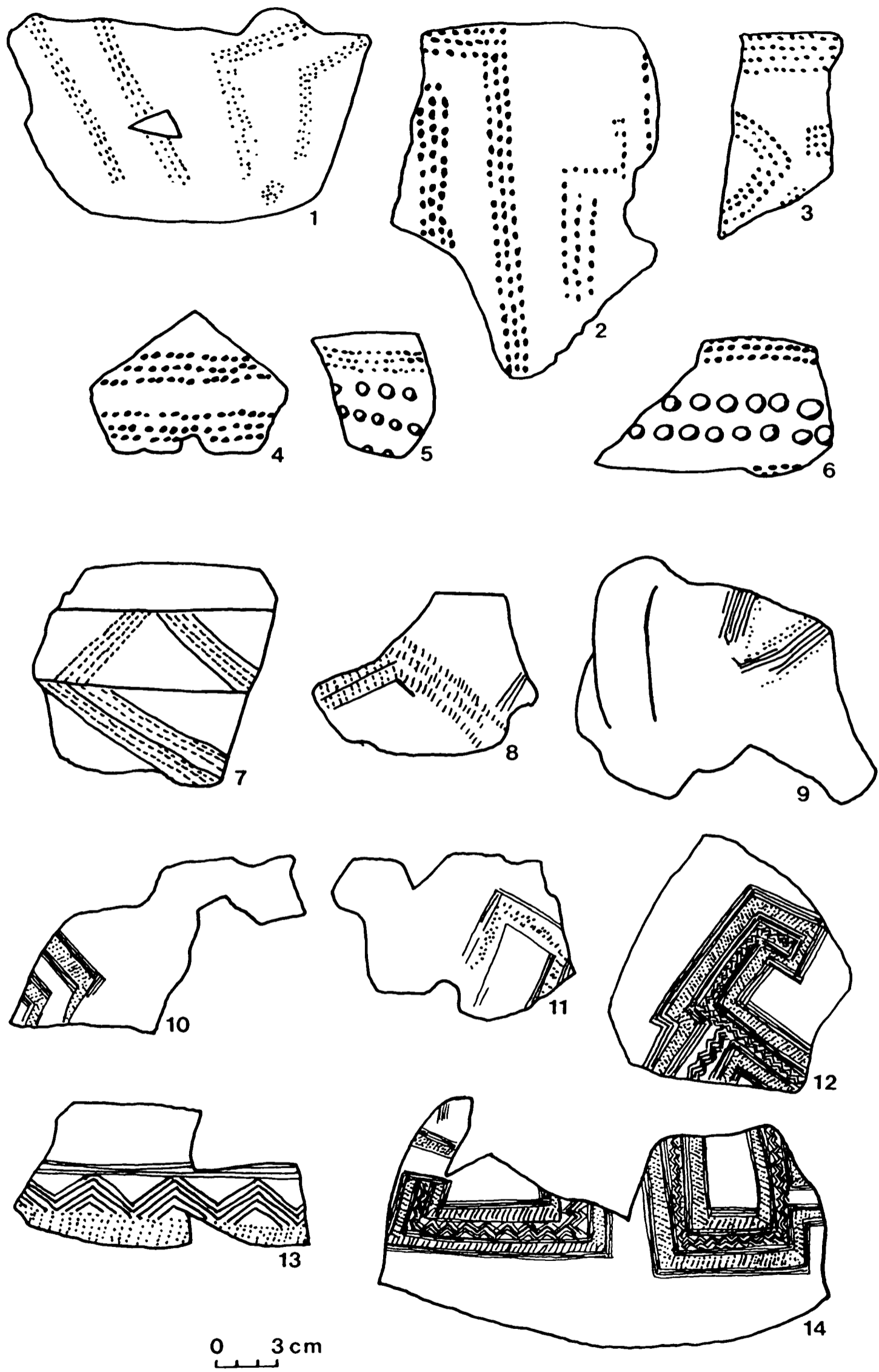


Fig. 49. Late Copper Age pottery from Ortucchio (2,4-6 after Puglisi 1965b; 1,3,8,10,13-14 after Radmilli 1981; 7,9,11-12 after Cremonesi 1984).

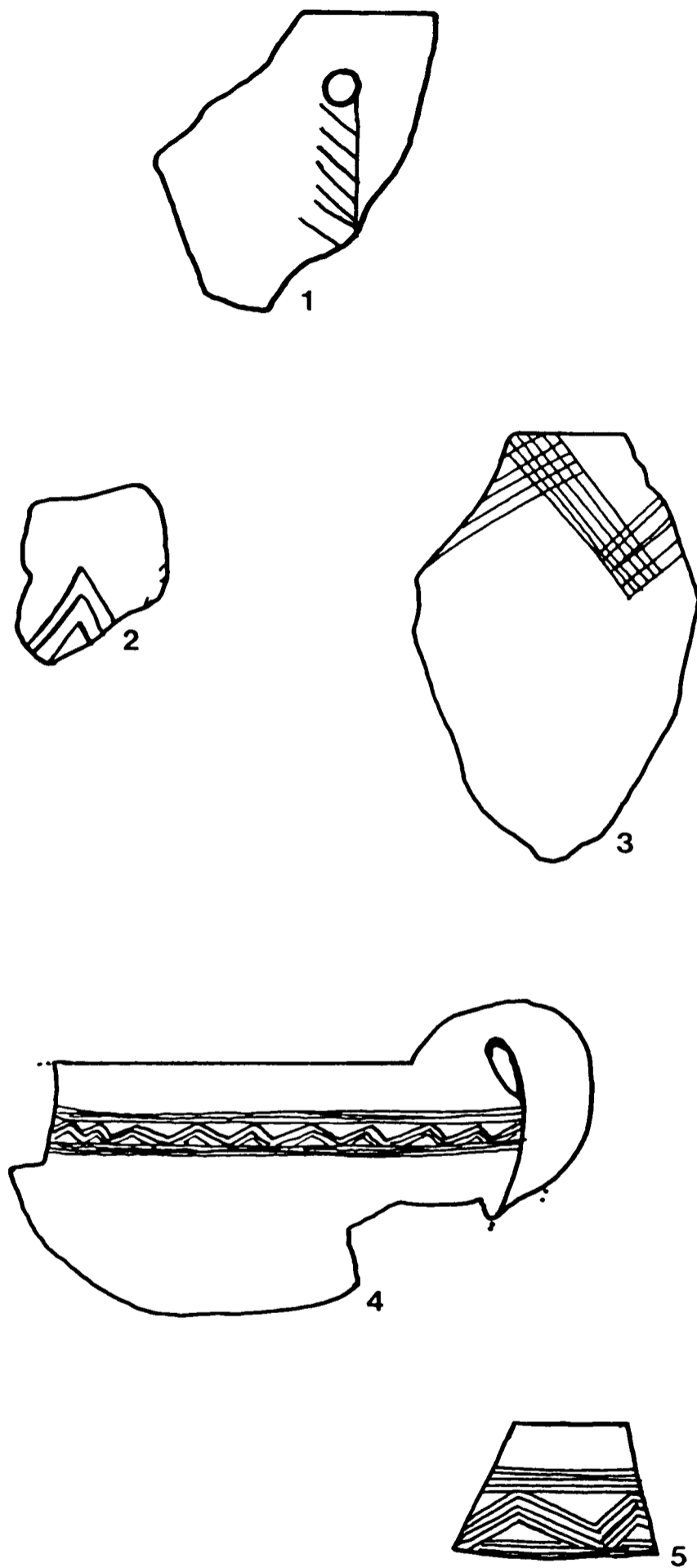
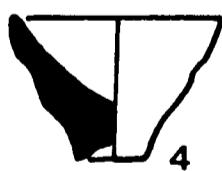
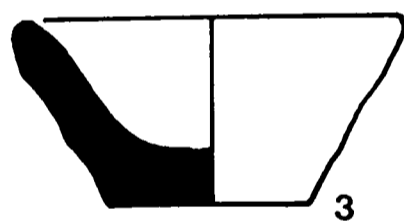
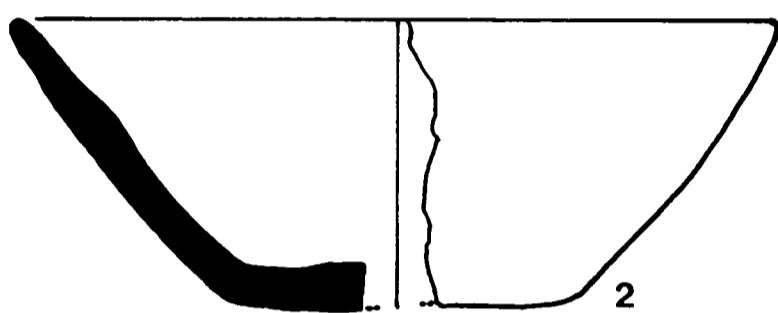
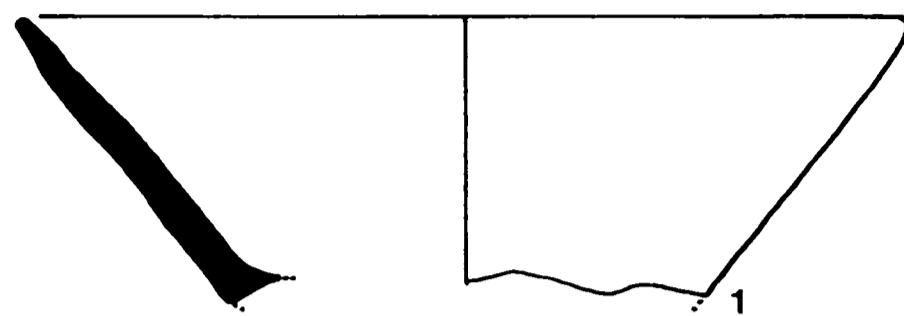


Fig. 50. Late Copper Age pottery from Ortucchio (3 after Puglisi 1965b; 1 after Radmilli 1981; 2,4-5 after Cremonesi 1984).



0 5cm
└───┘

Fig. 51. Late Copper Age pottery from Ortucchio (after Radmilli 1981).

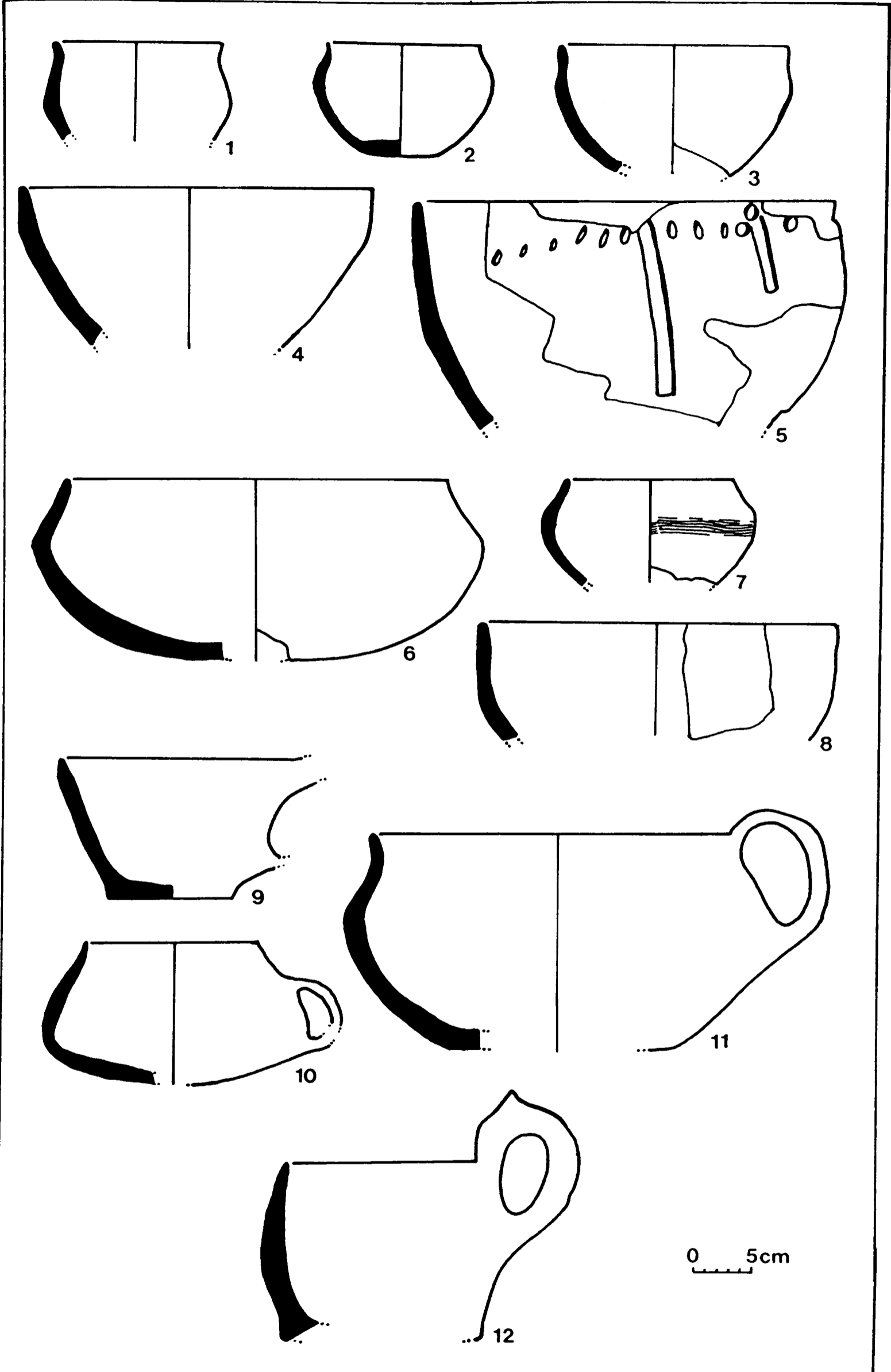


Fig. 52. Late Copper Age pottery from Ortucchio (after Radmilli 1981).

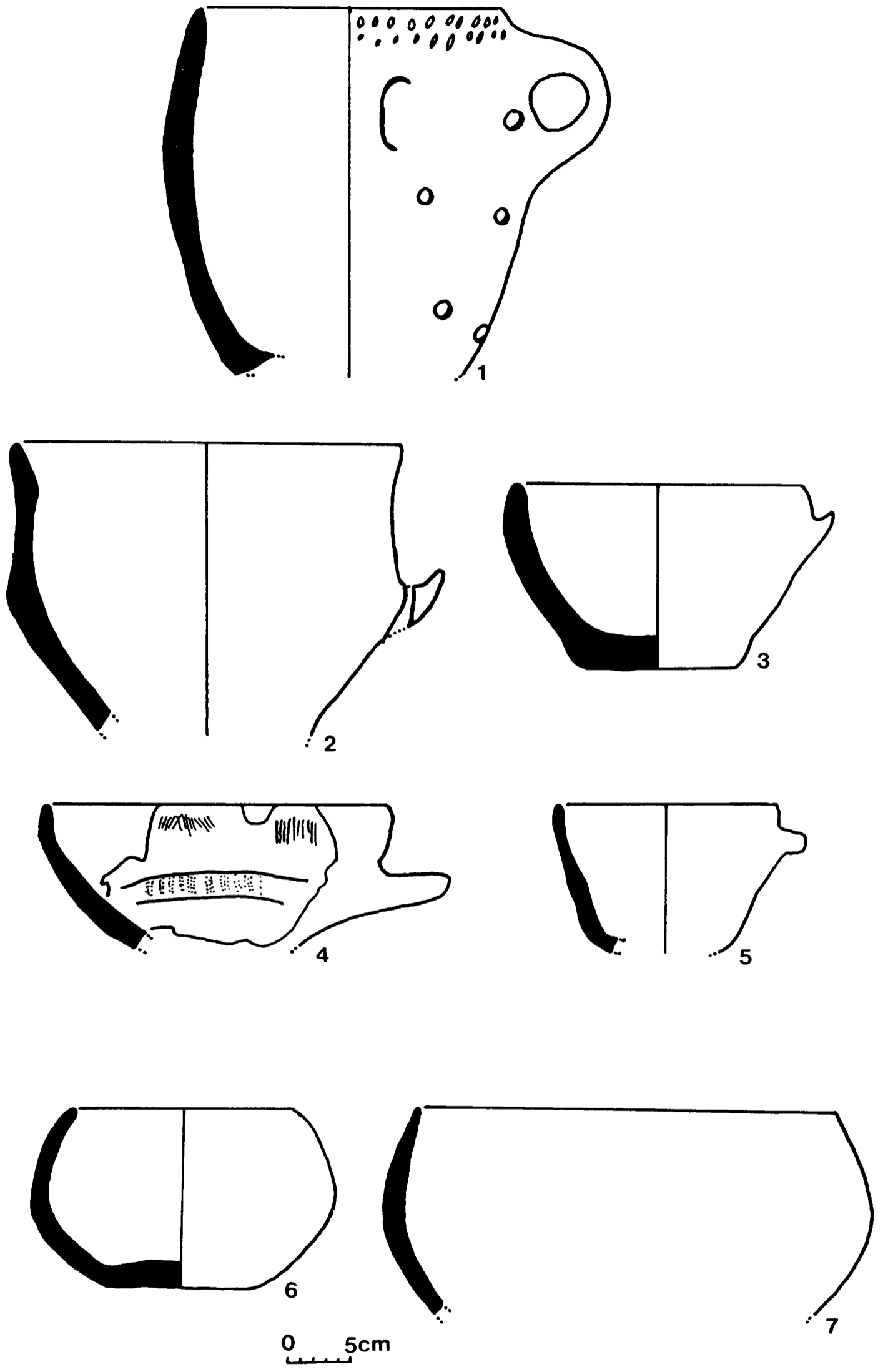
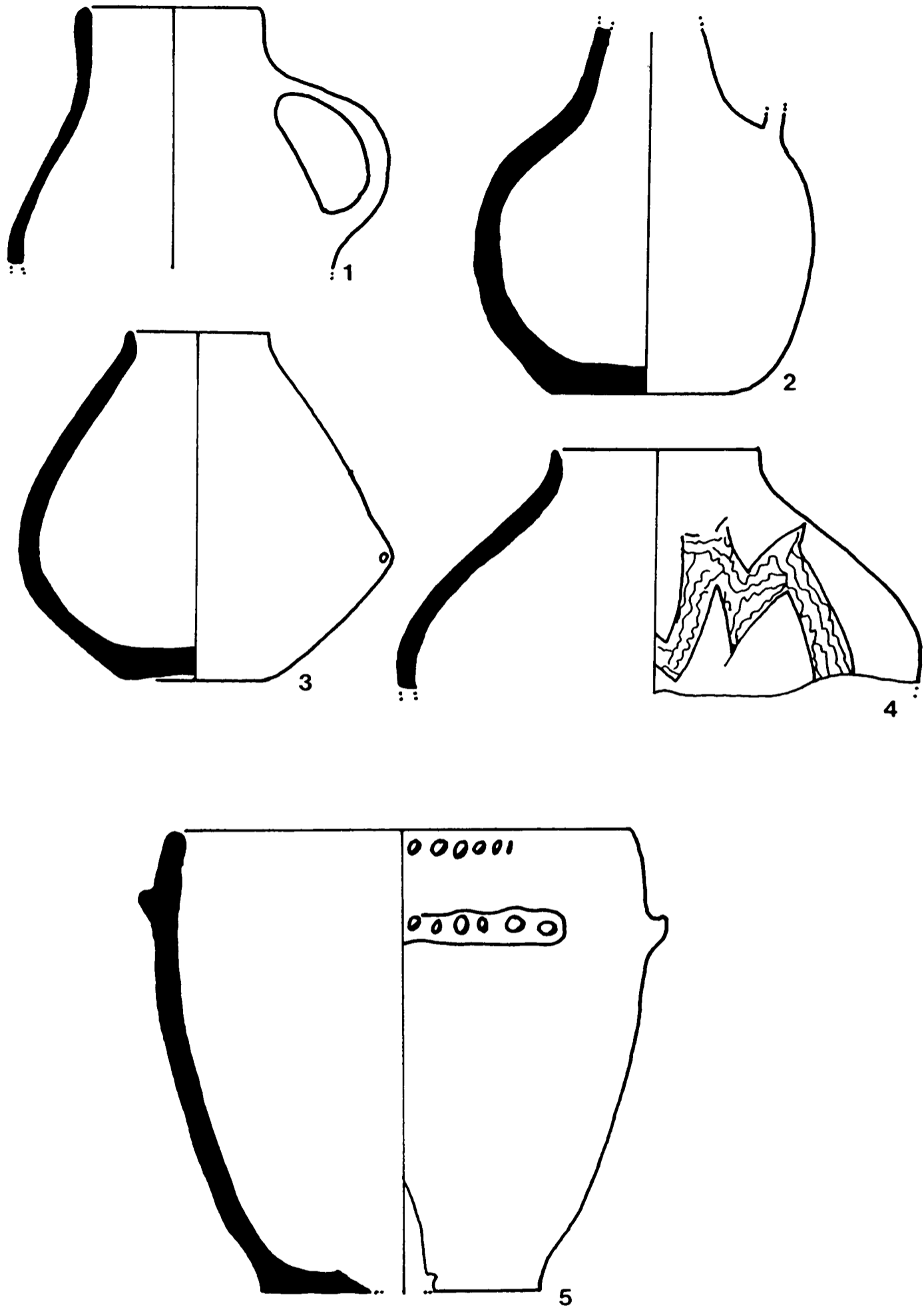
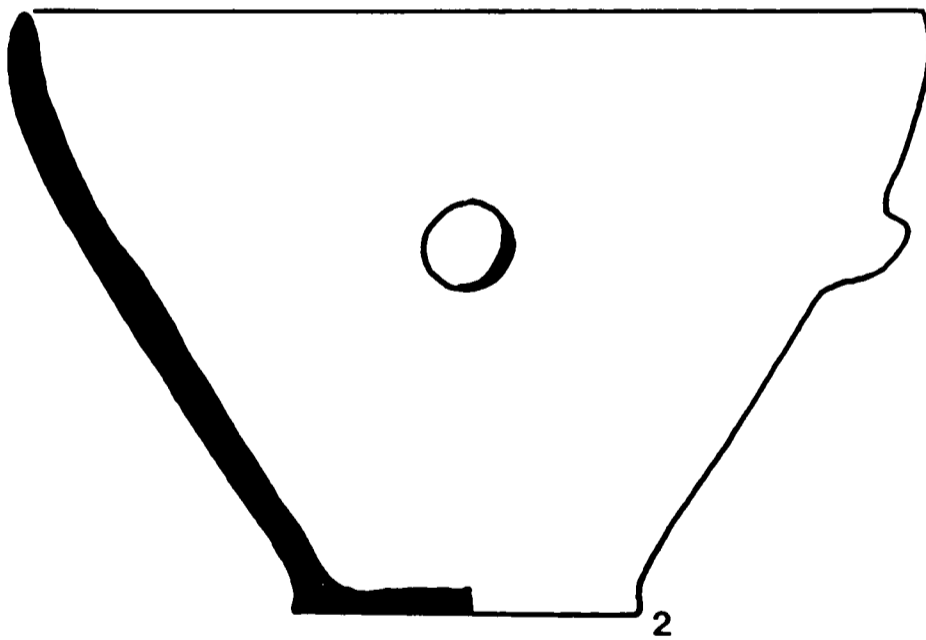
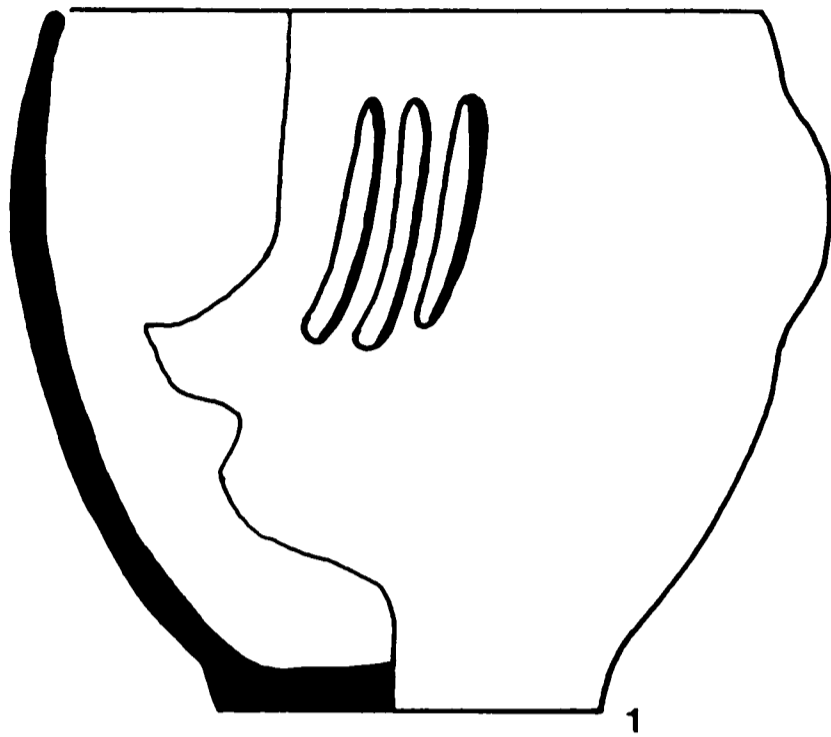


Fig. 53. Late Copper Age pottery from Ortucchio (after Radmilli 1981).



0 5 cm

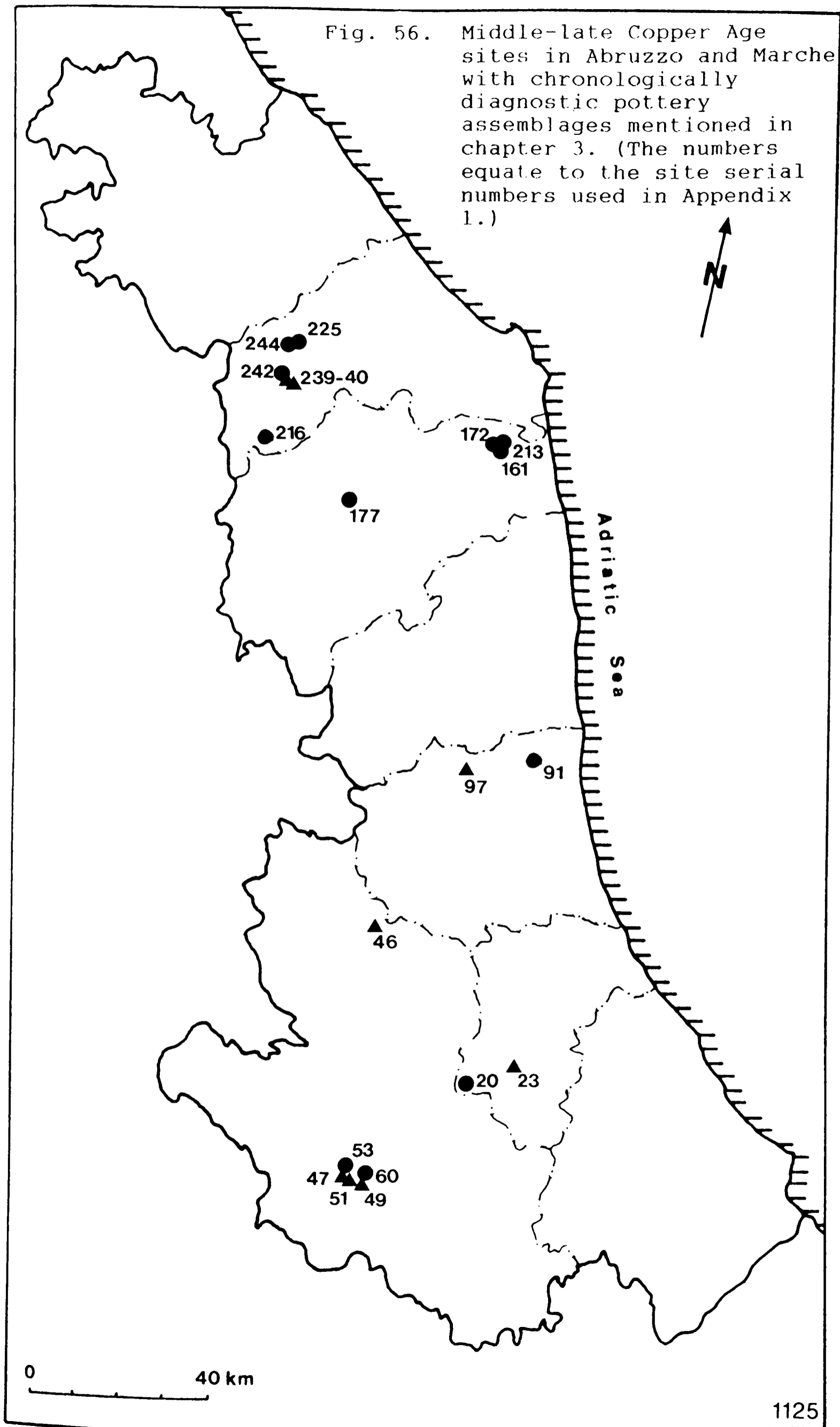
Fig. 54. Late Copper Age pottery from Ortucchio (after Radmilli 1981).

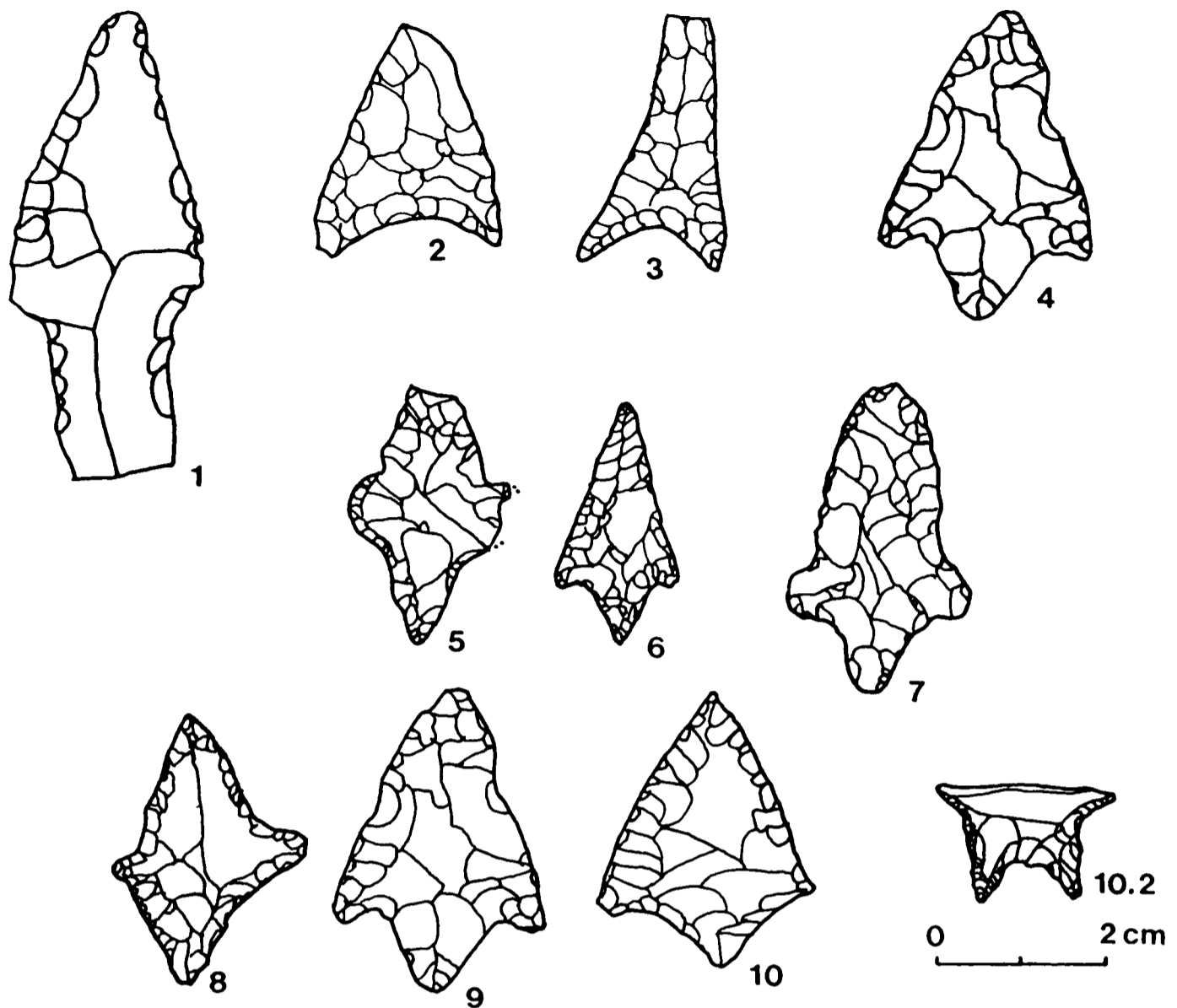


0 5cm

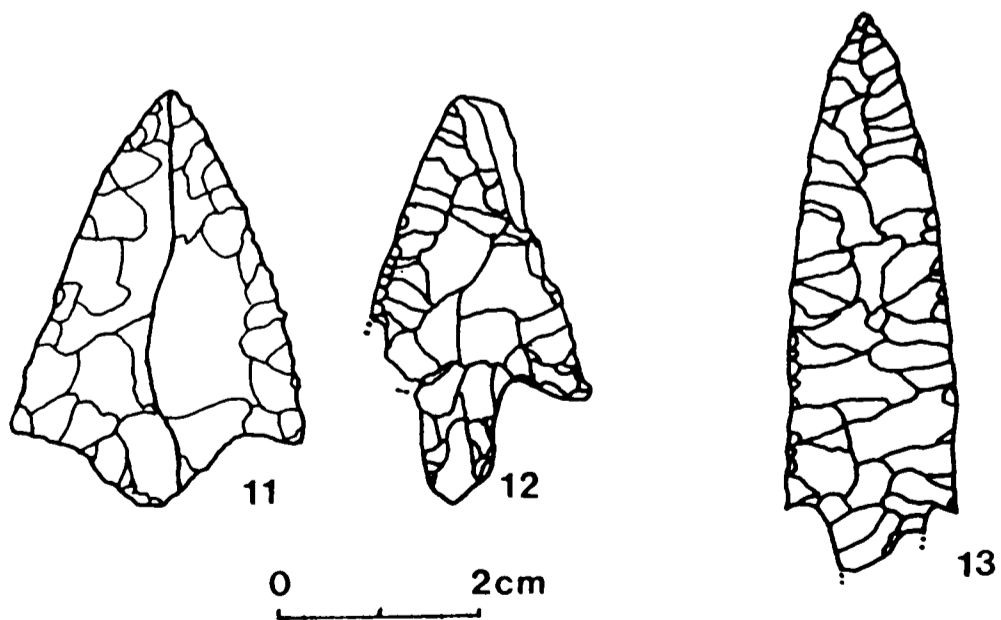
Fig. 55. Late Copper Age pottery from Ortucchio (after Radmilli 1981).

Fig. 56. Middle-late Copper Age sites in Abruzzo and Marche with chronologically diagnostic pottery assemblages mentioned in chapter 3. (The numbers equate to the site serial numbers used in Appendix 1.)





1-10.2. Late Neolithic - final Neolithic/early Copper Age arrowheads from Grotta dei Piccioni, spits 17-12 (1-10 after Cremonesi 1976; 10.2 after Radmilli et al. 1978).



11-13. Middle Copper Age arrowheads from Grotta dei Piccioni, spits 10-9 (after Cremonesi 1976).

Fig. 57. Late Neolithic - middle Copper Age arrowheads from Abruzzo.

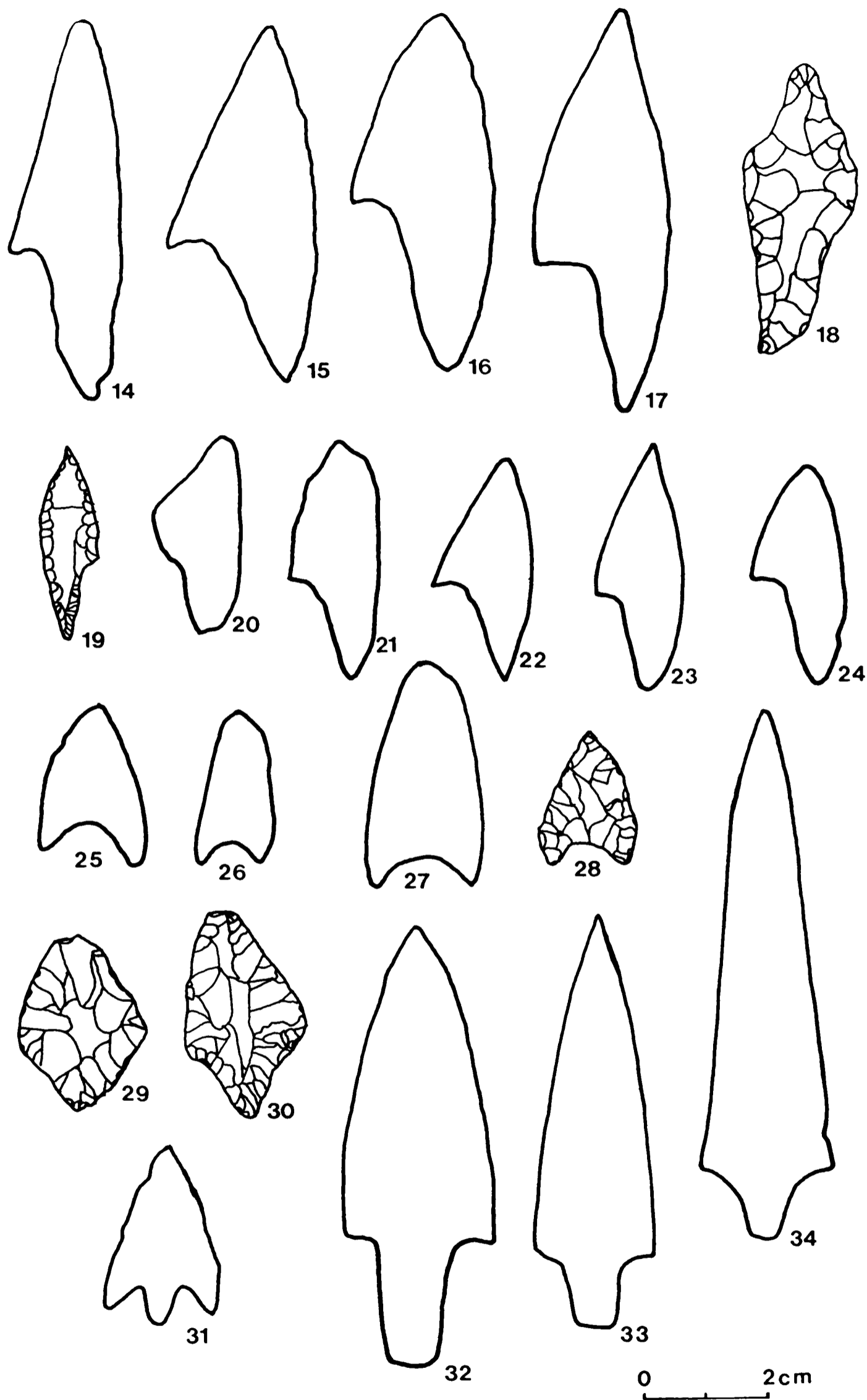
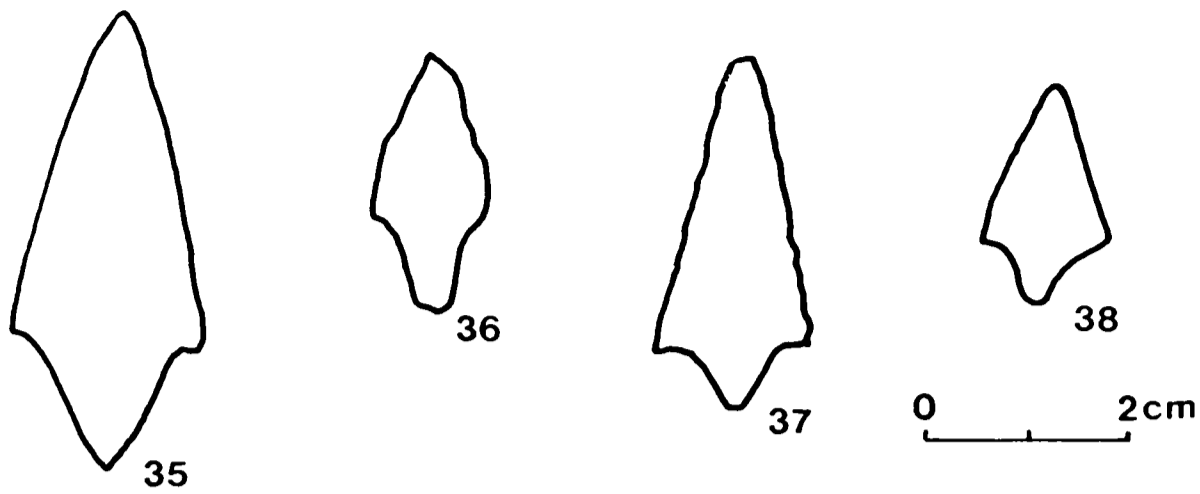
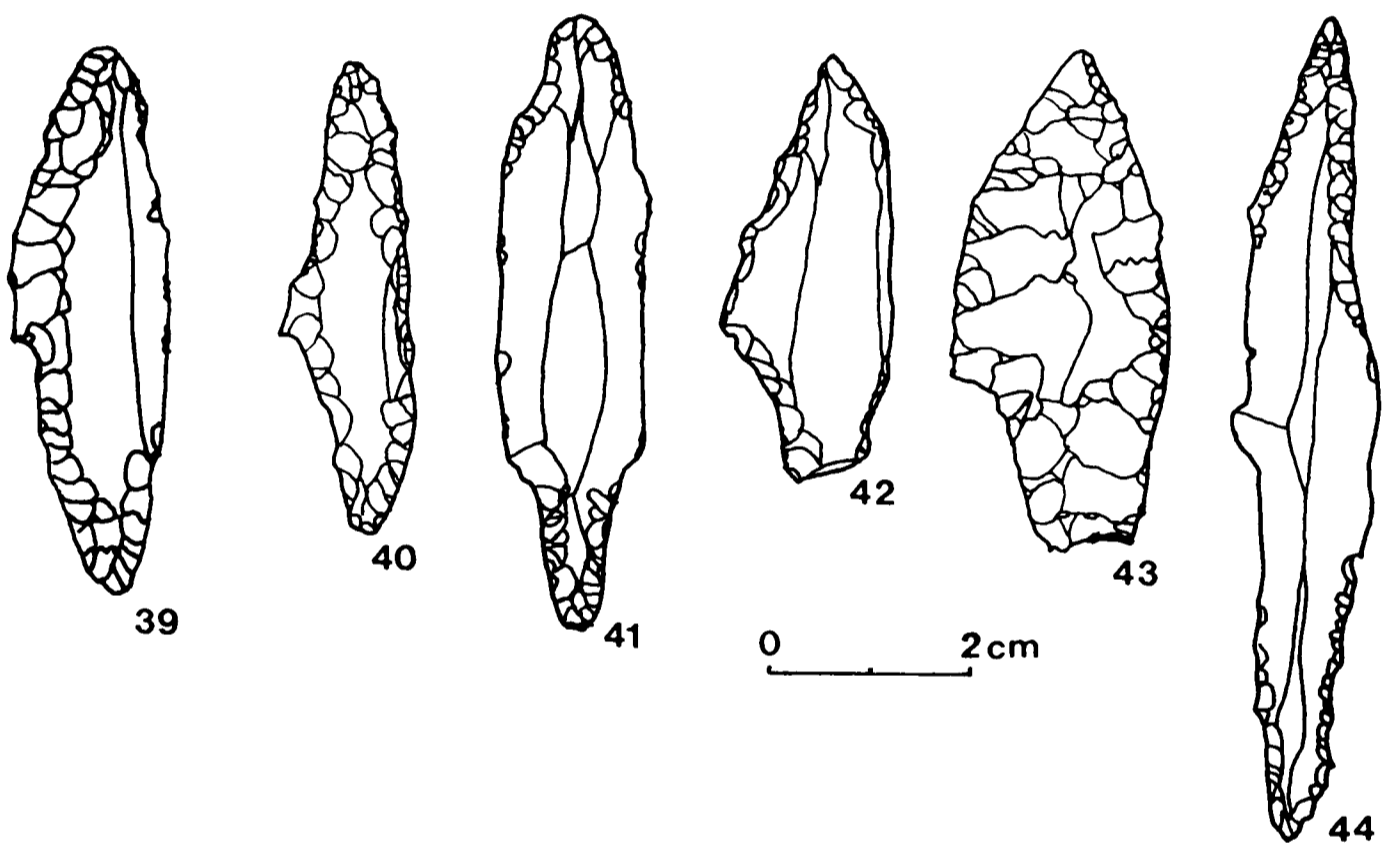


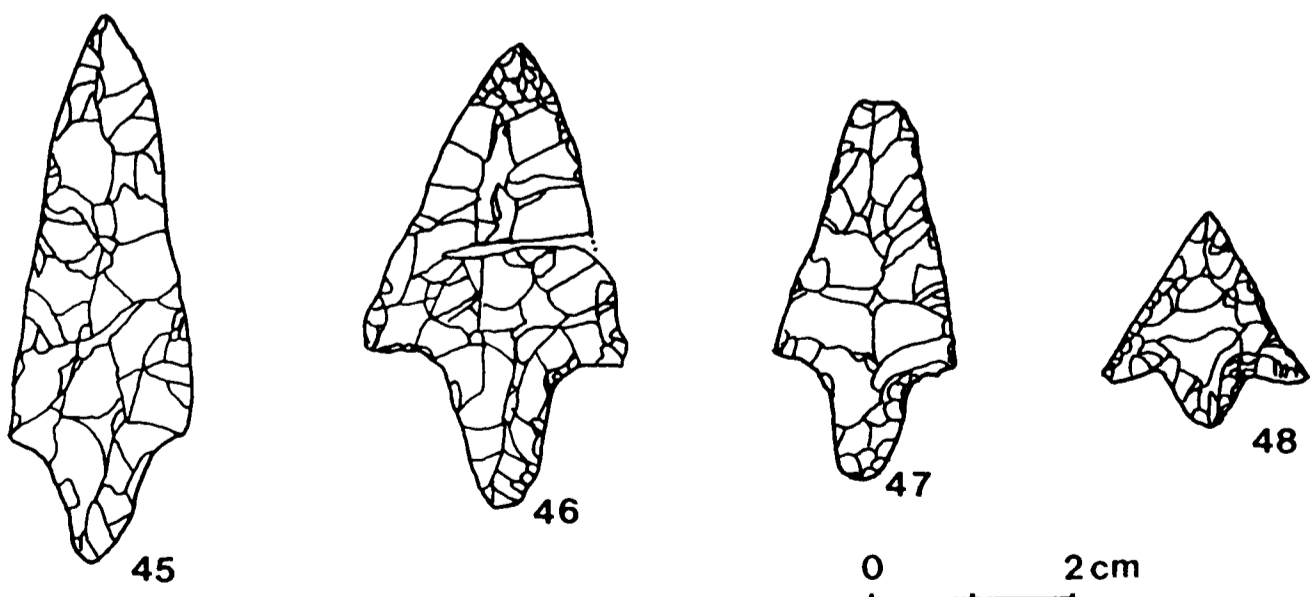
Fig. 58. Late Neolithic - final Neolithic/early Copper Age arrowheads from Ripoli (18-19, 28-30 after Cremonesi 1965; 14-17, 20-27, 31-34 after Dall'Osso 1915).



35-38. Late Neolithic - final Neolithic/early Copper Age arrowheads from Ripoli (after Dall'Osso 1915).

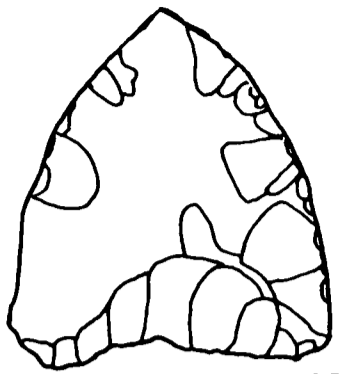


39-44. Late Neolithic - final Neolithic/early Copper Age transition arrowheads from Fossacesia (after Radmilli 1981)



45-48. Final Neolithic/early Copper Age arrowheads from Piano d'Orta (after Di Fraia 1988).

Fig. 59. Late Neolithic - final Neolithic/early Copper Age arrowheads from Abruzzo.

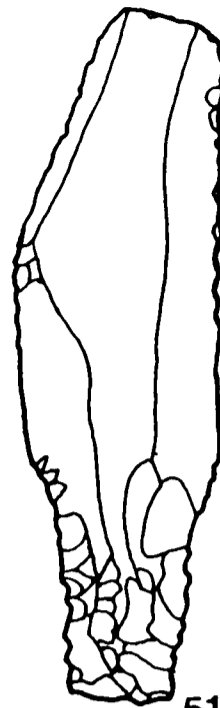


49
0 2cm

49. Middle-late Copper Age arrowhead from Grotta la Punta (after Cremonesi 1968).

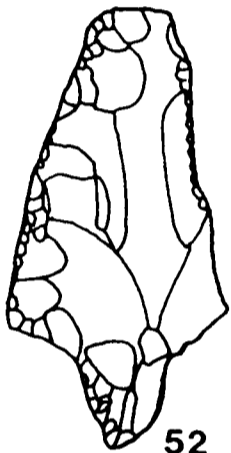


50
0 2cm

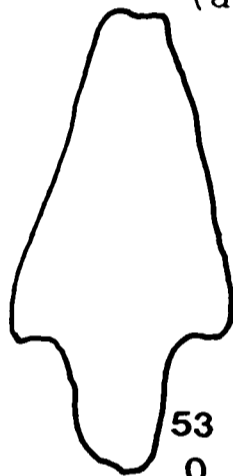


51

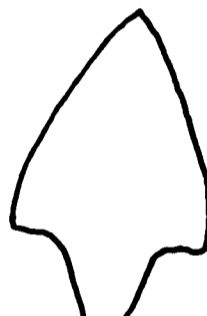
50-51. Middle-late Copper Age arrowheads from Grotta Maritza (after Grifoni and Radmilli 1964).



52

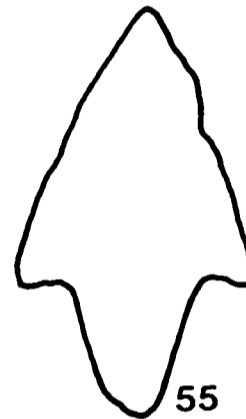


53



54

0 2cm



55

52-55. Late Copper Age arrowheads from Ortucchio (52 after Puglisi 1965b; 53-55 after Tartaro 1979)



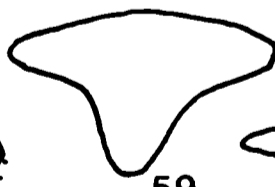
56



57



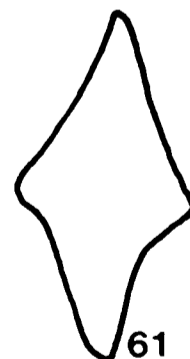
58



59



60

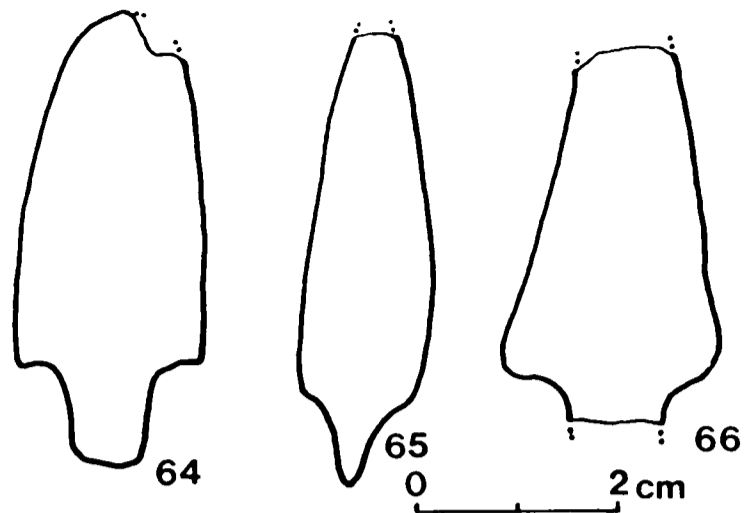
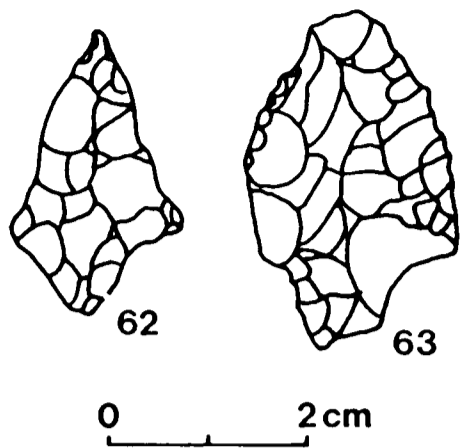


61

0 2cm

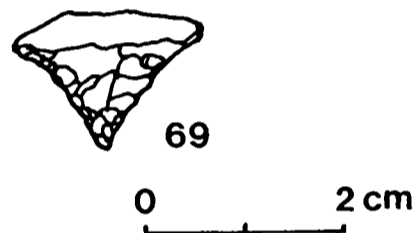
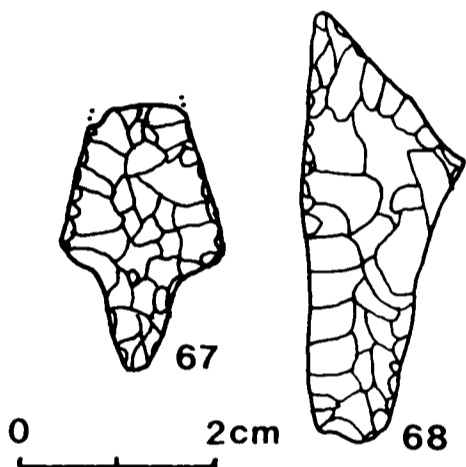
56-61. Final Neolithic/early Copper Age arrowheads from S. Maria in Selva (after Lollini 1965).

Fig. 60. Final Neolithic/early Copper Age - late Copper Age arrowheads from Abruzzo and Marche.



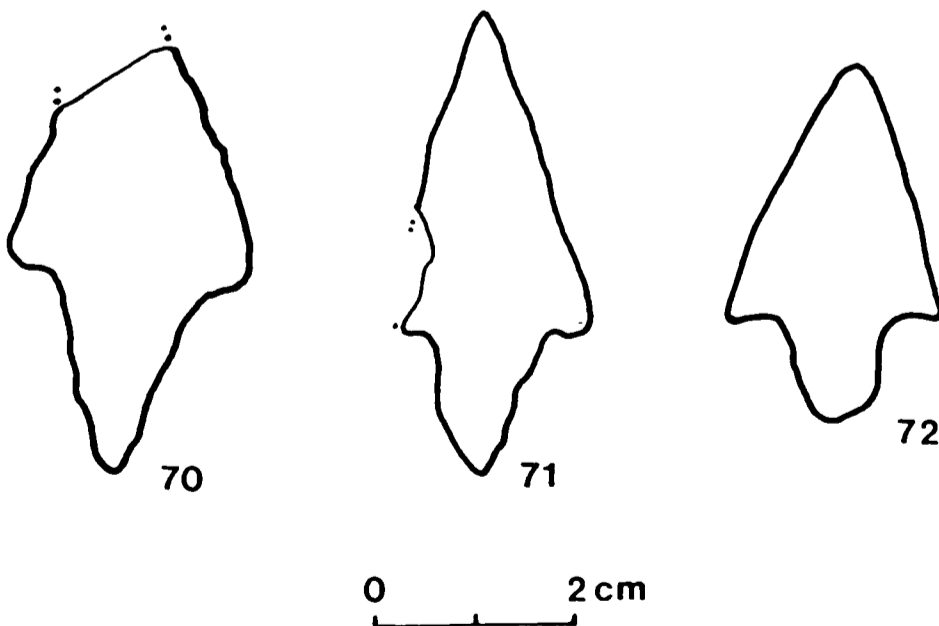
62-63. Final Neolithic/early Copper Age arrowheads from Colle Appeso (after Lucentini 1984-6).

64-66. Final Neolithic/early Copper Age arrowheads from Colle Morico (unpublished in S. Severino Marche Museum).



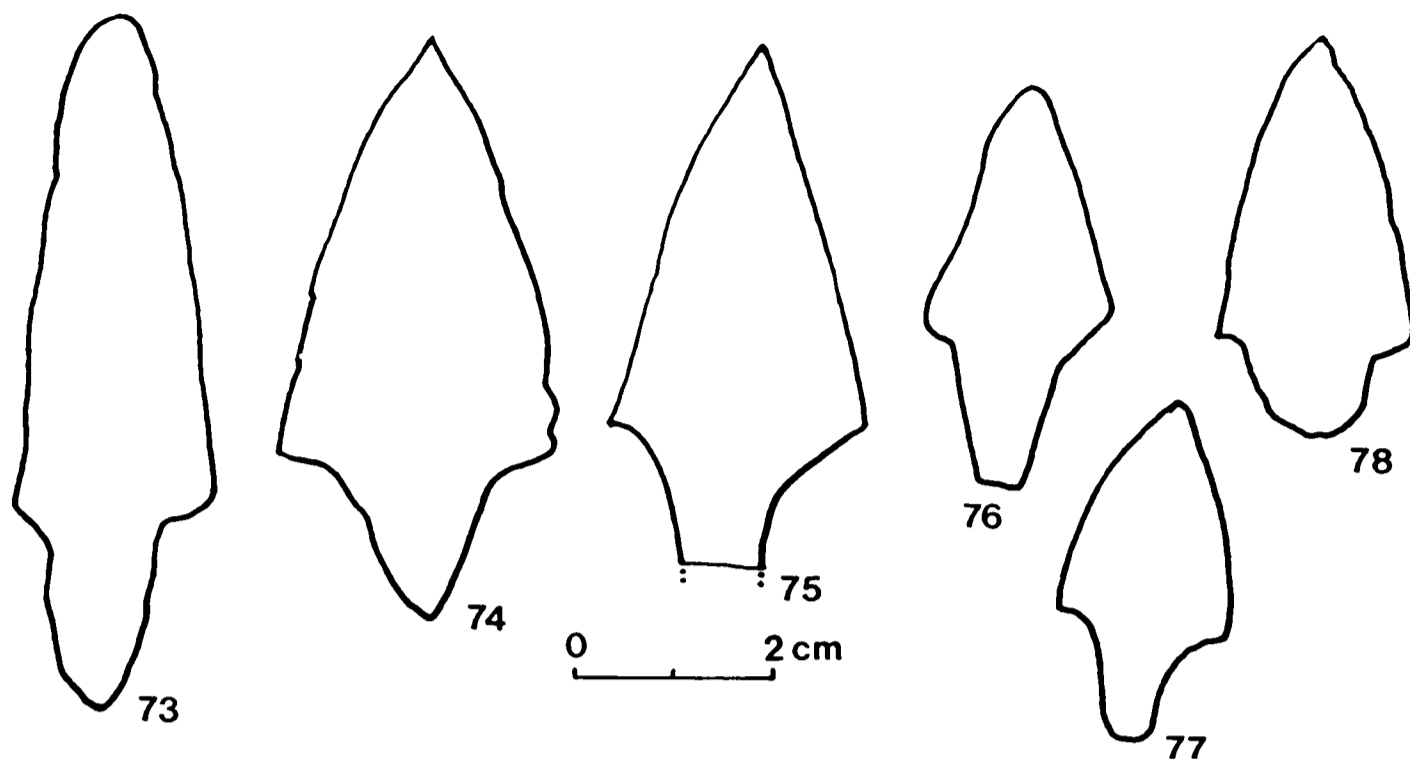
67-68. Final Neolithic/early Copper Age arrowheads from Donatelli (after Puglisi 1959).

69. Final Neolithic/early Copper Age arrowhead from Cava Giacometti (after Moscoloni 1987).

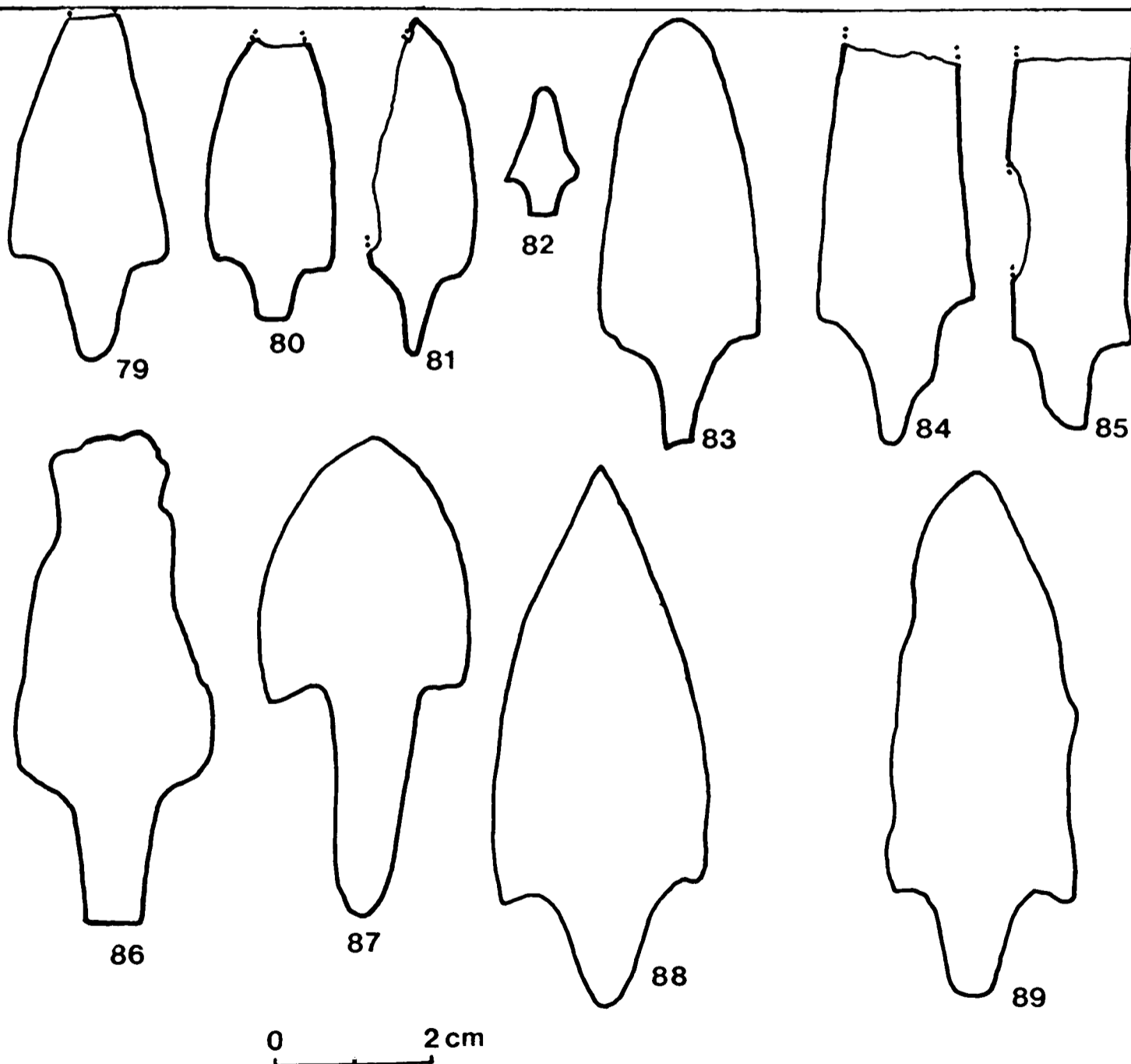


70-72. Final Neolithic/early Copper Age - late Copper Age arrowheads from Pianello (unpublished in Ancona Museum).

Fig. 61. Final Neolithic/early Copper Age - late Copper Age arrowheads from Marche.

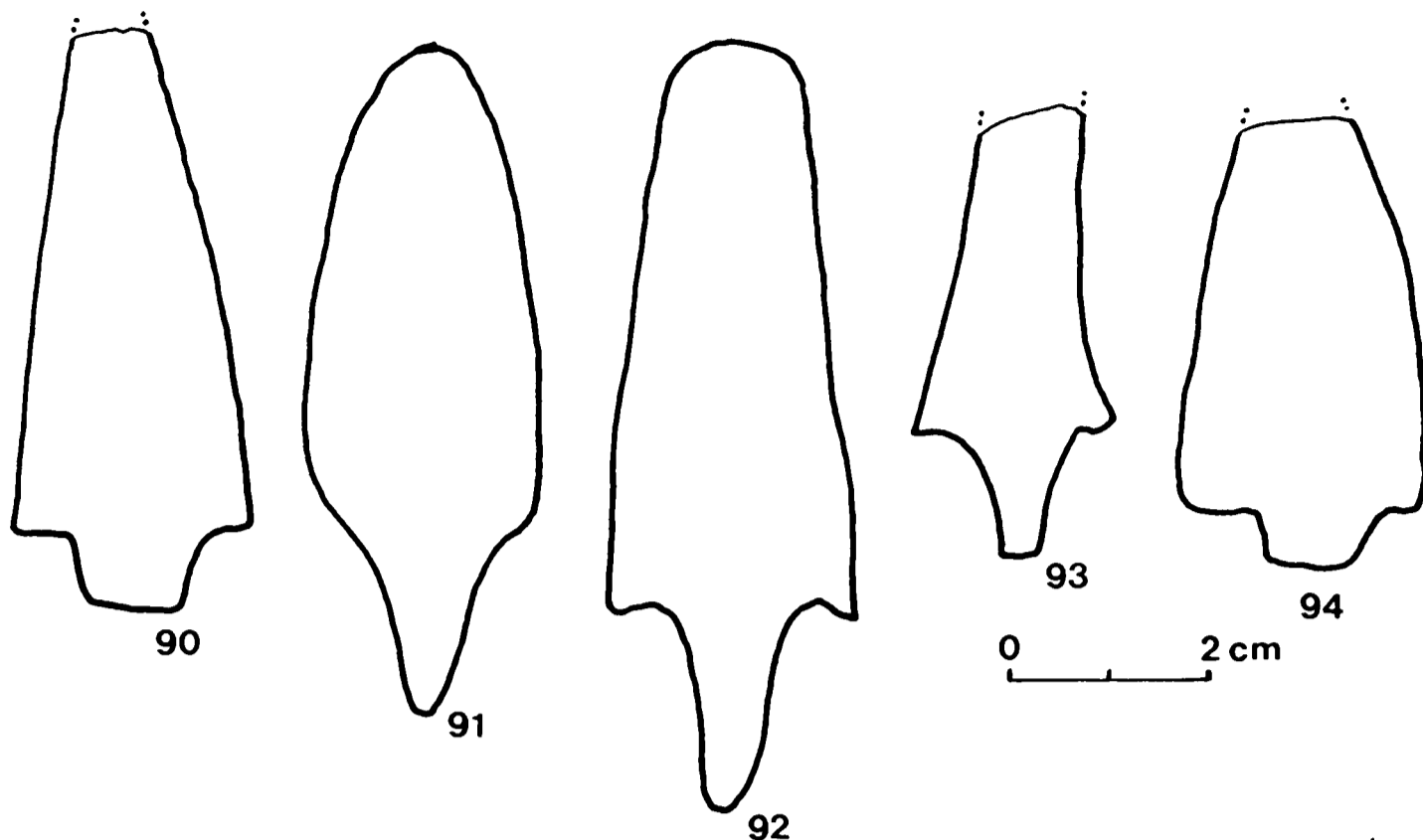


73-78. Final Neolithic/early Copper Age arrowheads from S. Biagio (75-77 after Dall'Osso 1915; 73-74 and 78 unpublished in the Pigorini Museum, Rome).

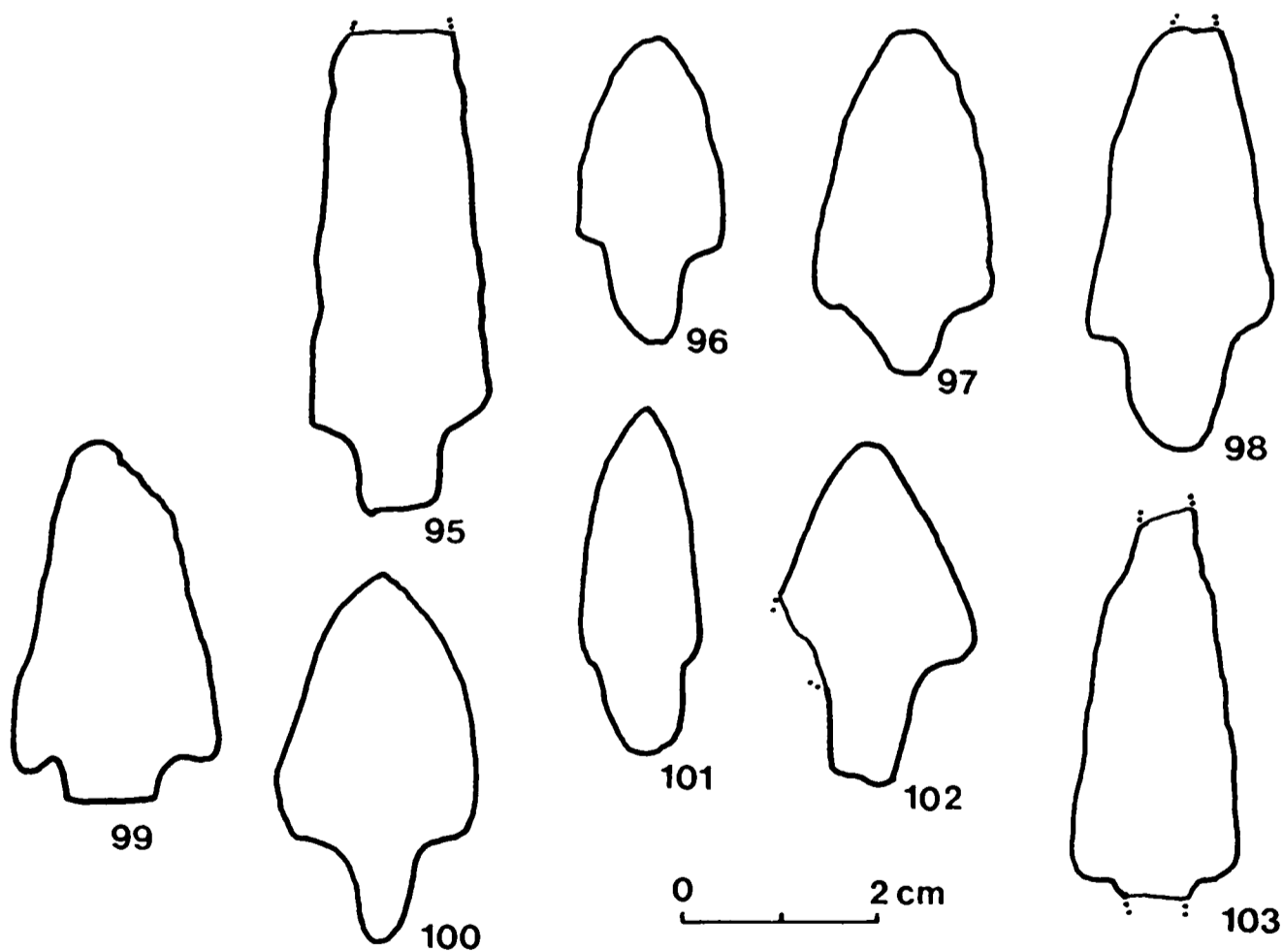


79-89. Late Copper Age arrowheads from Colle Montanari (unpublished in S. Severino Marche Museum).

Fig. 62. Final Neolithic/early Copper Age - late Copper Age arrowheads from Marche.

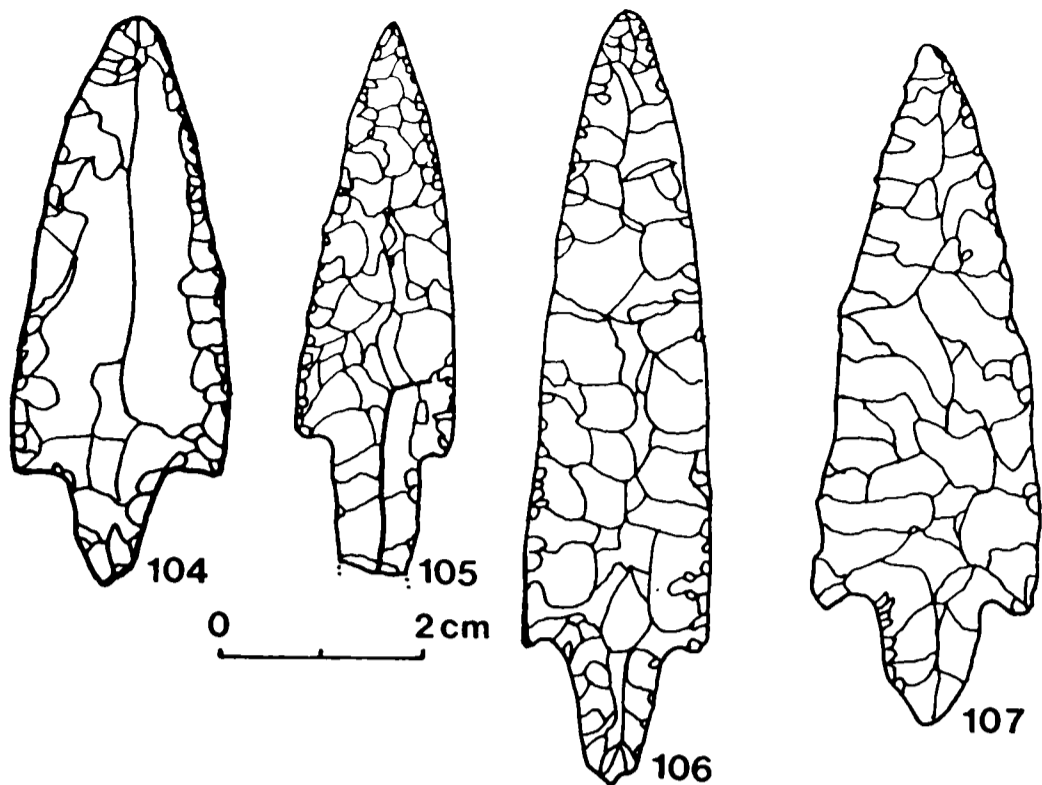


90-94. Late Copper Age arrowheads from Colle Montanari (unpublished in S. Severino Marche Museum).

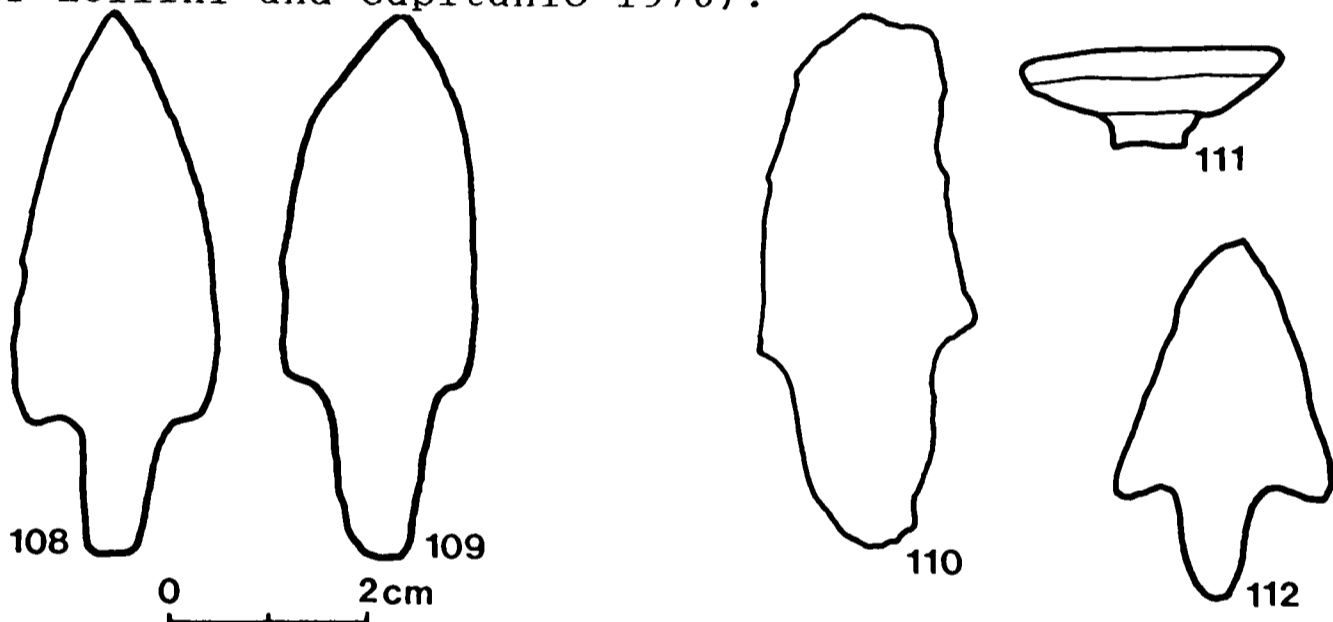


95-103. Middle Copper Age arrowheads from Area Guzzini east (unpublished in Ancona Museum).

Fig. 63. Middle-late Copper Age arrowheads from Marche.



104-107. Middle Copper Age arrowheads from Via Duomo, 109 (after Lollini and Capitanio 1970).



108-109. Middle Copper Age arrowheads from Cava Koch (after Galli 1947-50).

110-119. Final Neolithic/early Copper Age arrowheads from Aquatina, stratum 6 (unpublished in Ancona Museum)

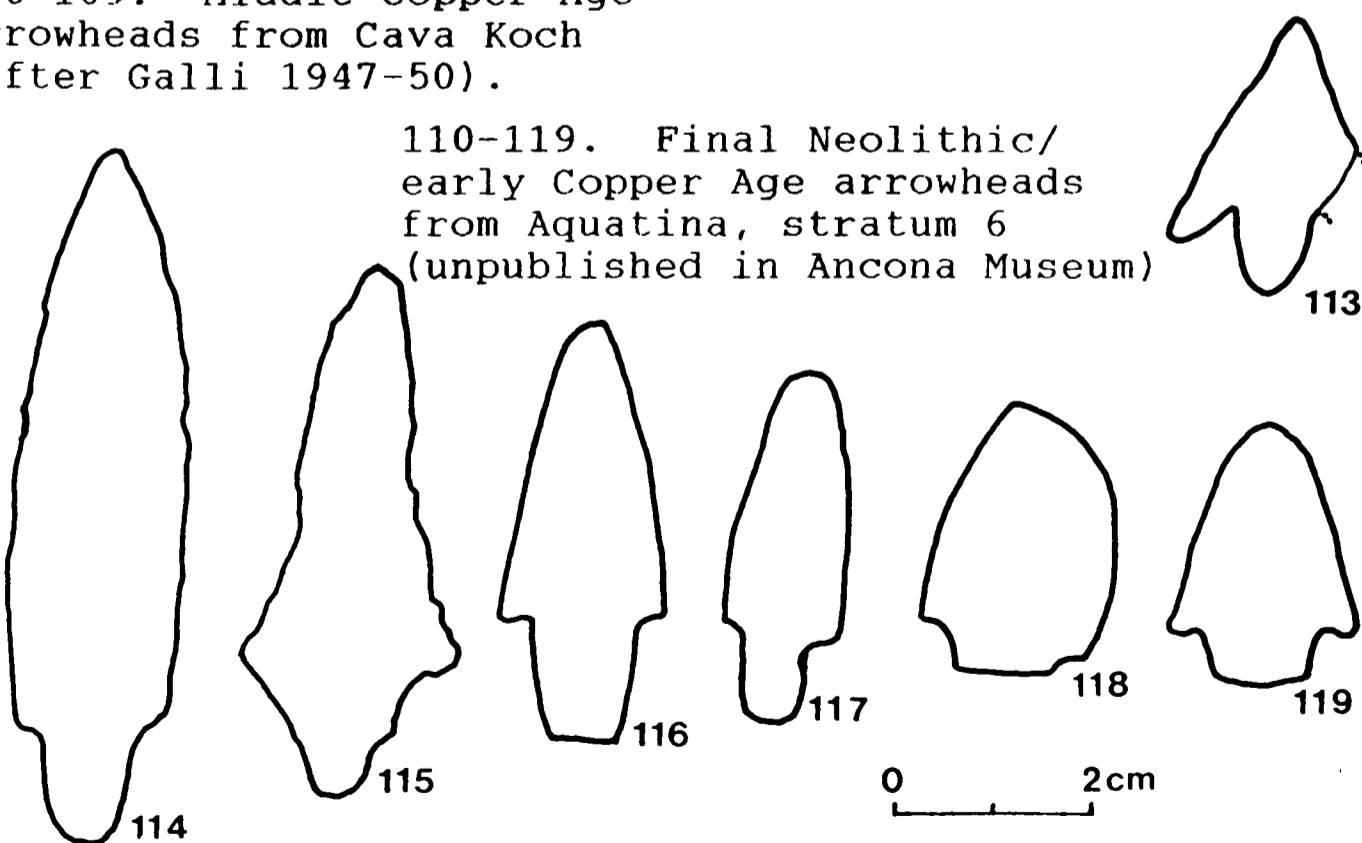
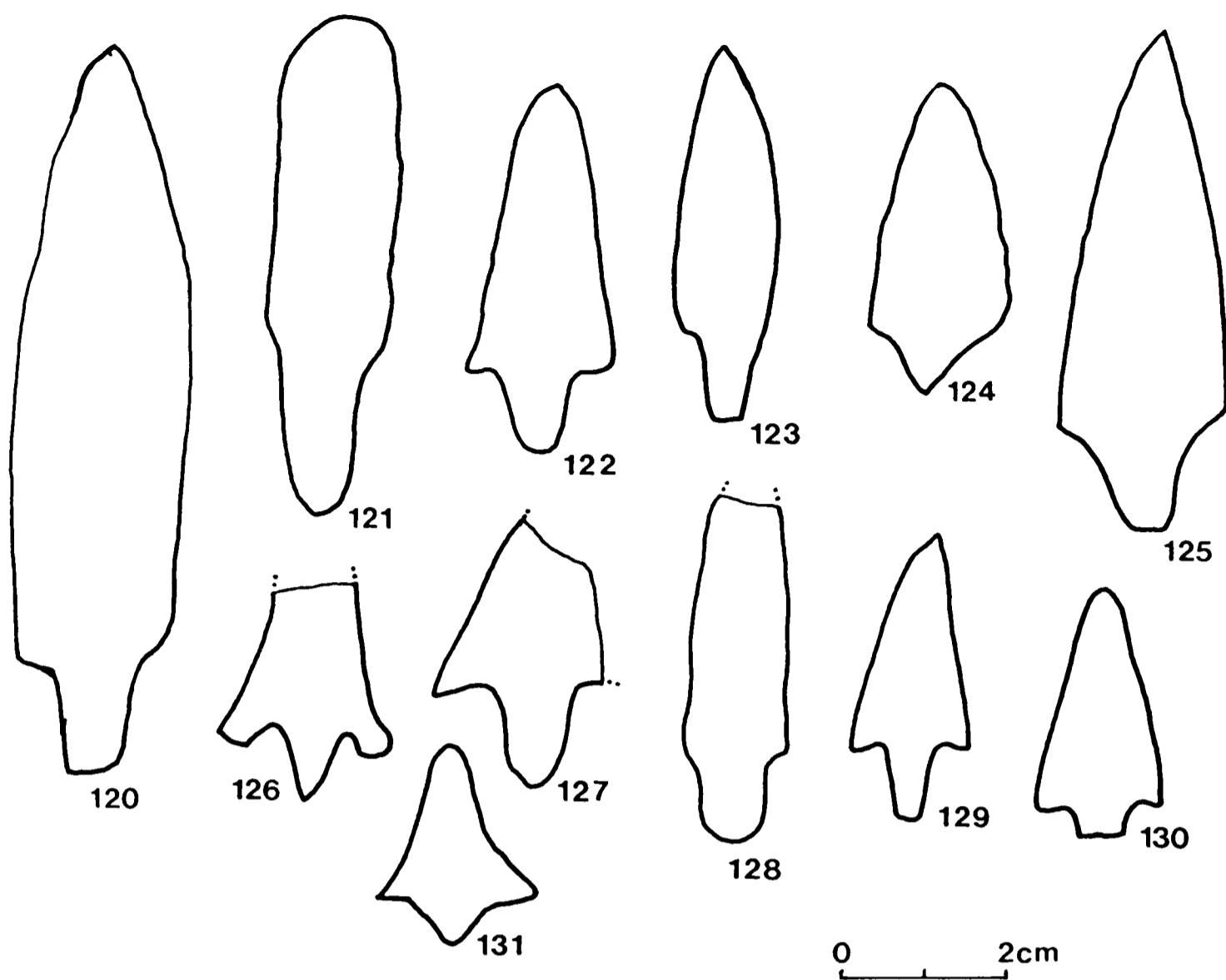
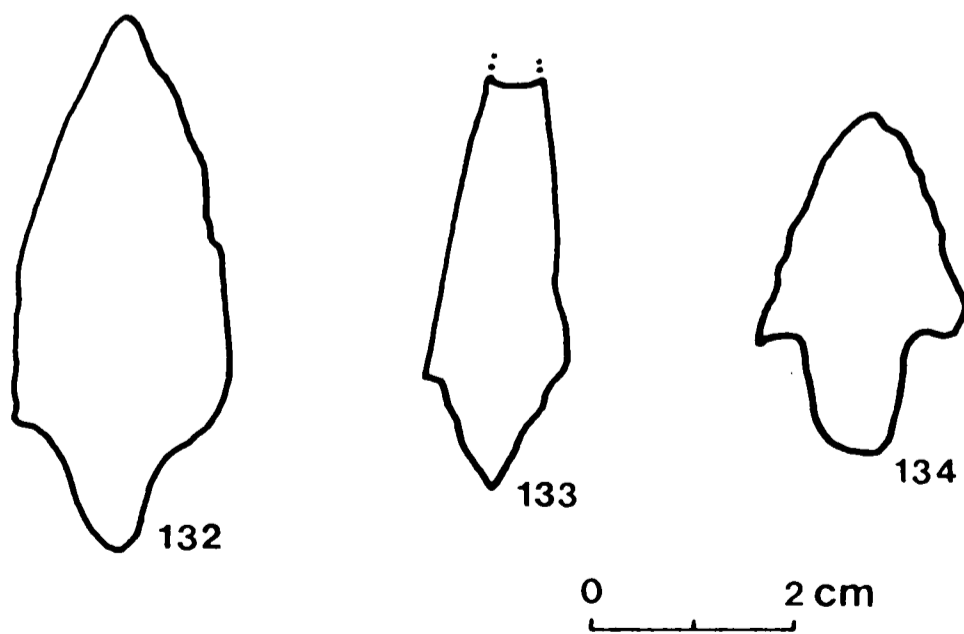


Fig. 64. Final Neolithic - late Copper Age arrowheads from Marche.



120-131. Final Neolithic/early Copper Age arrowheads from Aquatina, stratum 5 (unpublished in Ancona Museum).



132-134. Middle-late Copper Age arrowheads from Aquatina, stratum 4 (unpublished in Ancona Museum).

Fig. 65. Final Neolithic/early Copper Age - middle-late Copper Age arrowheads from Marche.

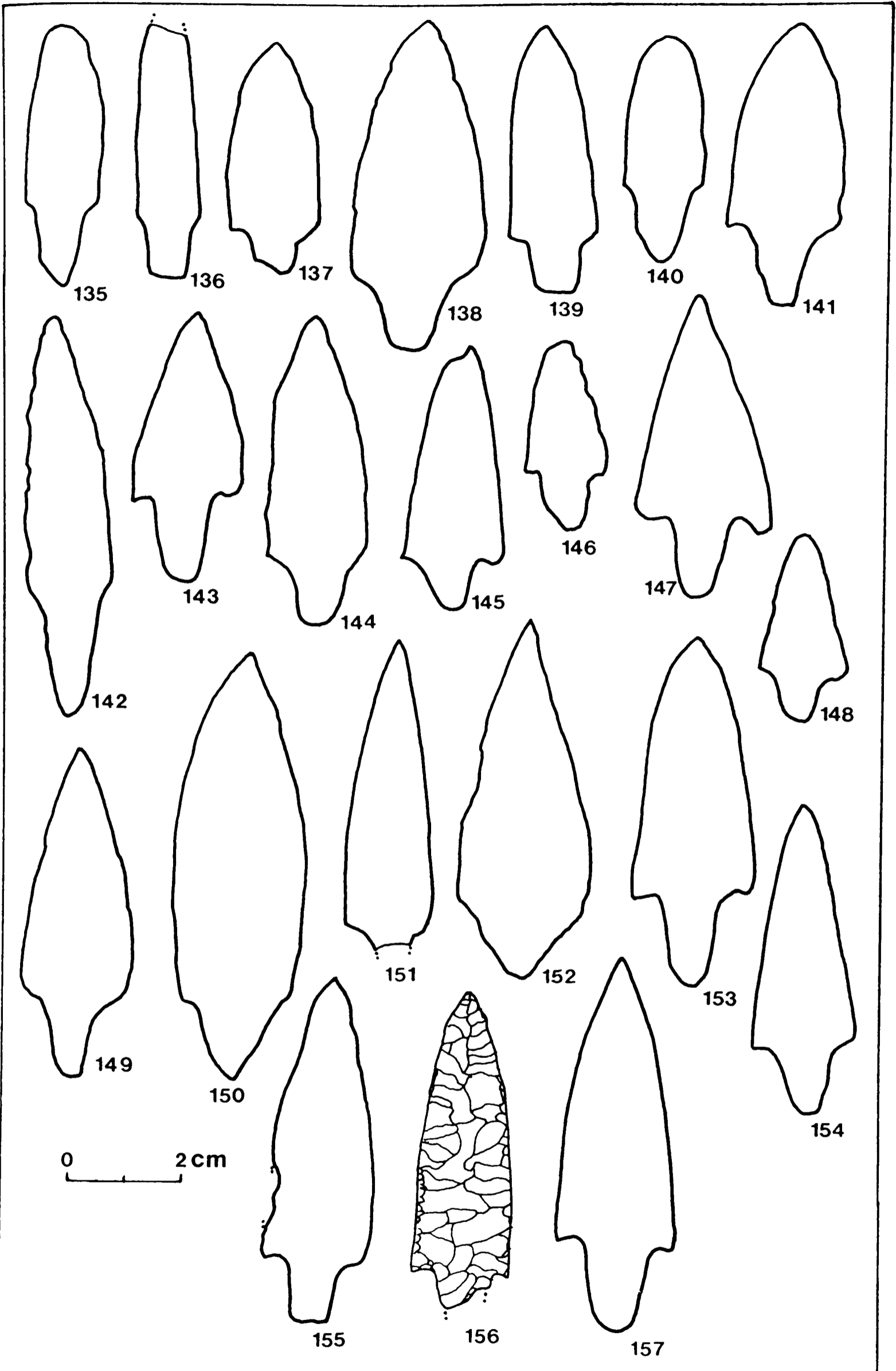
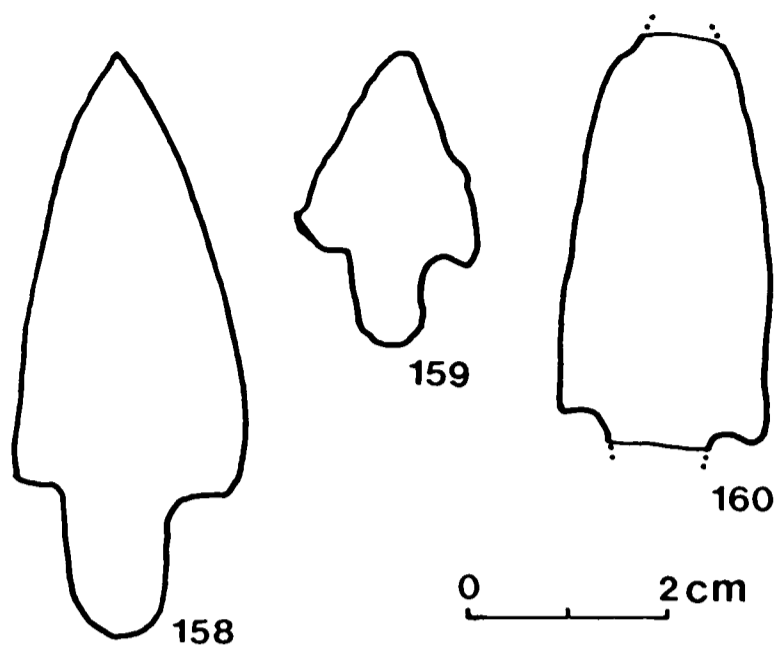
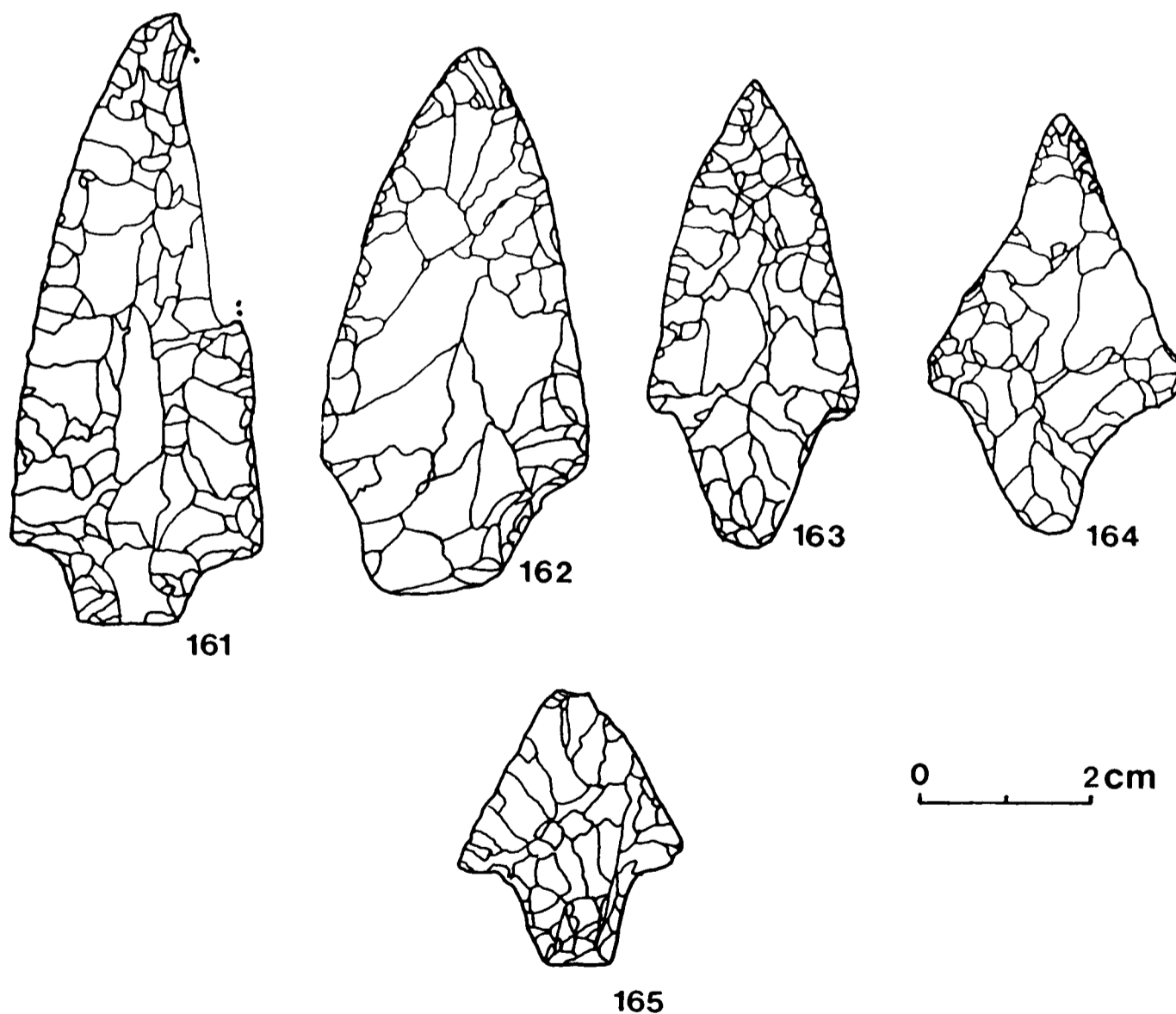


Fig. 66. 135-157. Final Neolithic/early Copper Age arrowheads from I Fossi, lower level (unpublished in Ancona Museum).



158-160. Middle-late Copper Age arrowheads from I Fossi, central stratum (unpublished in Ancona Museum).



161-165. Middle-late Copper Age arrowheads from Le Conelle (after Cazzella 1987).

Fig. 67. Middle-late Copper Age arrowheads from Marche.

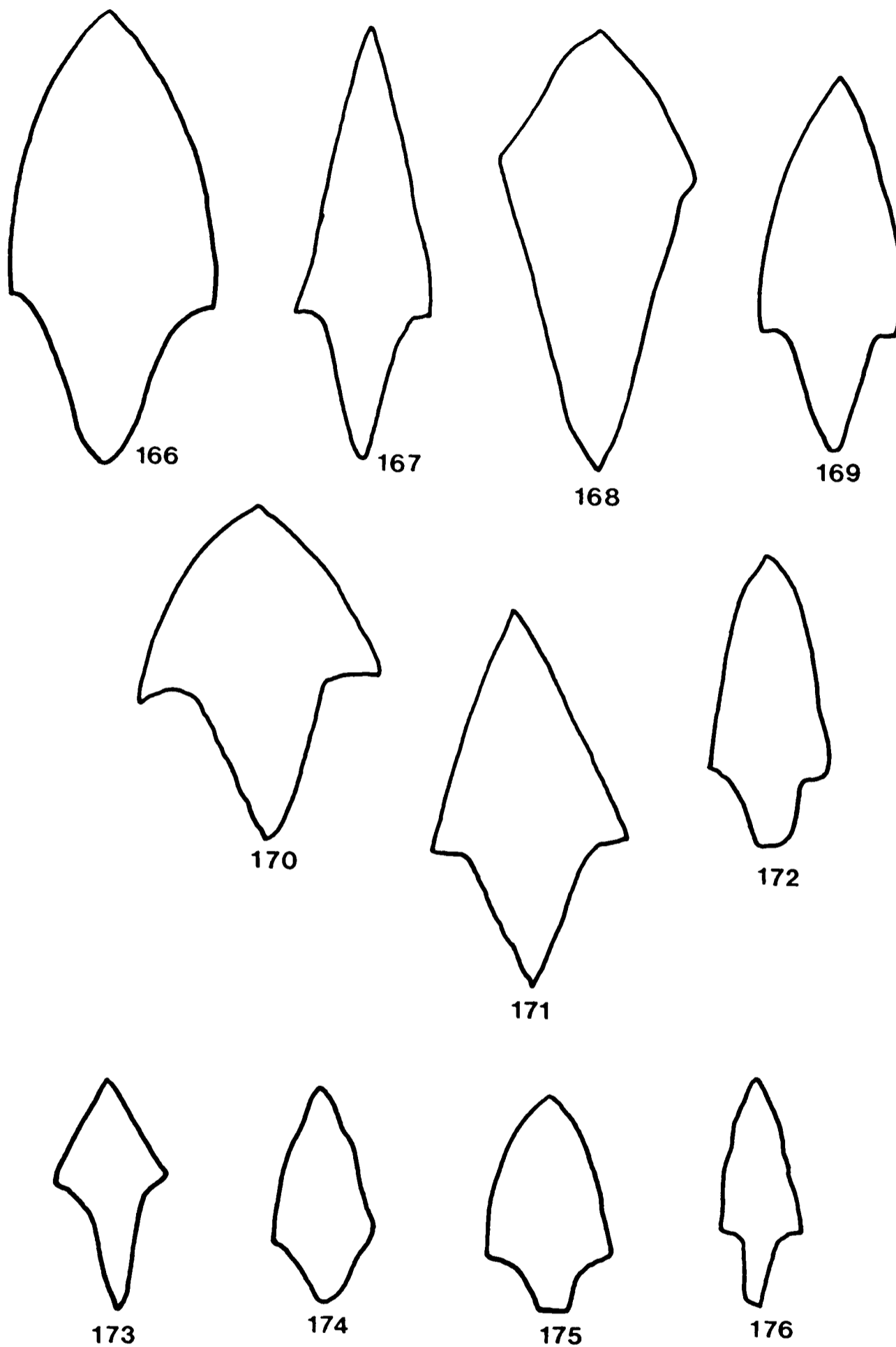
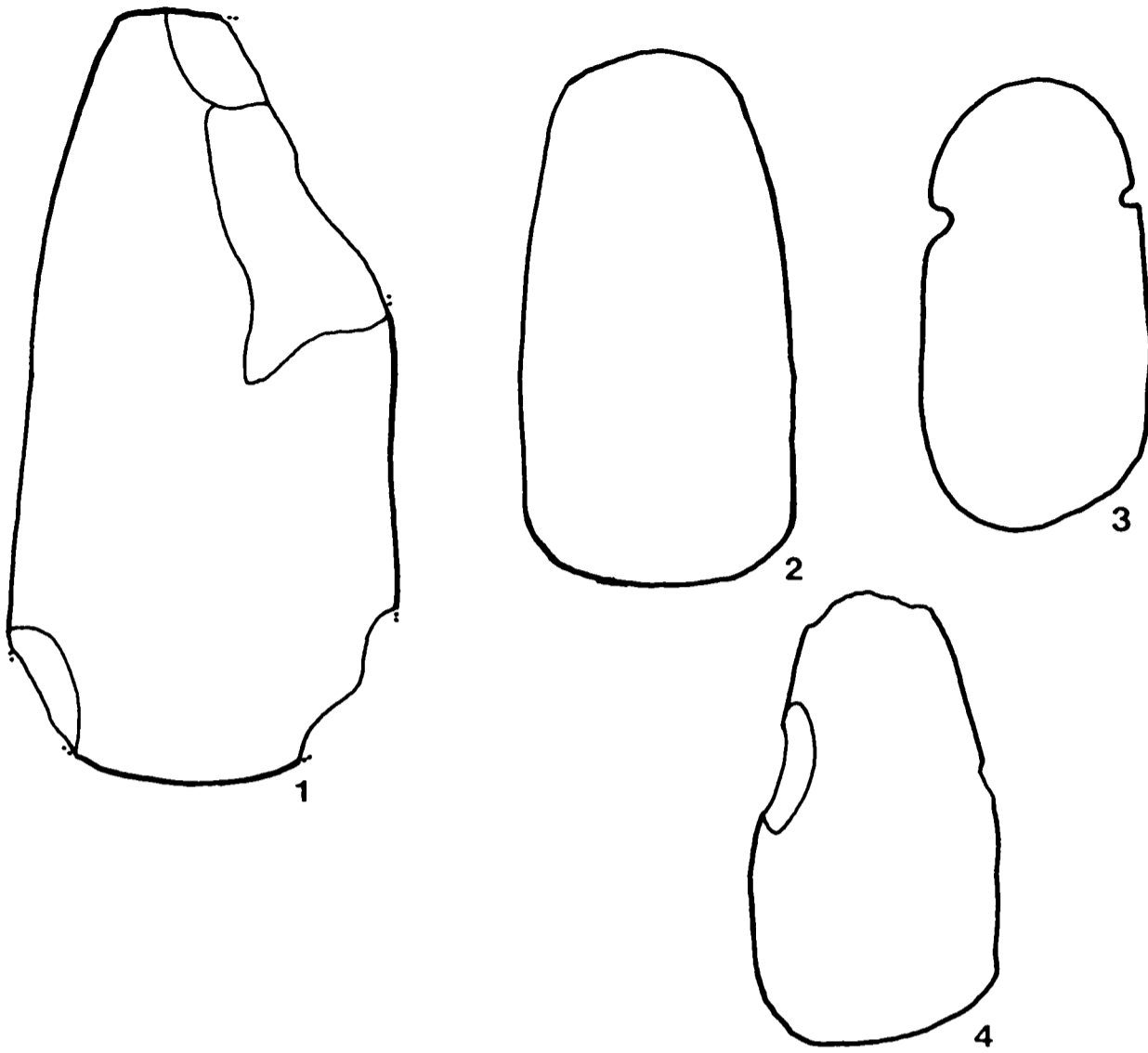


Fig. 68. 166-176. Middle-late Copper Age arrowheads from Le Conelle (166-172 after Puglisi 1959; 173-176 after Puglisi 1965b).



0 4cm

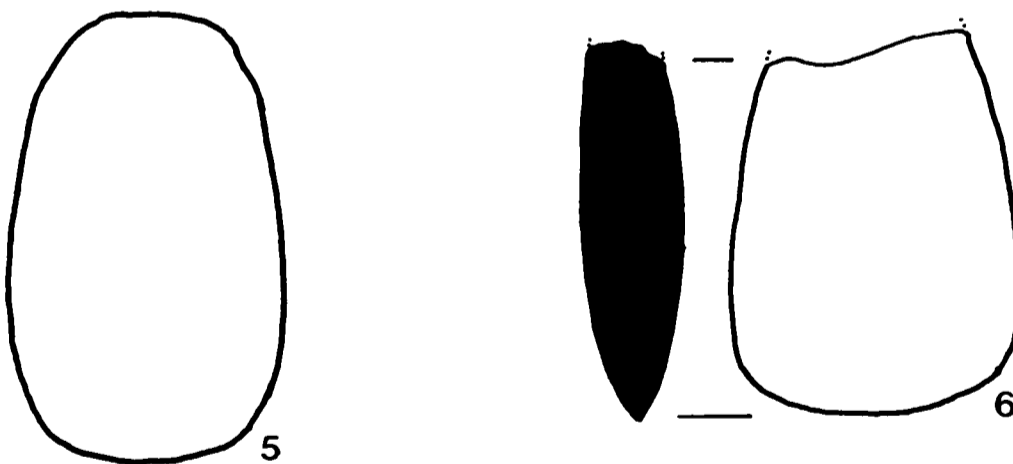


Fig. 69. Early Neolithic axes from Abruzzo.

1-4. Early Neolithic axes from Villaggio Rossi (after Geniola 1982b), 5. Early Neolithic axe from Grotta dei Piccioni (after Cremonesi 1976). 6. Early Neolithic axe from Fontanelle (after Ducci et al. 1986-7).

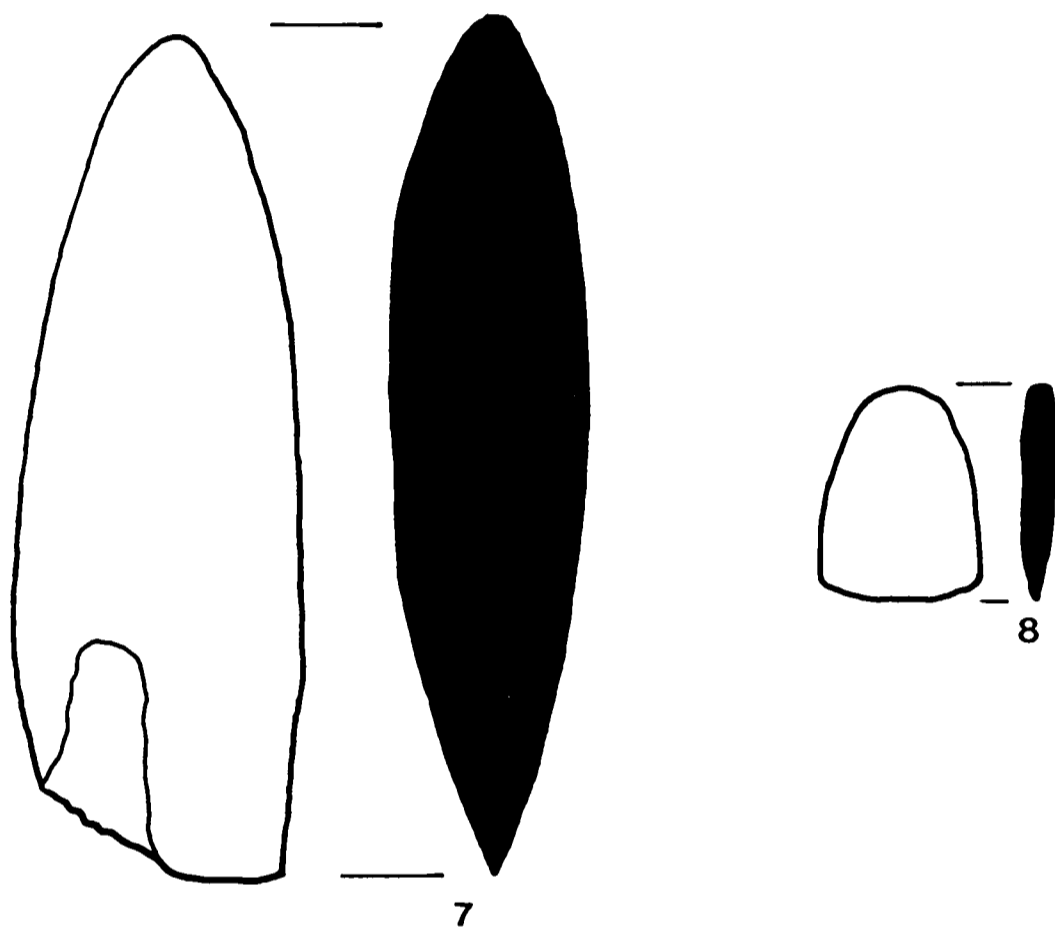


Fig. 70. 7-8. Early Neolithic axes from Ripabianca (after Barker 1981a).

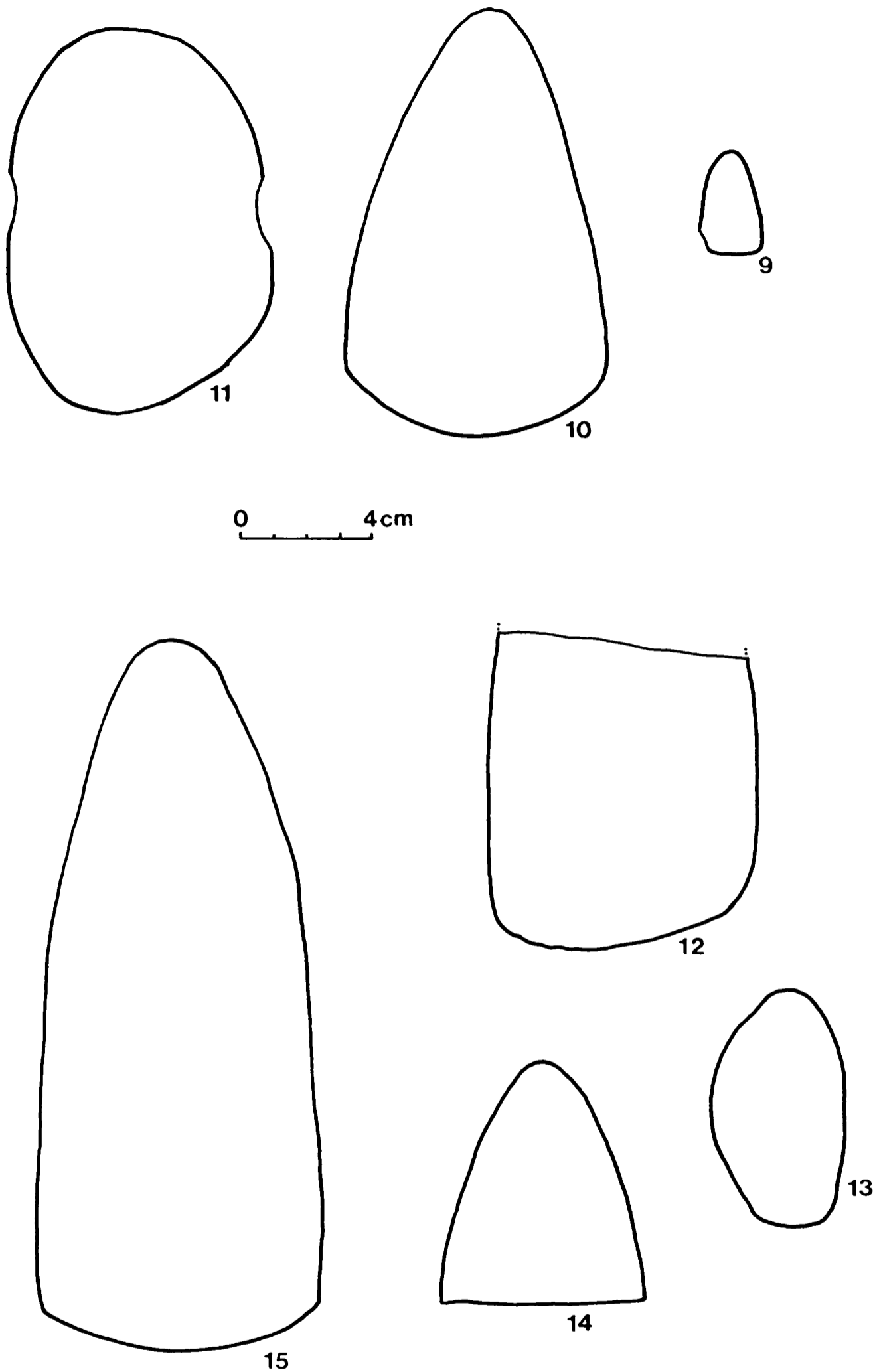


Fig. 71. Late Neolithic - final Neolithic/early Copper Age axes from Abruzzo.

9-11. Late Neolithic - final Neolithic/early Copper Age axes from Ripoli (after Radmilli 1981), 12-15. Late Neolithic - final Neolithic/early Copper Age axes from Grotta dei Piccioni, spits 17-12 (after Cremonesi 1976).

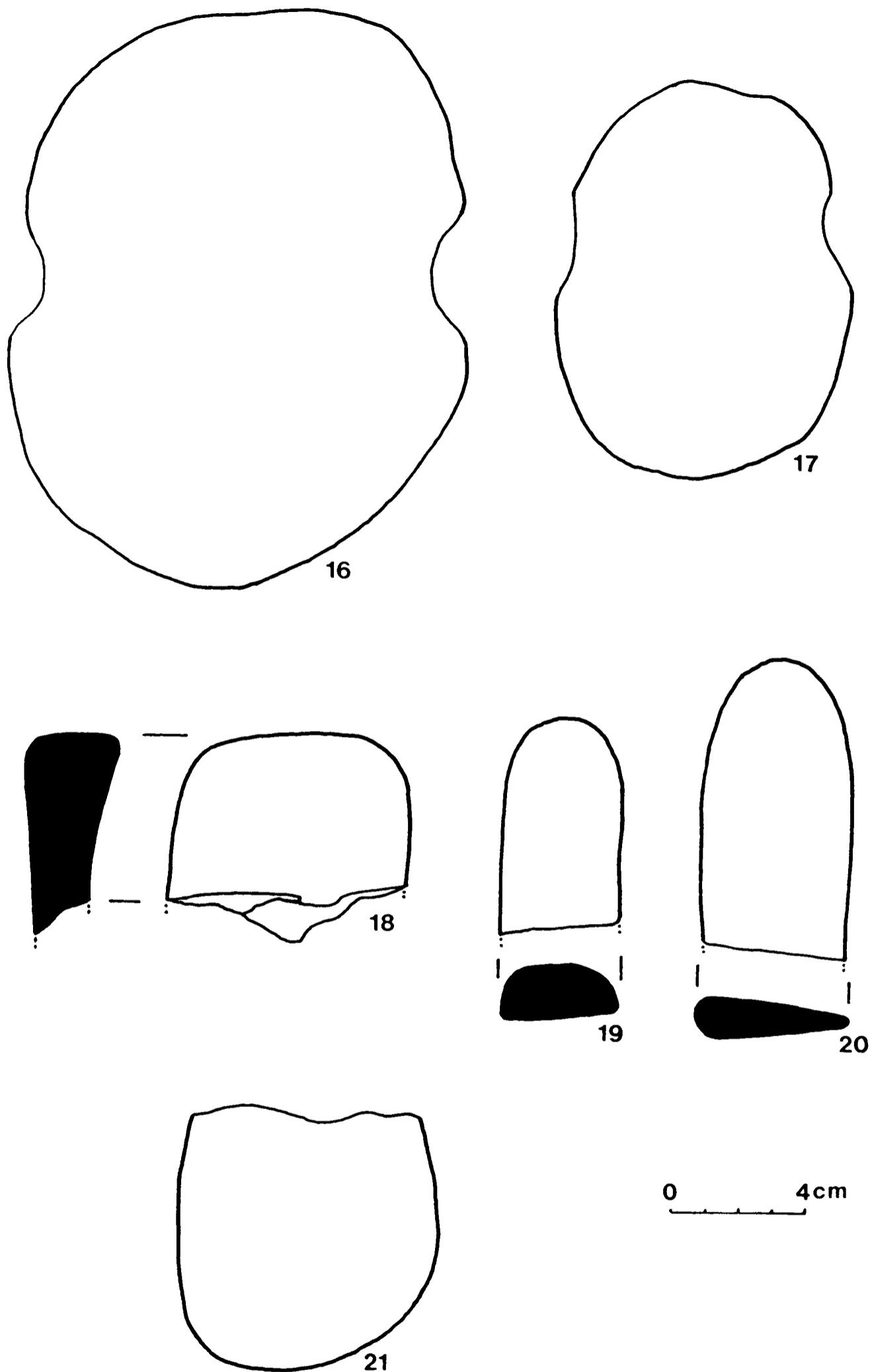


Fig. 72. Late Neolithic - final Neolithic/early Copper Age axes from Abruzzo and Marche.

16-17. Late Neolithic - final Neolithic/early Copper Age axes from Grotta dei Piccioni, spits 17-12 (after Cremonesi 1976), 18-20. Final Neolithic/early Copper Age axes/grindstones from Monte Tinello (after Silvestrini Lavagnoli 1983), 21. Final Neolithic/early Copper Age axe from S. Maria in Selva (after Lollini 1965).

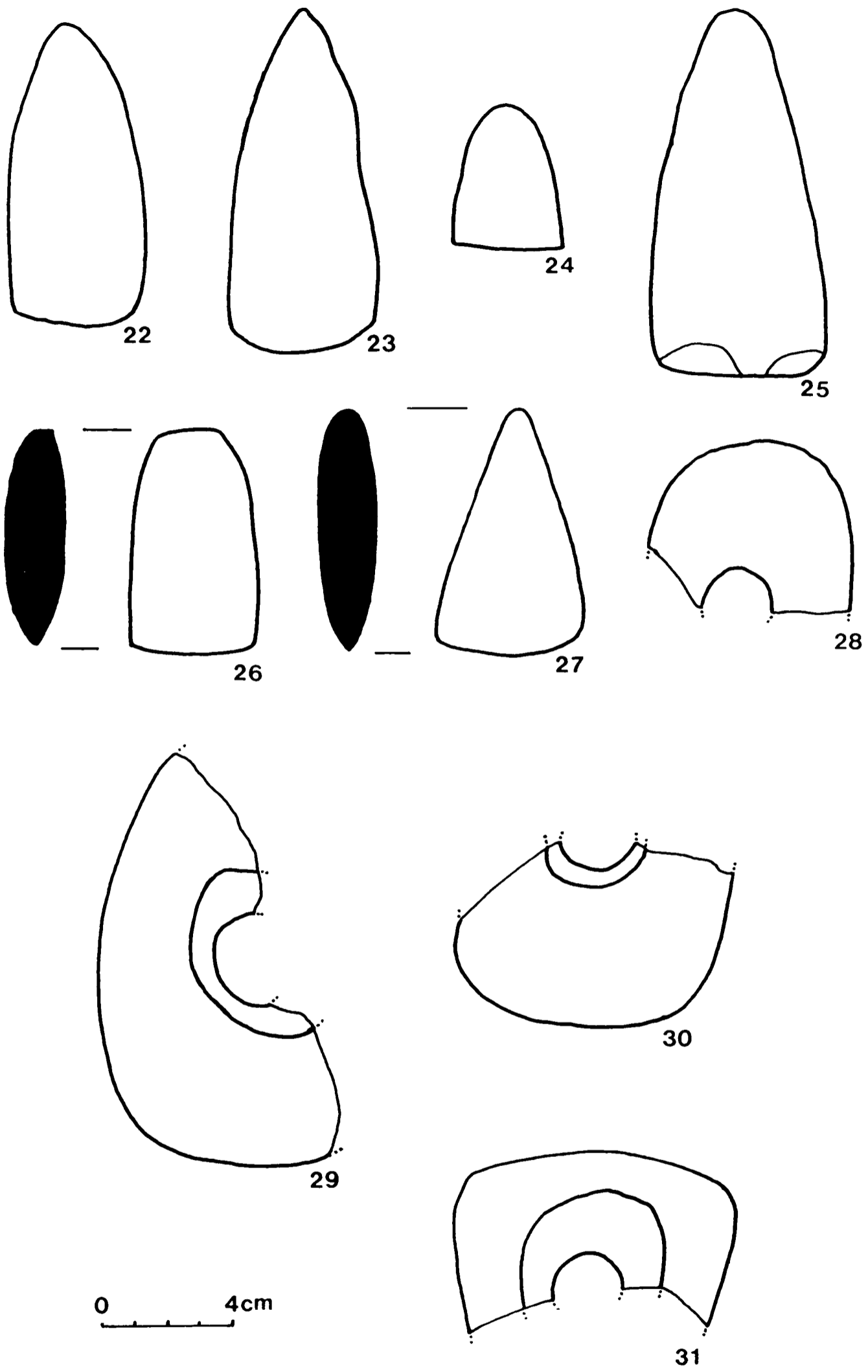


Fig. 73. Copper Age axes from Marche and Abruzzo.

22-28. Final Neolithic/early Copper Age axes from S. Biagio (22-25 unpublished in Fano Museum; 26-27 unpublished in Pigorini Museum, Rome; 28 unpublished in Bologna Museum), 29-30. Late Copper Age axes from Ortucchio (after Tartaro 1979), 31. Middle Copper Age axe from Grotta dei Piccioni (after Cremonesi 1976).

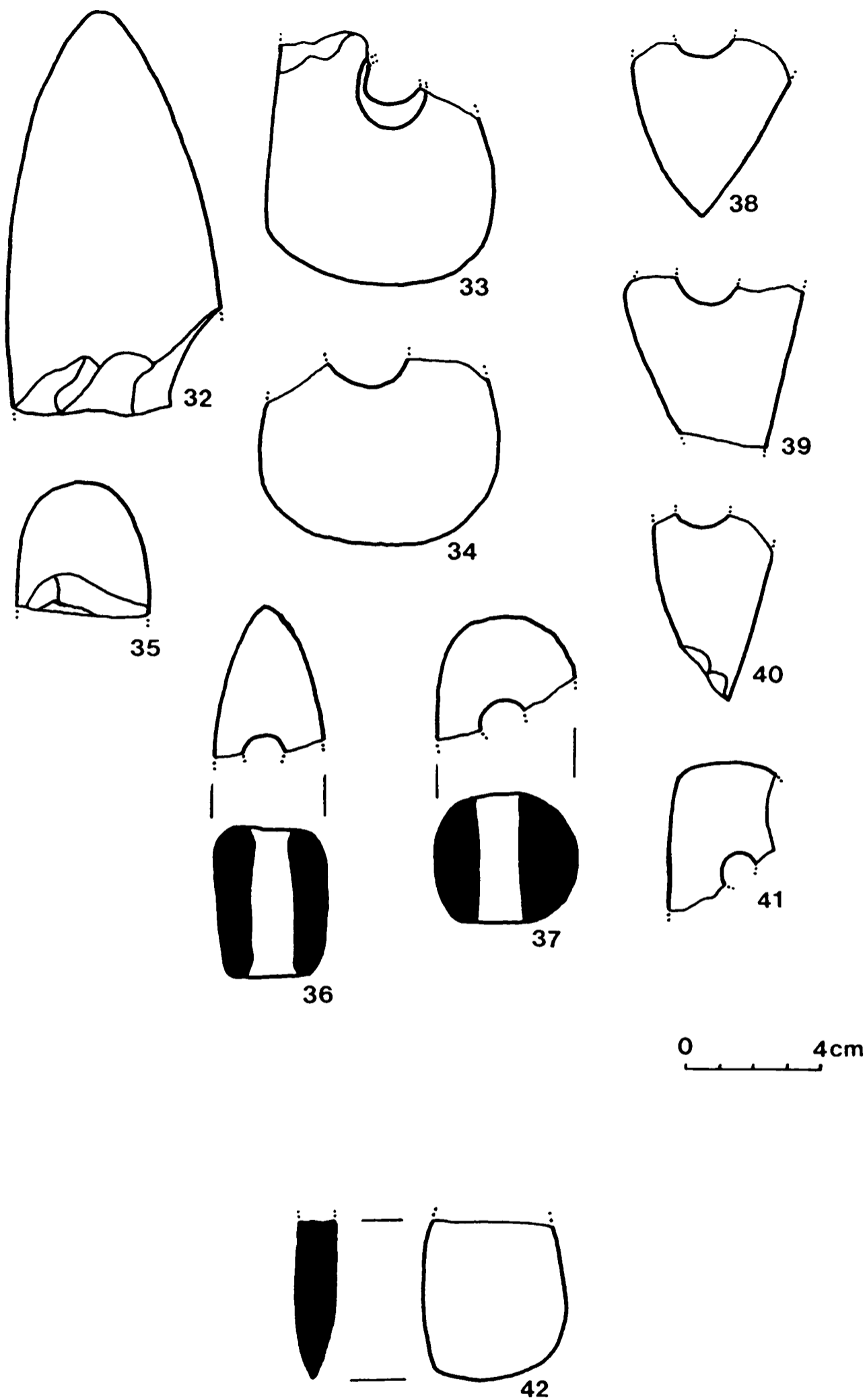


Fig. 74. Copper Age axes from Marche.

32-41. Middle-late Copper Age axes from Le Conelle (32 after Puglisi 1959; 36-37 after Puglisi 1965b; 33 after Lollini 1978; 34-35 and 38-41 after Cazzella 1987), 42. Final Neolithic/early Copper Age axe from Aquatina, central stratum (unpublished in Ancona Museum).

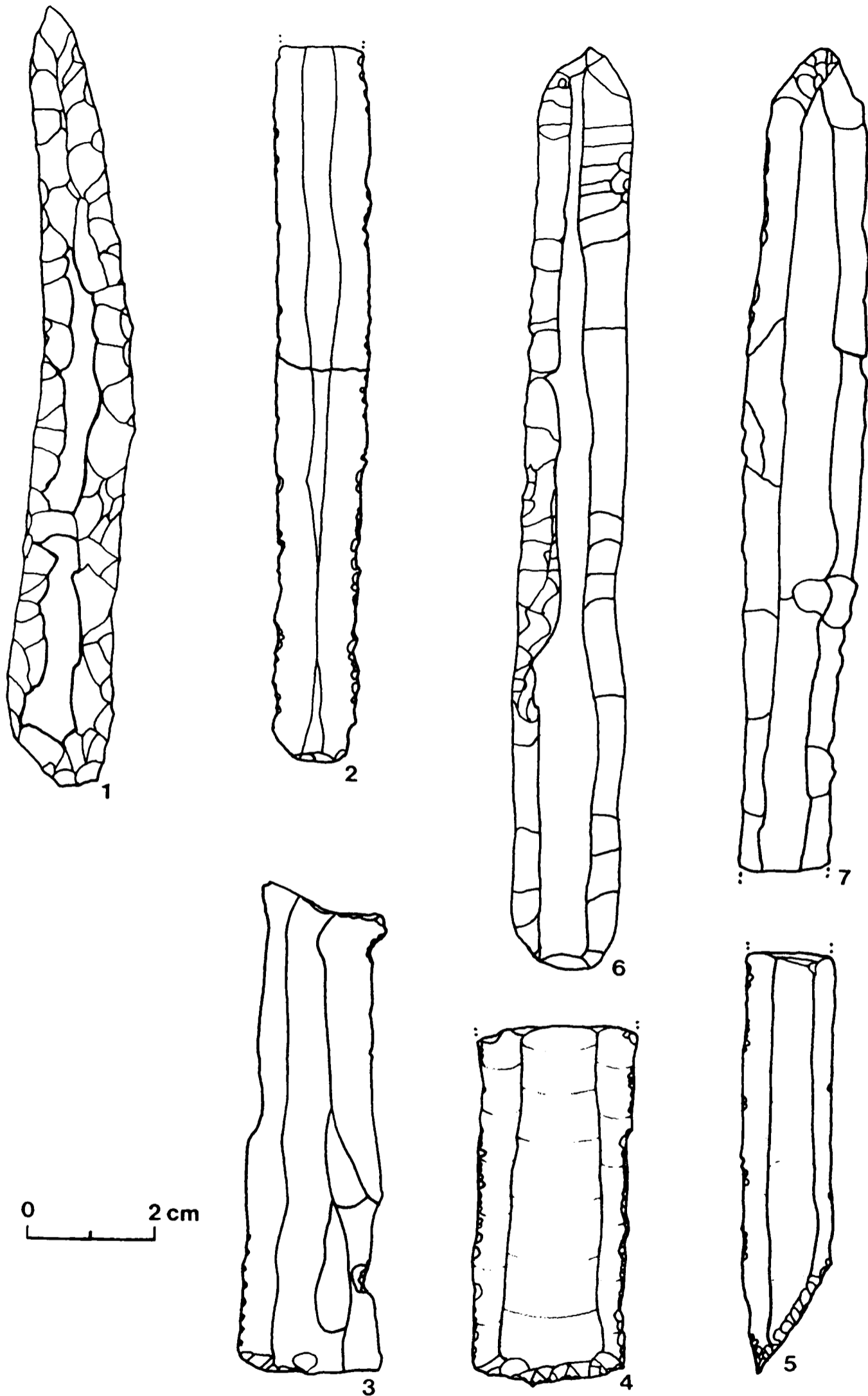


Fig. 75. Late Neolithic - late Copper Age long retouched blades from Abruzzo.

1. Grotta dei Piccioni (after Cremonesi 1976), 2. Ripoli, cavity 9 (after Cremonesi 1965), 3. Ripoli, cavity 11 (after Cremonesi 1965), 4-5. Fossacesia (after Radmilli 1981), 6. Ortucchio (after Tartaro 1979), 7. Piane (after Rosa 1871).

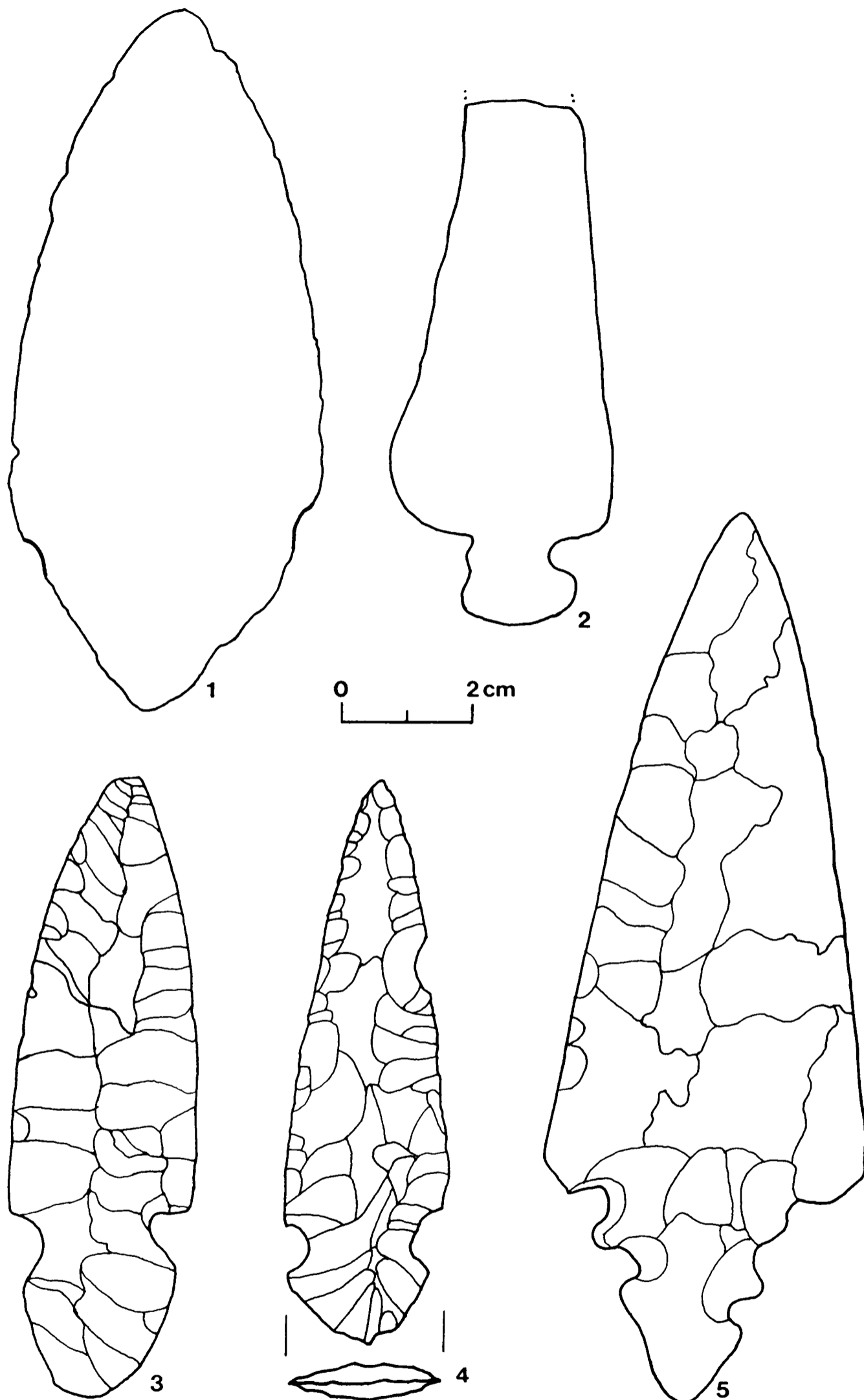


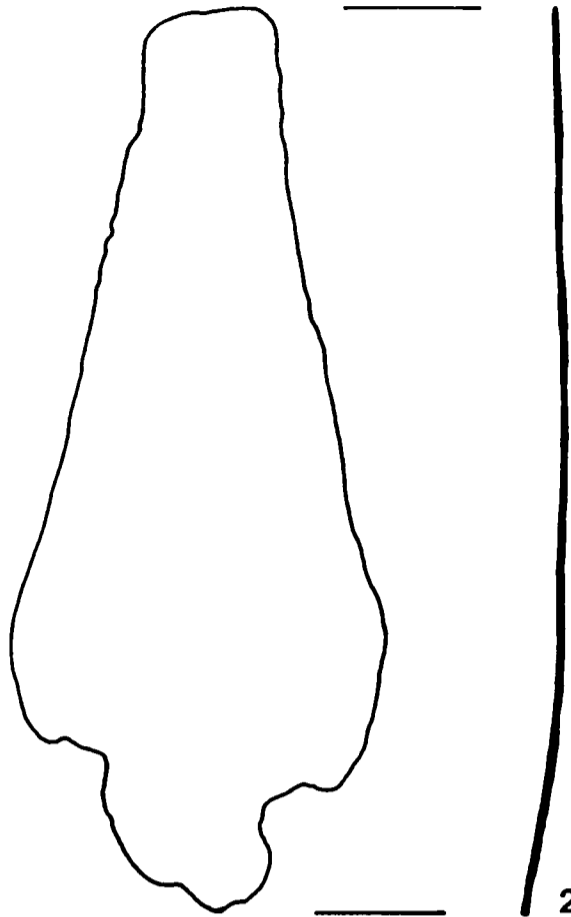
Fig. 76. Notched flint daggers from Abruzzo and Marche.

1. Salle (unpublished in the Pigorini Museum, Rome), 2. Gaglianovo (unpublished in S. Severino Marche Museum), 3. Villa Ripa (after Colini 1910), 4. Sulmona basin (after Mattiocco 1981), 5. Vescovara, tomb 1 (after Annibaldi 1951-2).



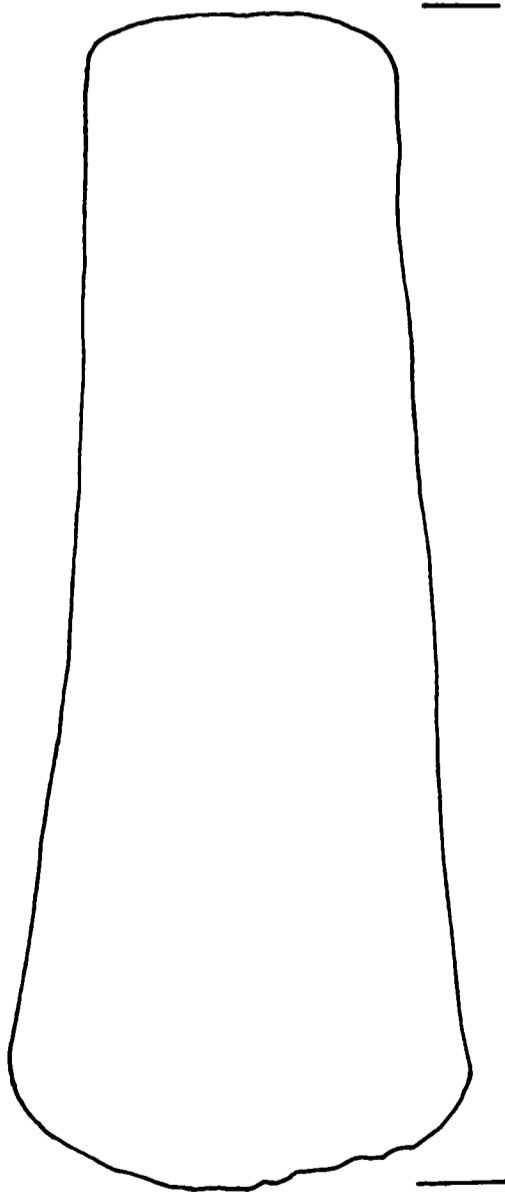
1

1. Awl from Fossacesia (after Radmilli 1981).

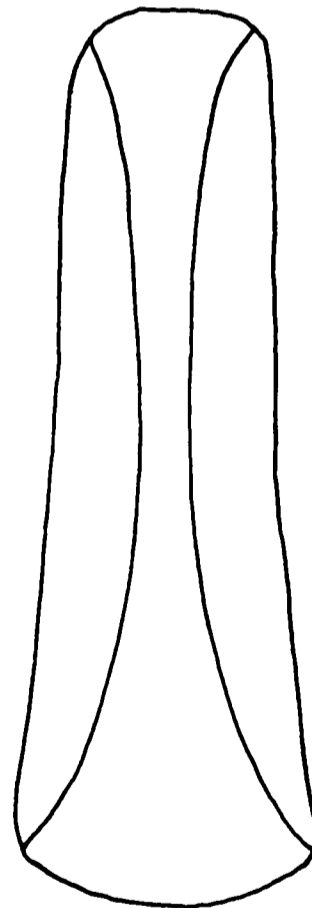


2

2. Notched dagger from Salle (unpublished in the Pigorini Museum).



3



4

0 2 cm

3. Flat axe from S. Rocco (unpublished in the Pigorini Museum), 4. Flat axe from Camerata (unpublished in the Pigorini Museum).

Fig. 77. Final Neolithic - late Copper Age copper artefacts from Abruzzo and Marche.

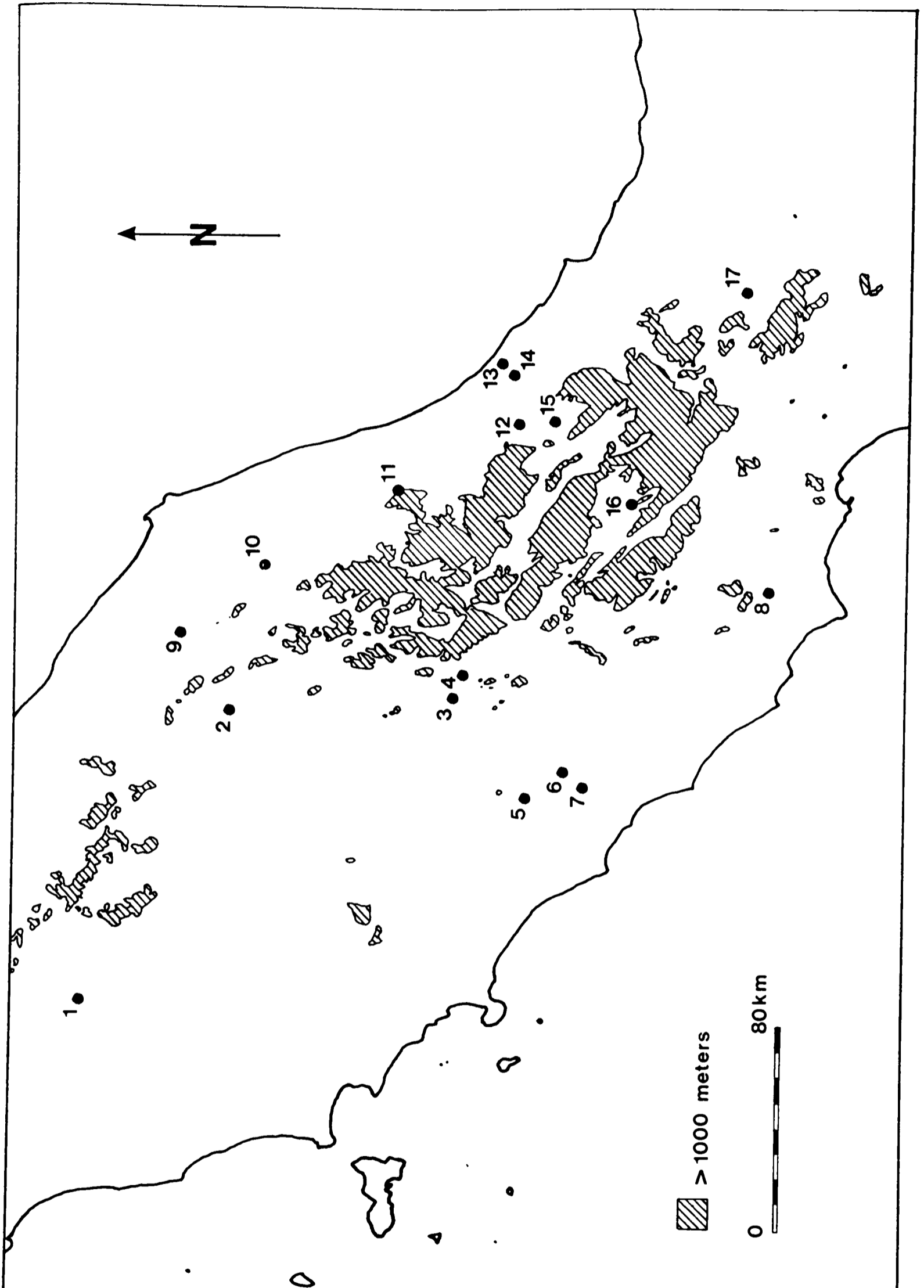
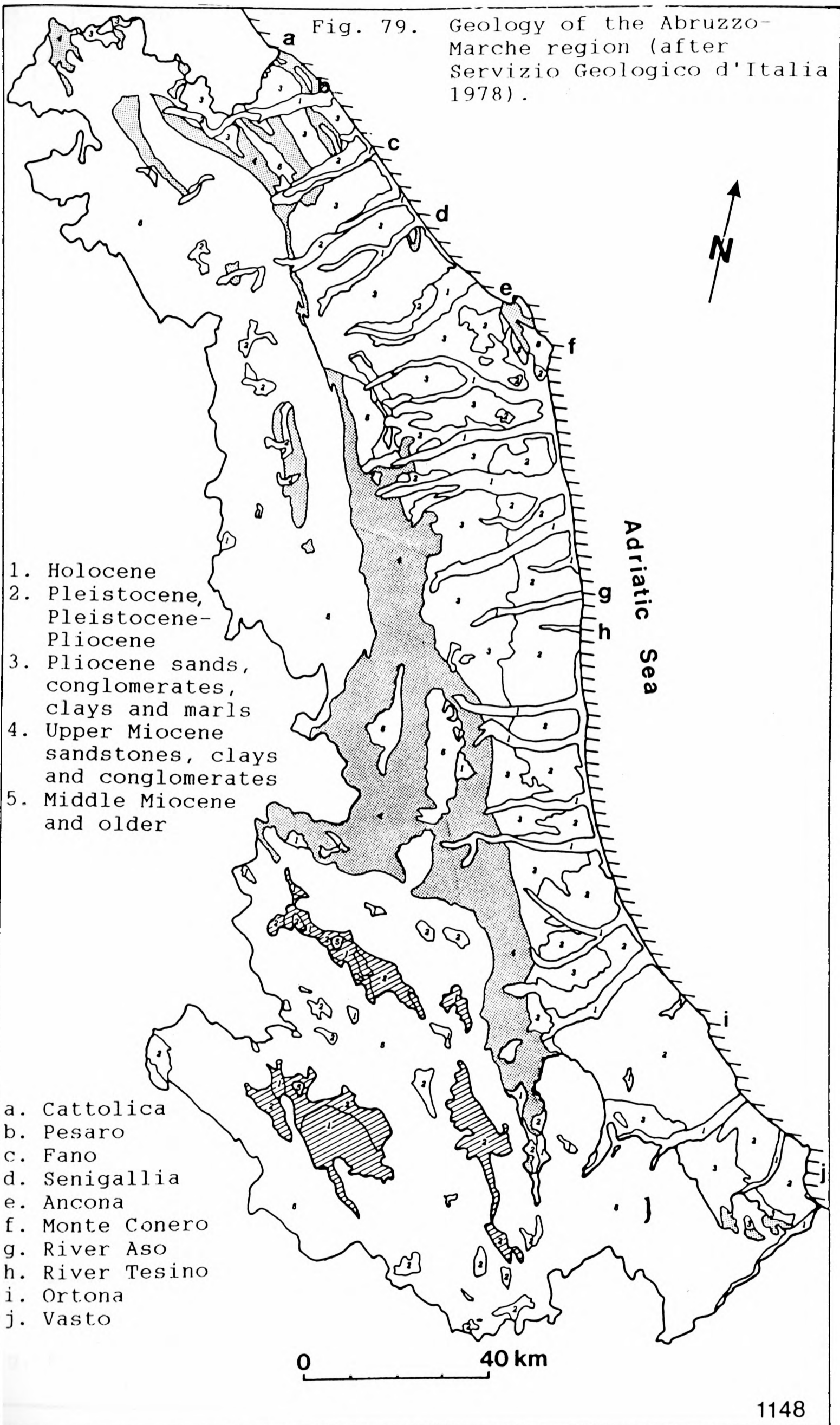


Fig. 78. Sources of environmental data for the Neothermal in central Italy.

1. Neto di Bolasse, 2. S. Marco, 3. Grotta Bella, 4. Piedeluco, 5. Lake Vico, 6. Lake Monterosi, 7. Lake Bracciano, 8. Mezzaluna, 9. Le Conelle, 10. Casone, 11. Grotta S. Angelo, 12. Catignano, 13. Fontanelle, 14. Tricalle, 15. Grotta dei Piccioni, 16. Grotta S. Nicola, 17. upper Biferno valley.

Fig. 79. Geology of the Abruzzo-Marche region (after Servizio Geologico d'Italia 1978).



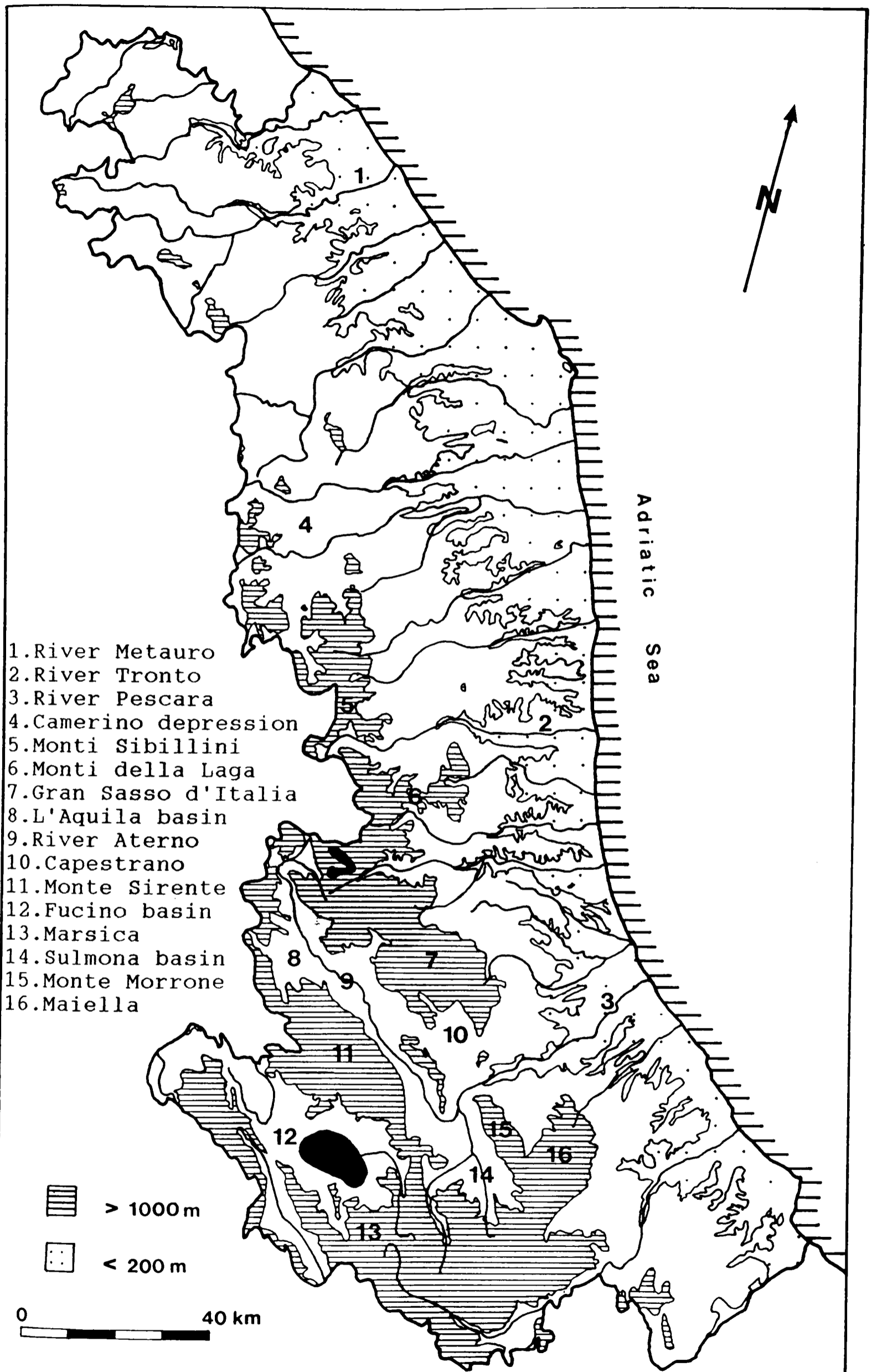


Fig. 80. General topography and hydrology of the Abruzzo-Marche region.

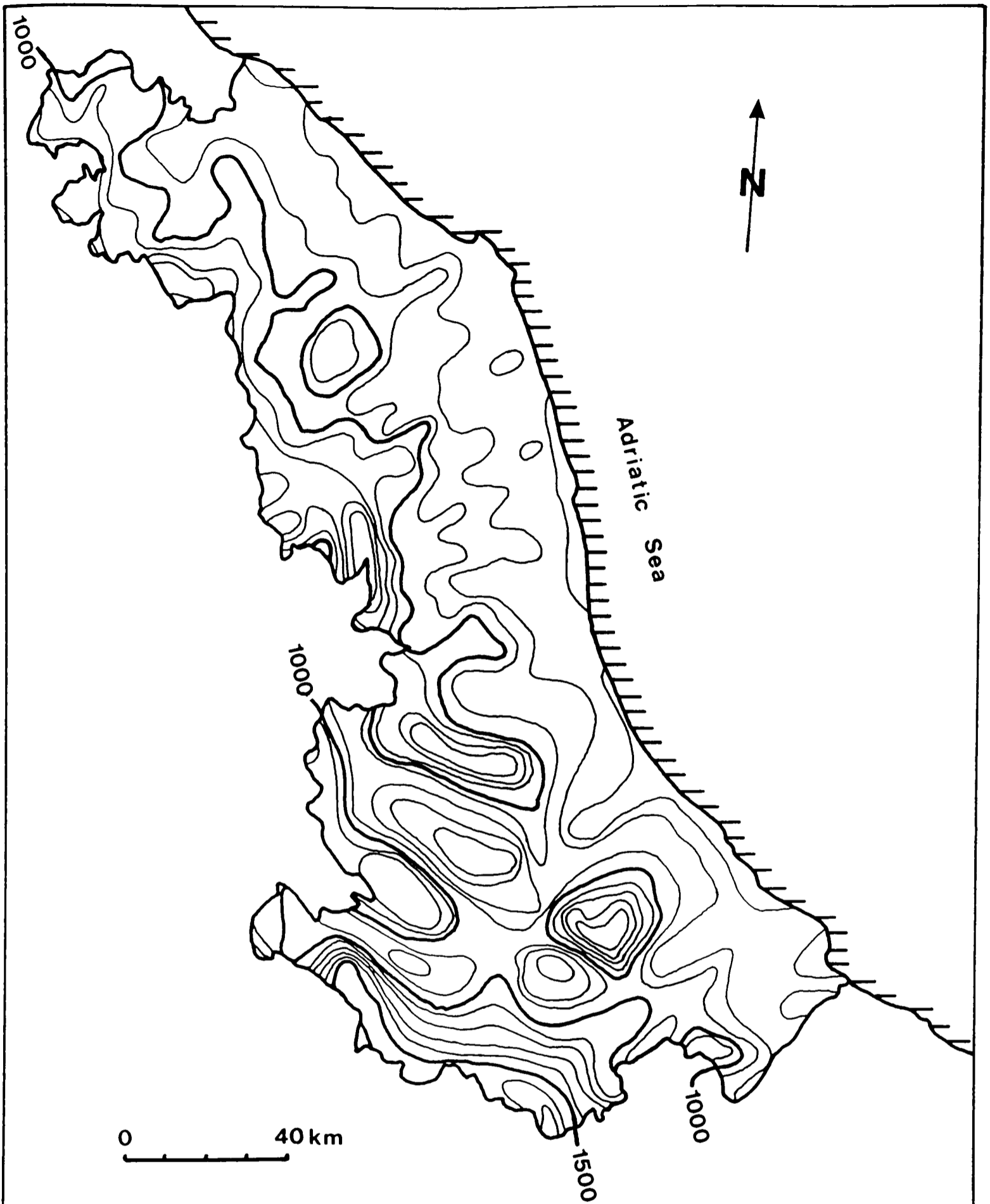


Fig. 81. Average annual precipitation between 1921 and 1950 in the Abruzzo-Marche region (after Bevilacqua 1961 and Fondi 1977).

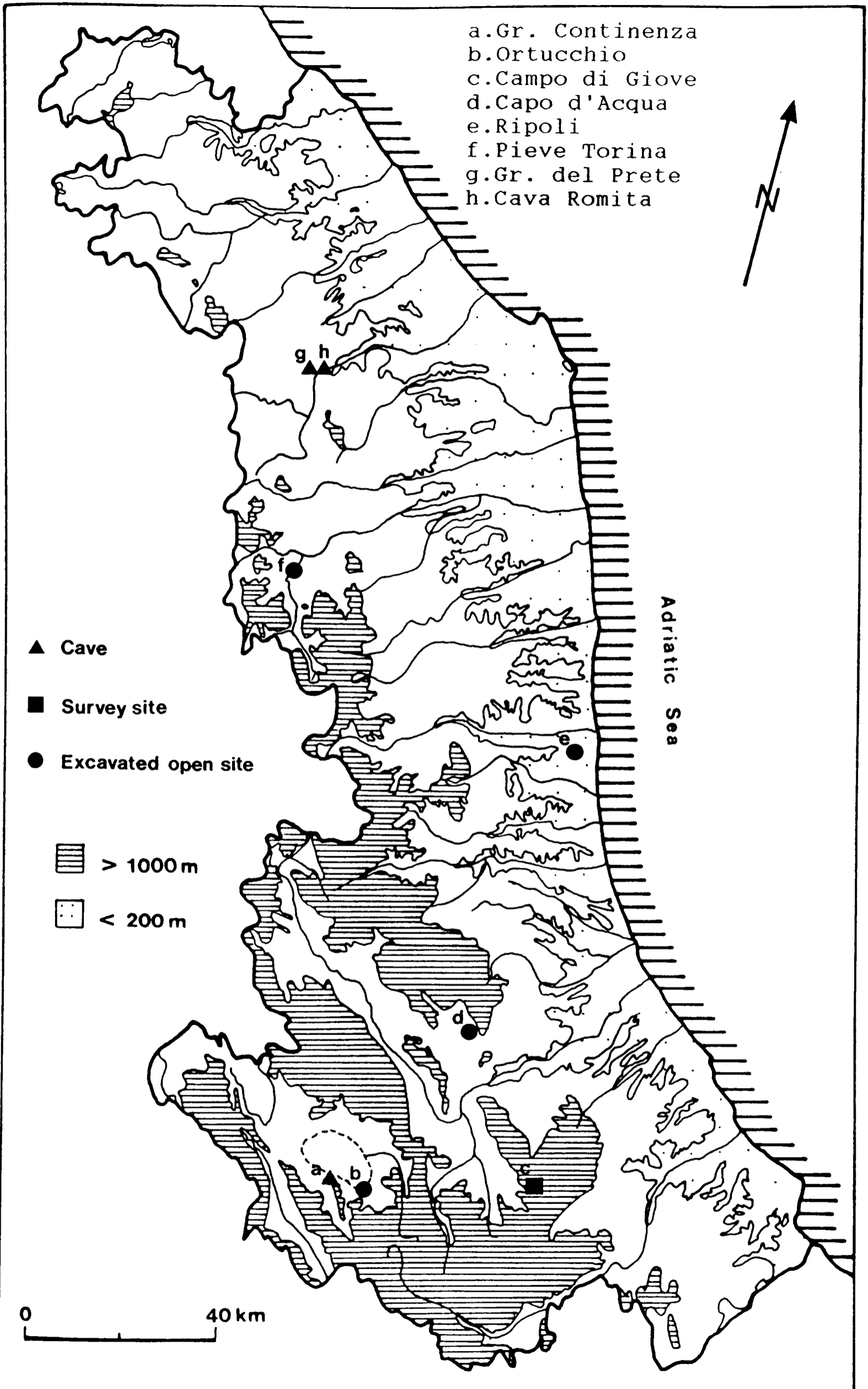


Fig. 82. Mesolithic sites in the Abruzzo-Marche region.

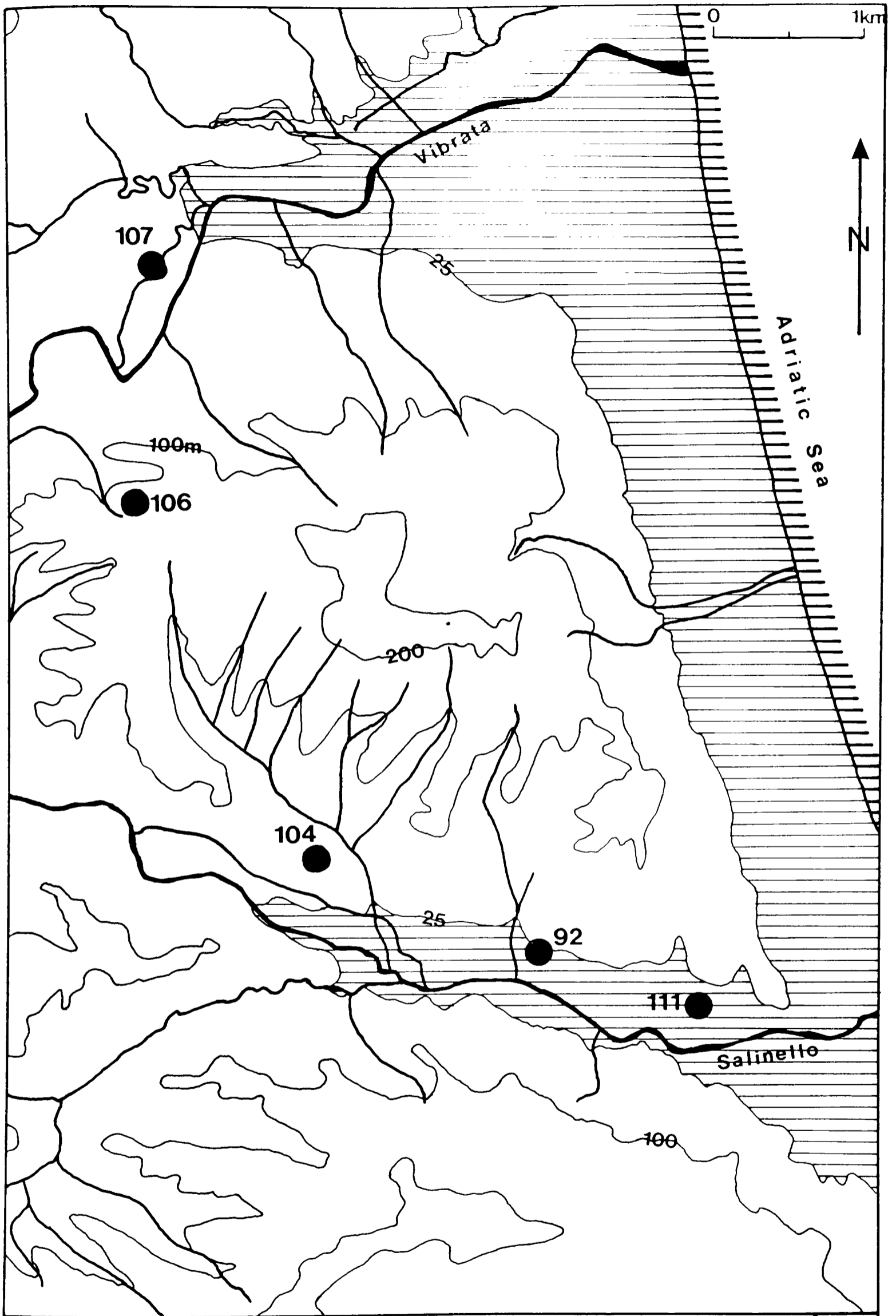


Fig. 83. Mesolithic - Copper Age sites along the Salinello and Vibrata valleys [TE].

92. Ferri, 104. Pianaccio, 106. Pizzotondo, 107. Ripoli, 111. S. Donato. (The numbers equate to the site serial numbers used in Appendix 1.)

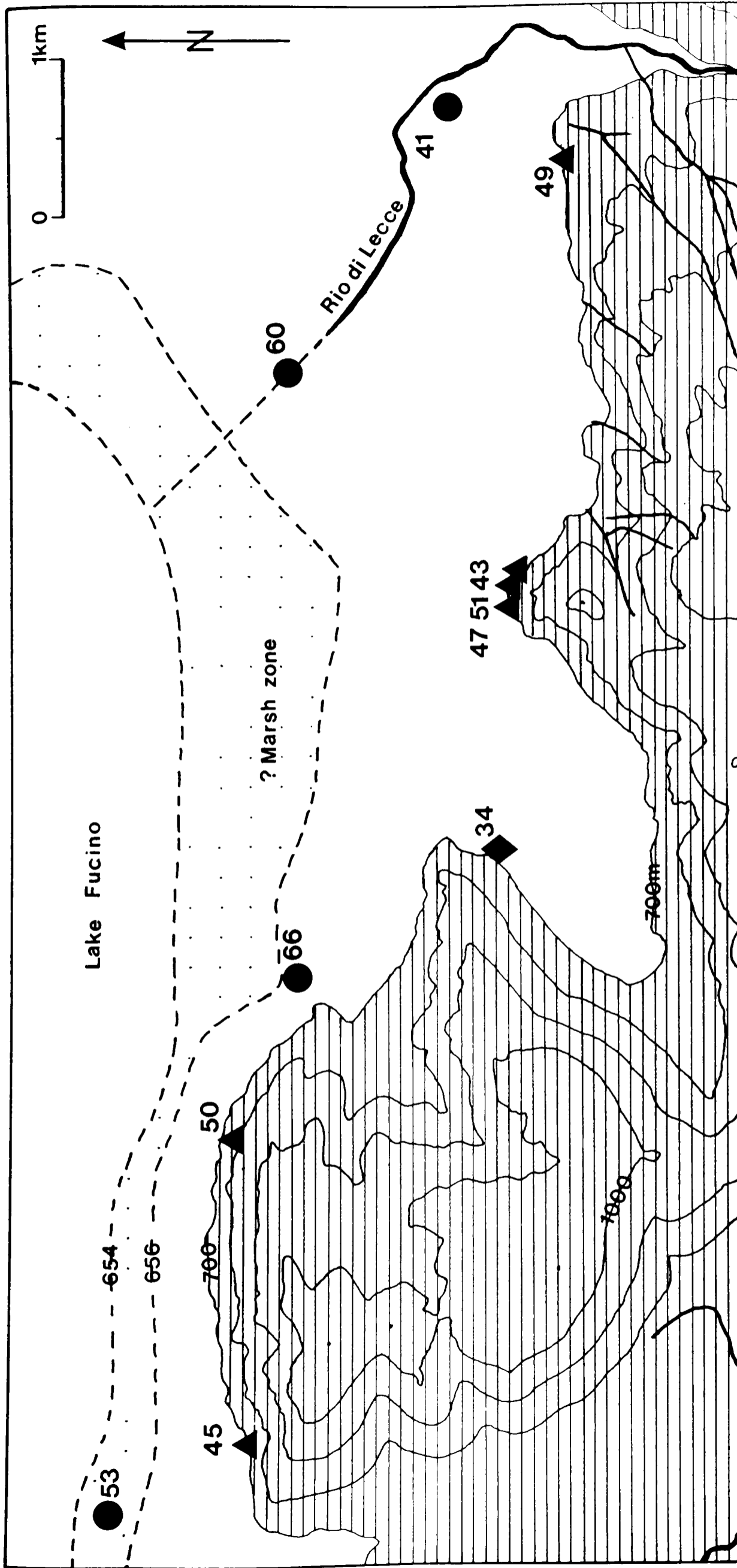


Fig. 84. Mesolithic - Copper Age sites in the Fucino basin [AQ].

34. Arciprete, 41. Colle S. Stefano, 43. Grotta la Cava, 45. Grotta Continenza, 47. Grotta Maritza, 49. Grotta di Ortucchio, 50. Grotta S. Nicola, 51. Grotta la Punta, 53. Il Molino, 60. Ortucchio, 66. S. Ruffino. (The numbers equate to the site serial numbers used in Appendix 1.)

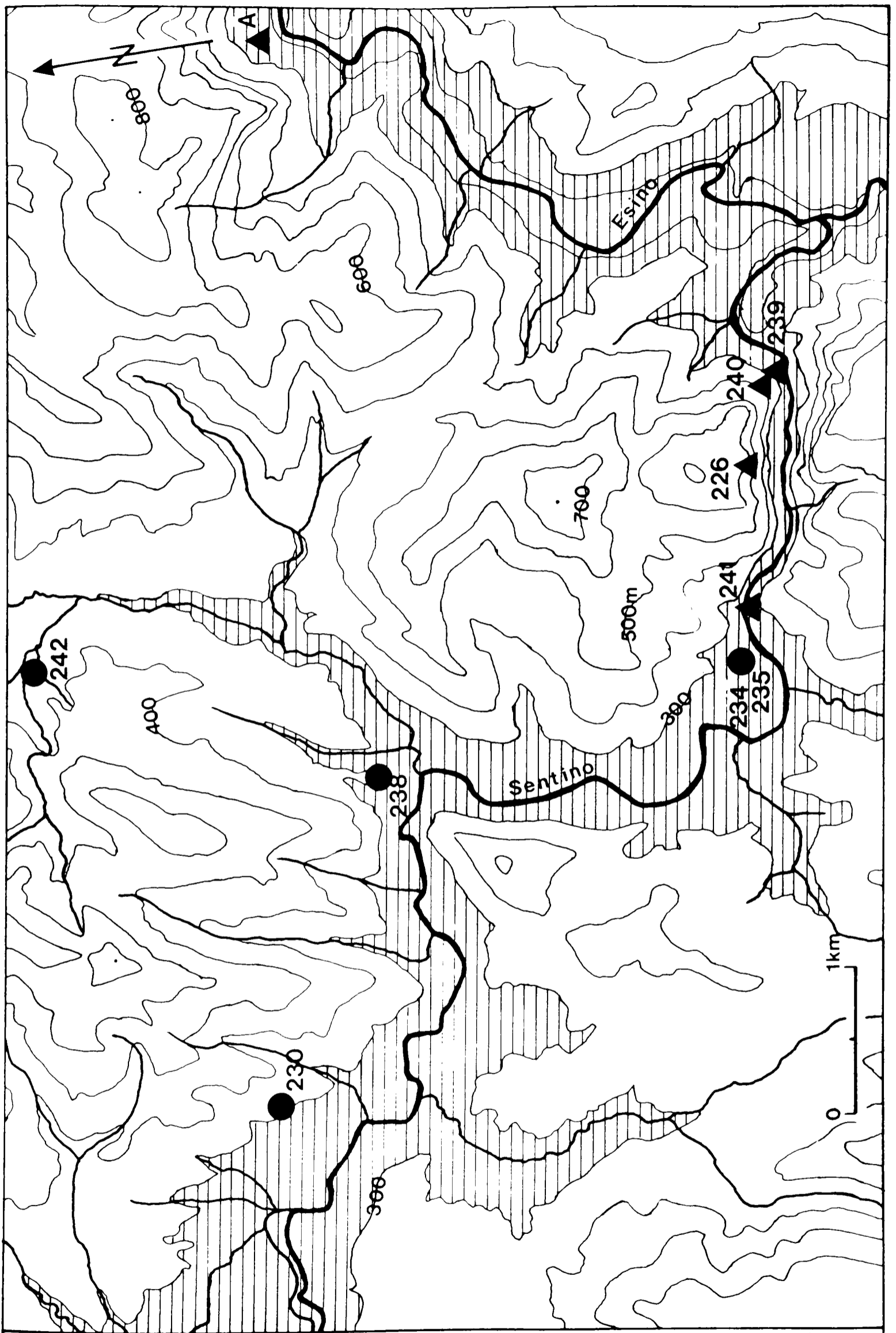


Fig. 85. Mesolithic Copper Age sites along the Sentino valley and gorge and along the upper section of the Esino valley [AN]. A. Cava Romita, 226. Caverna di Frasassi, 230. Donatelli, 234-5. Fondo Argenti and Fondo Coccia, Pianello, 238. Genga, 239. Grotta dei Baffoni, 240. Grotta del Mezzogiorno, 241. Grotta del Prete, 242. I Fossi, Pianacci. (The nos. equate to the site serial numbers used in App.1.)

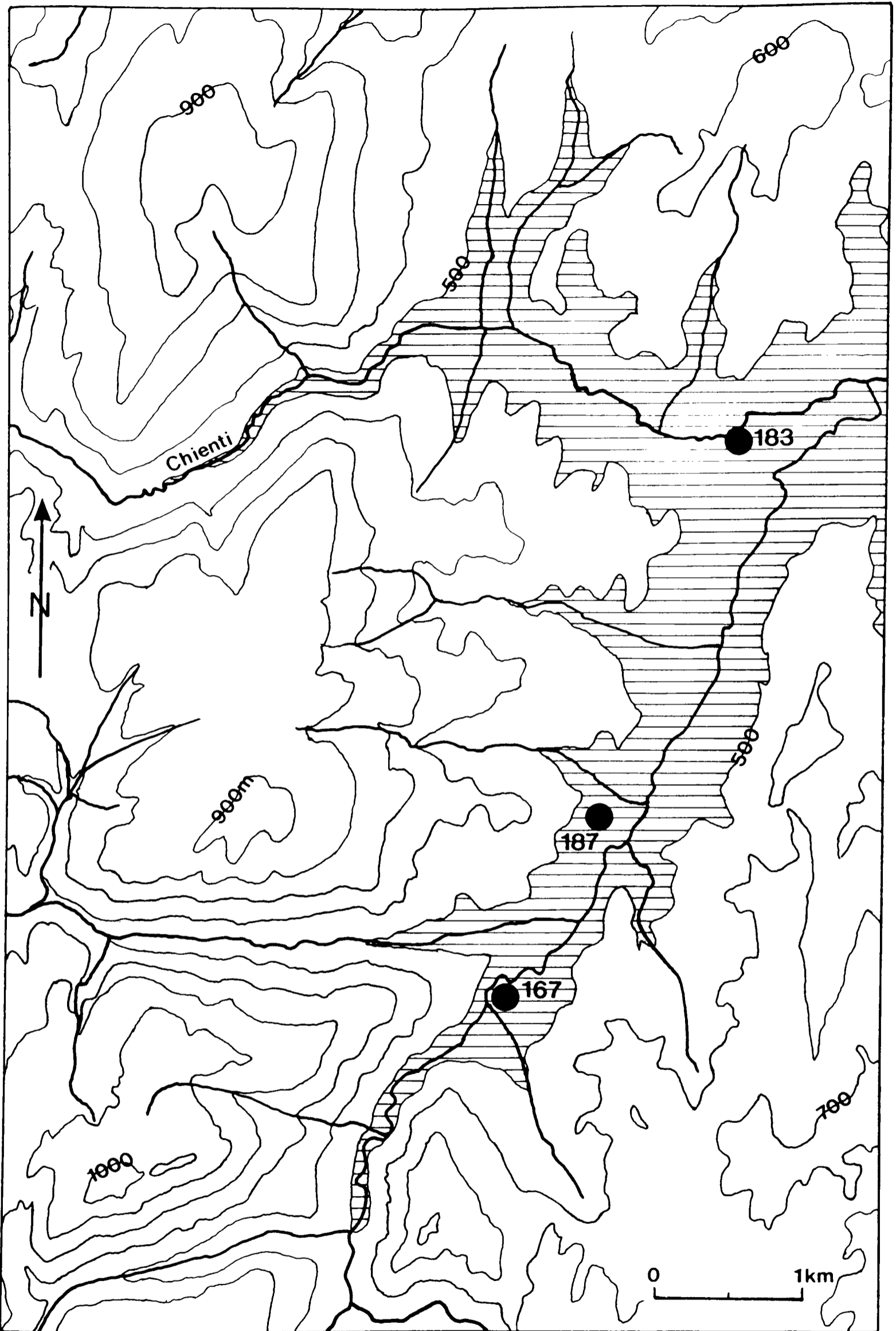
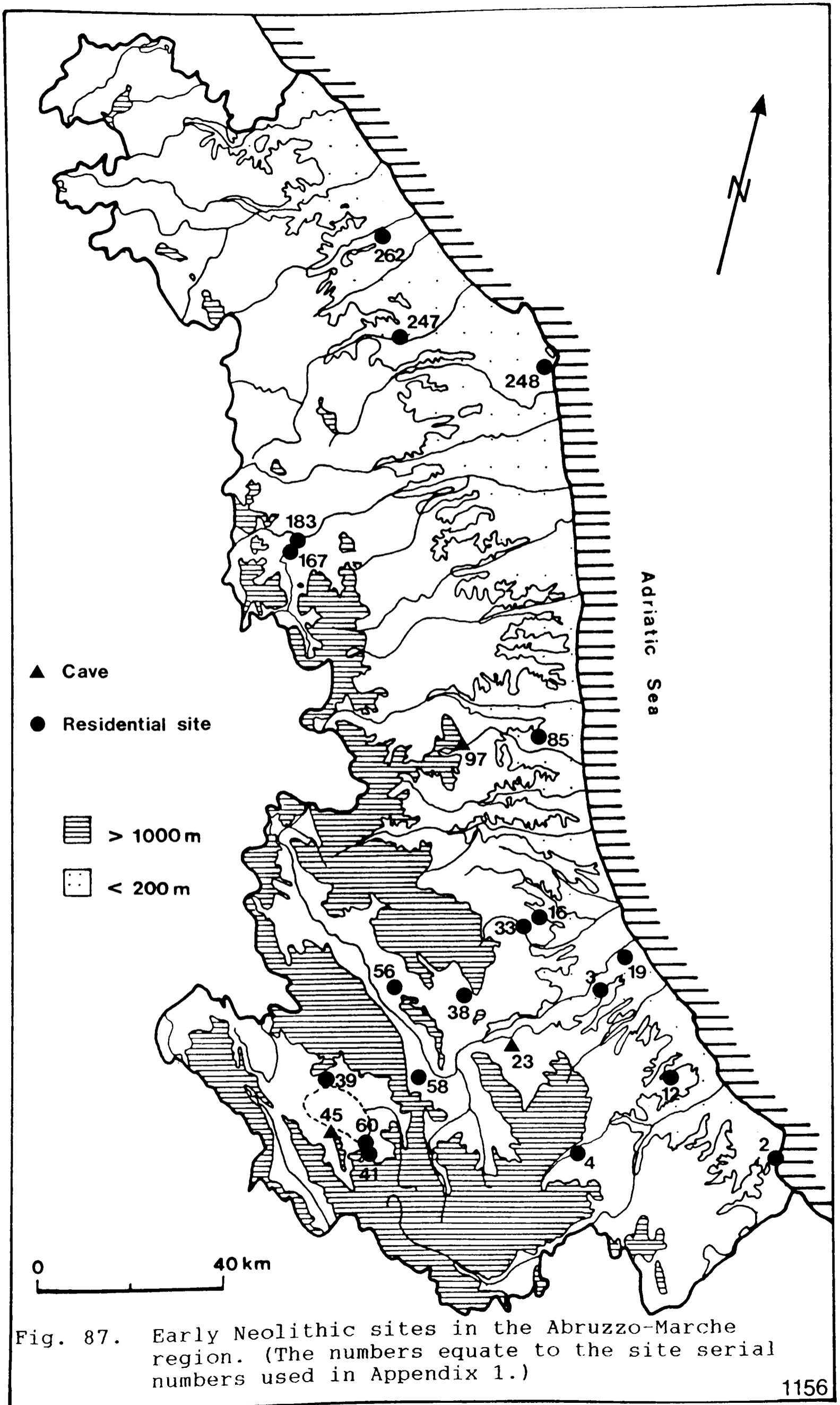
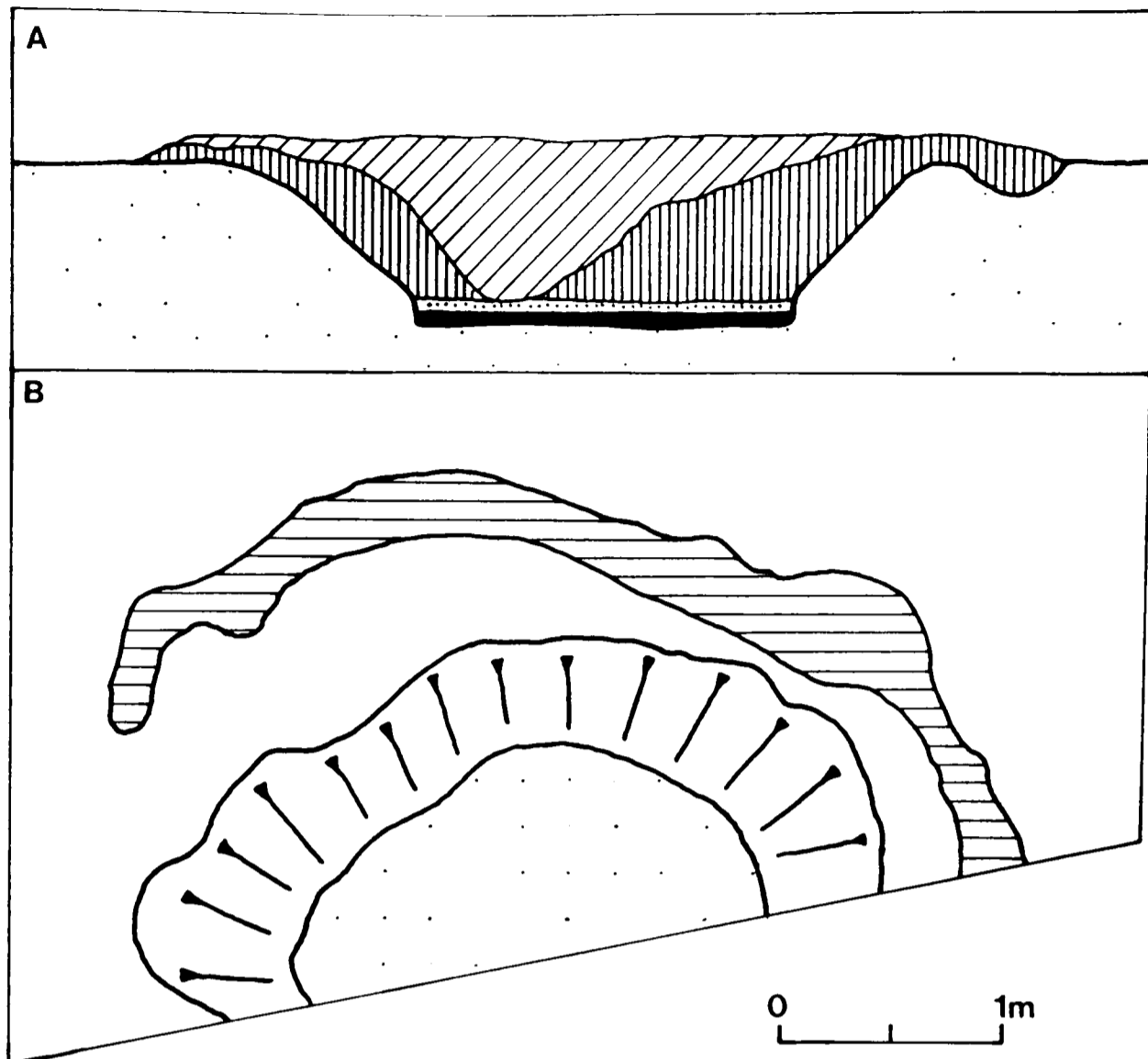


Fig. 86. Mesolithic - final Neolithic/early Copper Age sites along the Chienti valley [MC].

167. Campo Sportivo, 183. La Maddalena, 187. Lucciano. (The numbers equate to the site serial numbers used in Appendix 1.)





- | | |
|---|---|
| <p>A</p> <p>1 [white box] Topsoil</p> <p>2 [diagonal lines] Dark fill</p> <p>3 [vertical lines] Brown fill</p> <p>4.1 [dotted box] Compact soil & burnt sand</p> <p>4.2 [solid black box] Layer with charcoal</p> <p>5 [dotted box] Clay</p> | <p>B</p> <p>[horizontal lines box] Ditch</p> <p>[T-shaped box] Slope</p> <p>[dotted box] Compacted layer</p> |
|---|---|

Fig. 88. Early Neolithic cavity and ditch at Crocefisso (after Ducci et al. 1986-7).

A. Section, B. Plan.

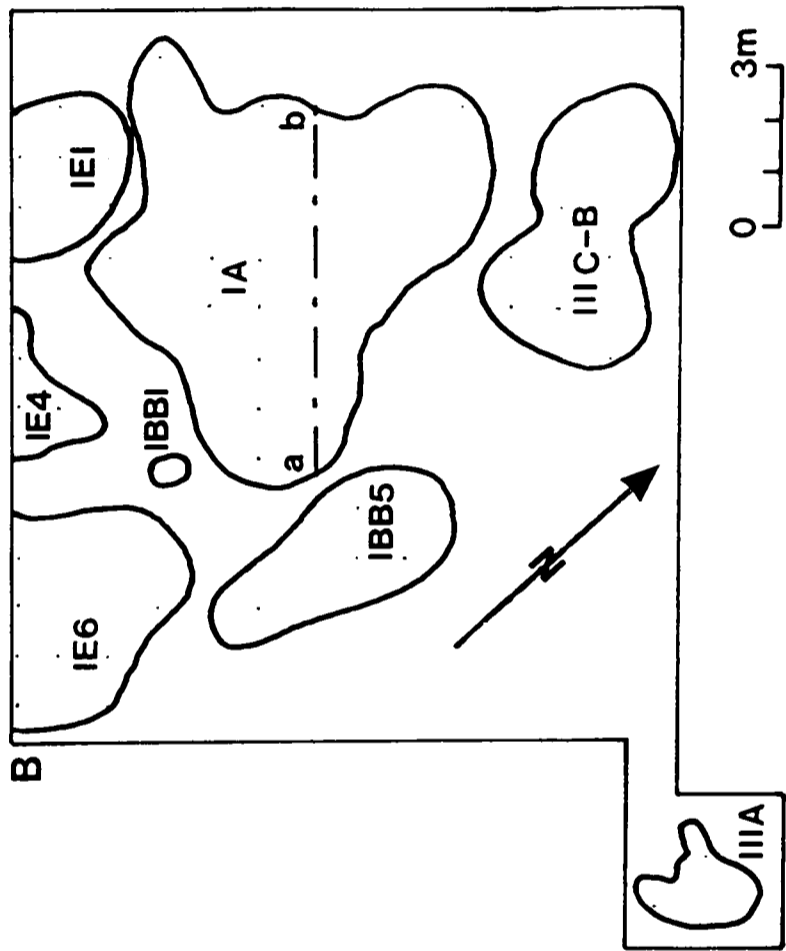
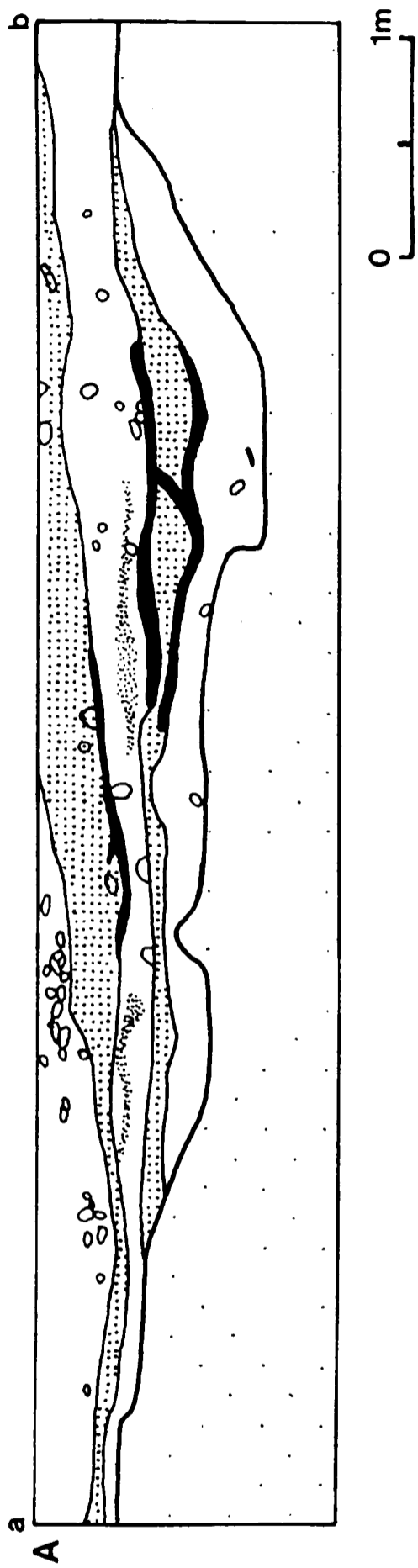


Fig. 89. Early Neolithic cavities at Villaggio Rossi (after Geniola 1982).

A. Section of cavity IA, B. Plan of excavated cavities.

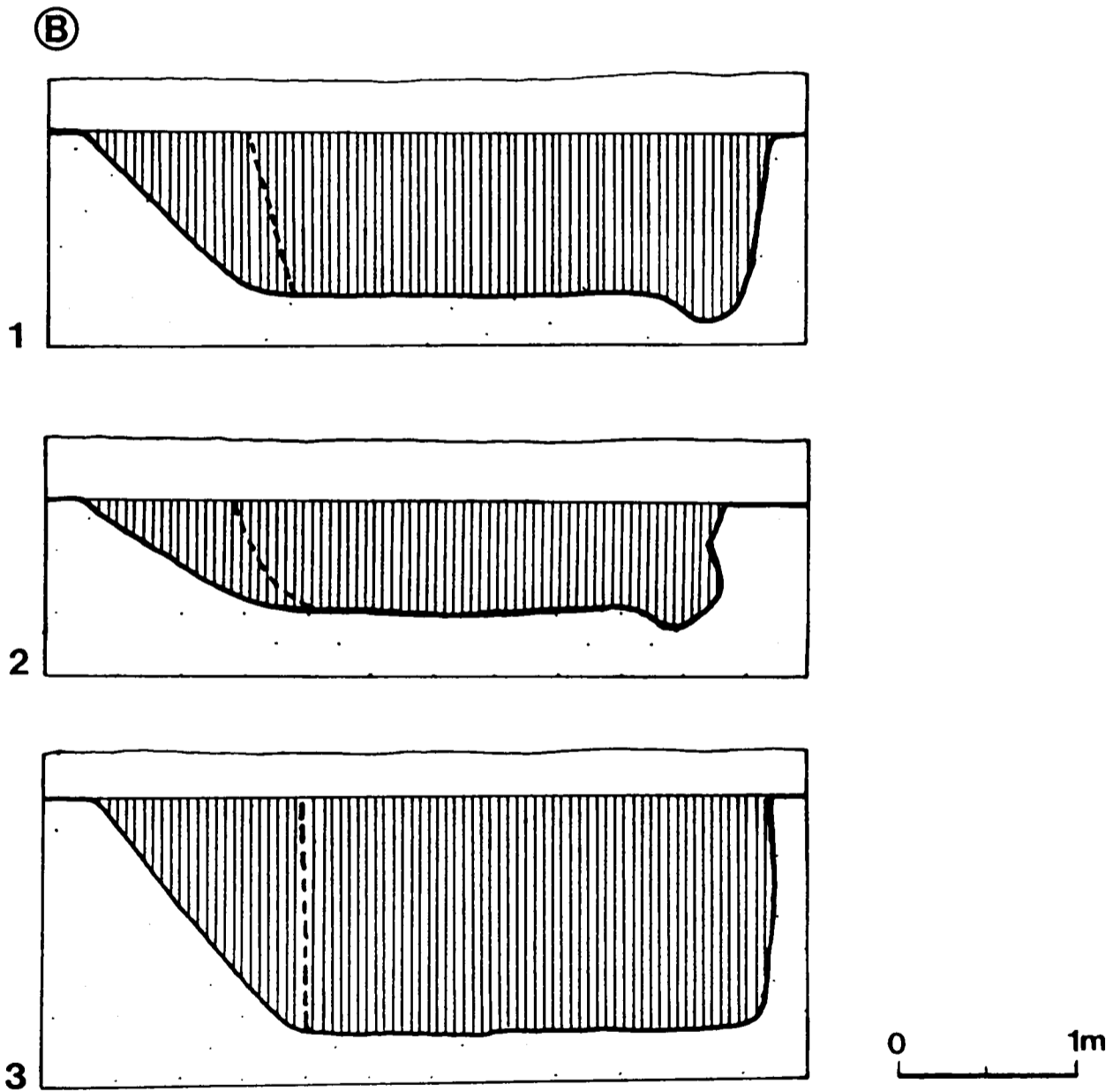
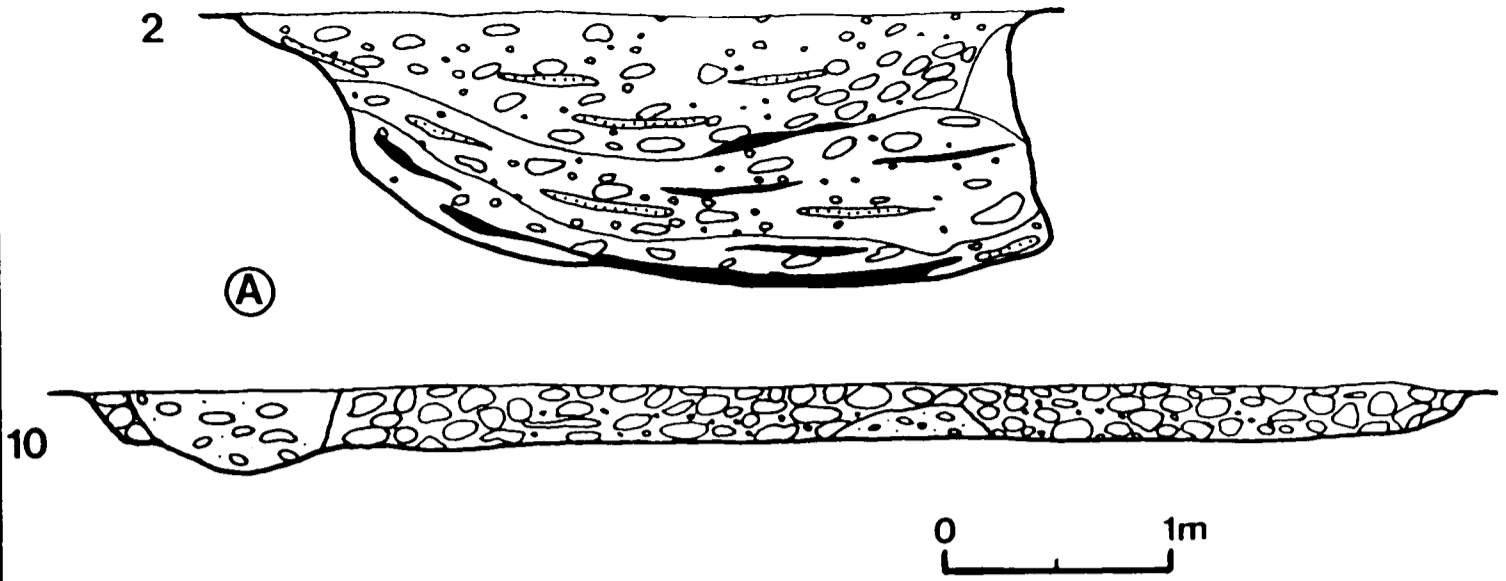


Fig. 90. Cavities at early and middle Neolithic sites in Abruzzo.

A. Middle Neolithic cavities (2 and 10) at Catignano (after Tozzi 1978), B. Early Neolithic cavities (1,2 and 3) at Villaggio Leopardi (after Cremonesi 1967).

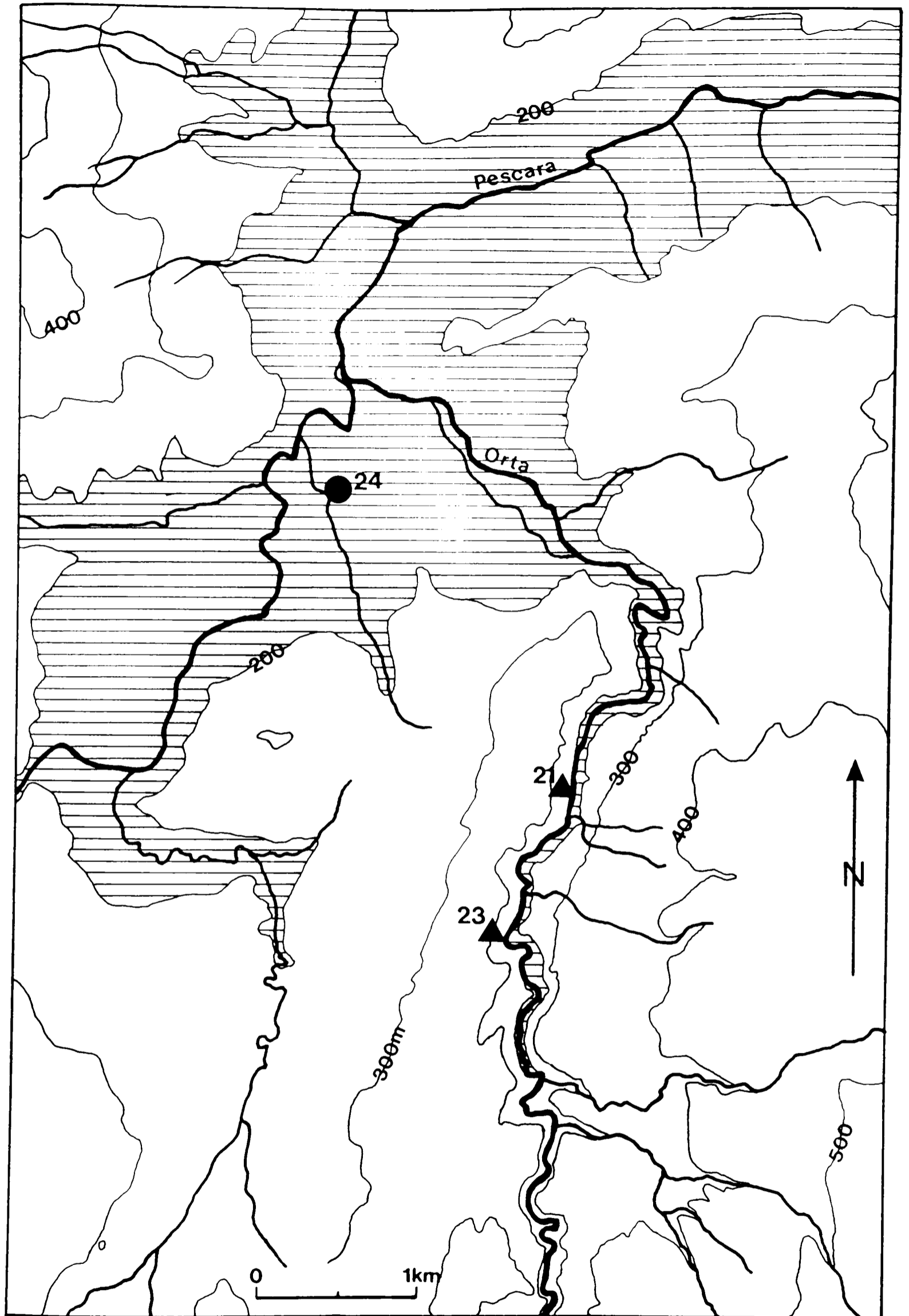


Fig. 91. Early Neolithic - Copper Age sites along the Orta valley [PE].

21. Grotta Oscura, 23. Grotta dei Piccioni, 24. Piano d'Orta. (The numbers equate to the site serial numbers used in Appendix 1.)

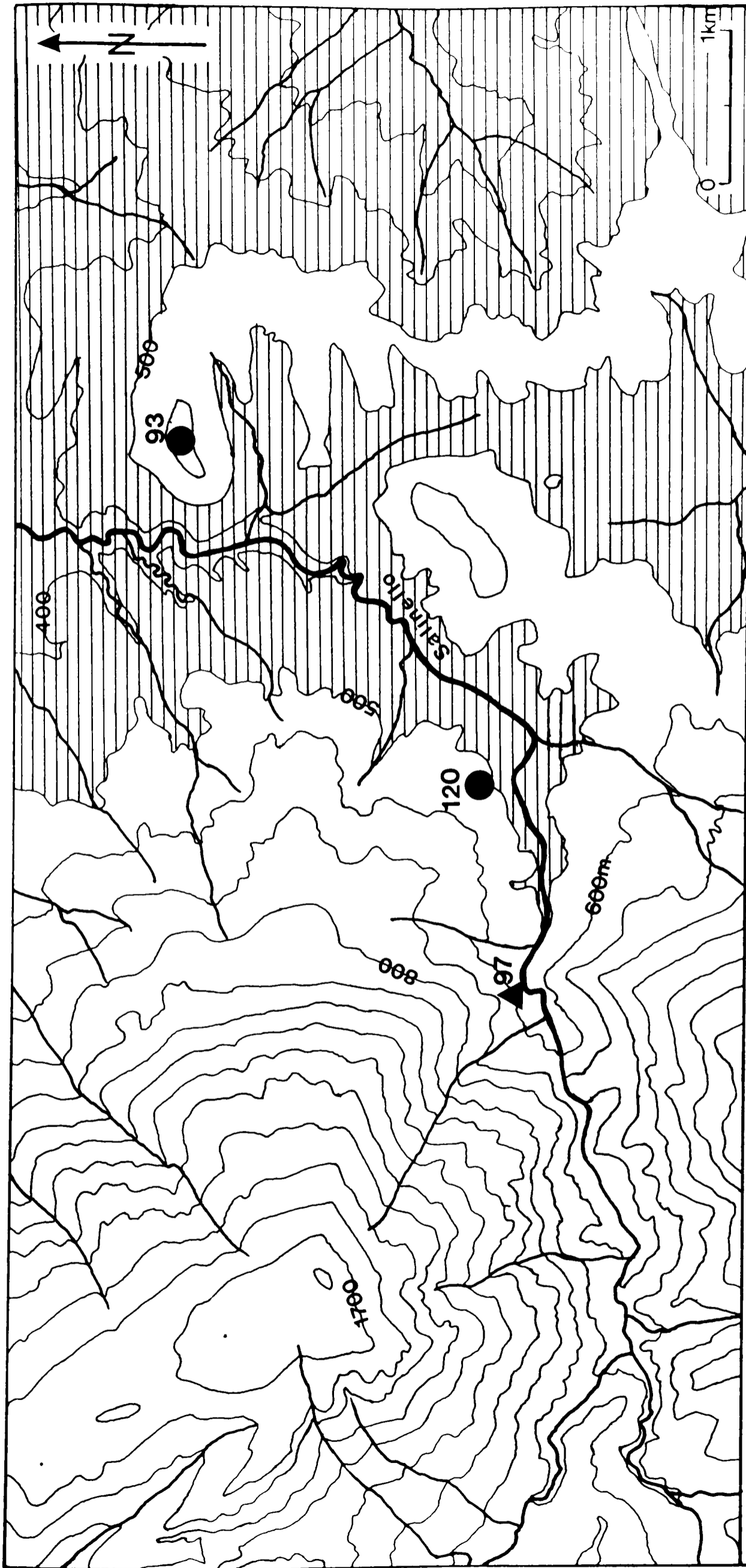
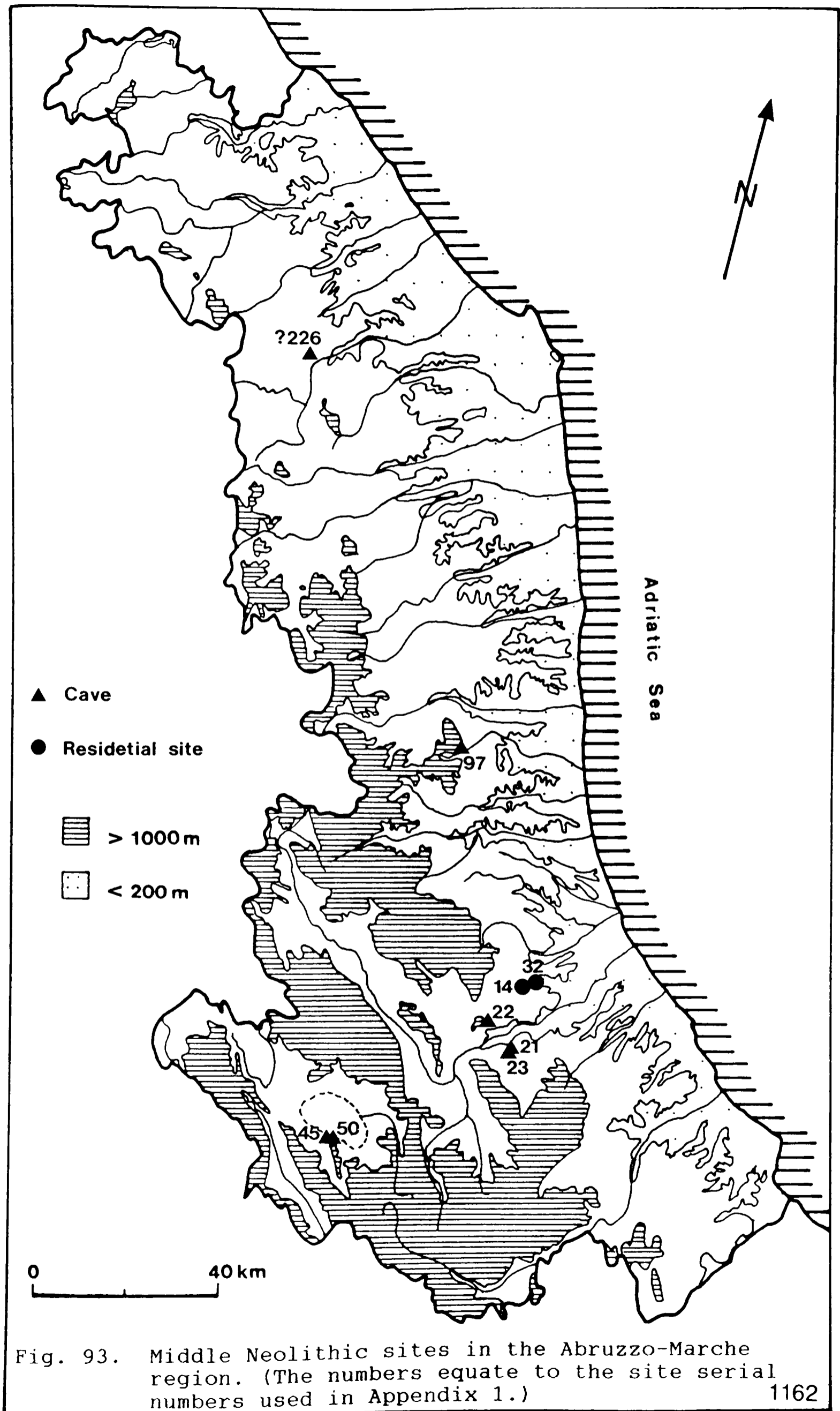
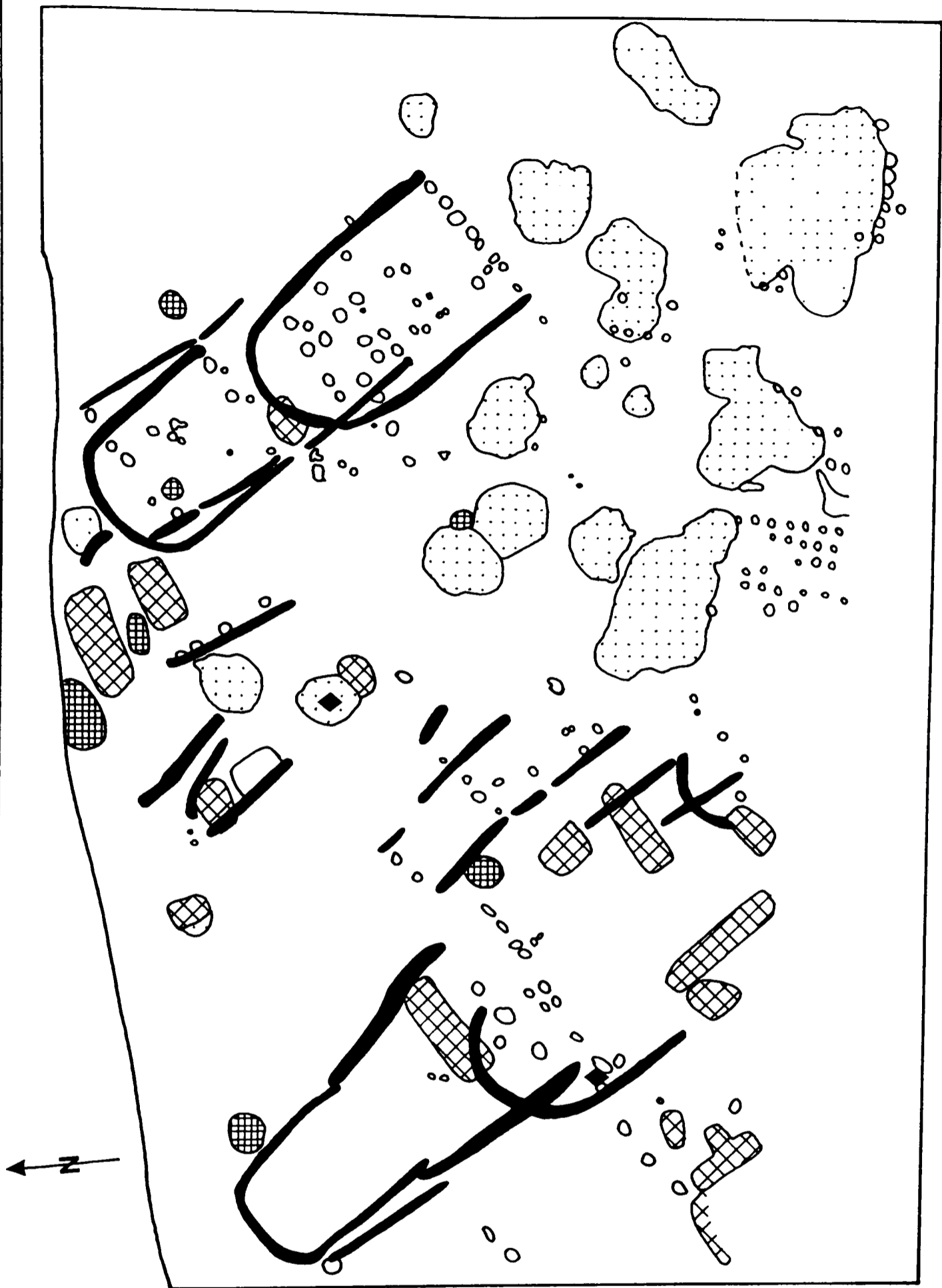


Fig. 92. Early Neolithic - Copper Age sites along the upper section of the Salinello valley [TE].

93. Fortress, Civitella del Tronto, 97. Grotta Salomone and S. Angelo, 120. Villa Ripa. (The numbers equate to the site serial numbers used in Appendix 1.)





0 5 m

- Shallow ditch
- |||||** Shallow cavity
-** Deep pit
- Post-hole
- |||||** Hearth
- ◆** Human remains

Fig. 94. Plan of middle Neolithic features at Catignano (after Tozzi 1982).

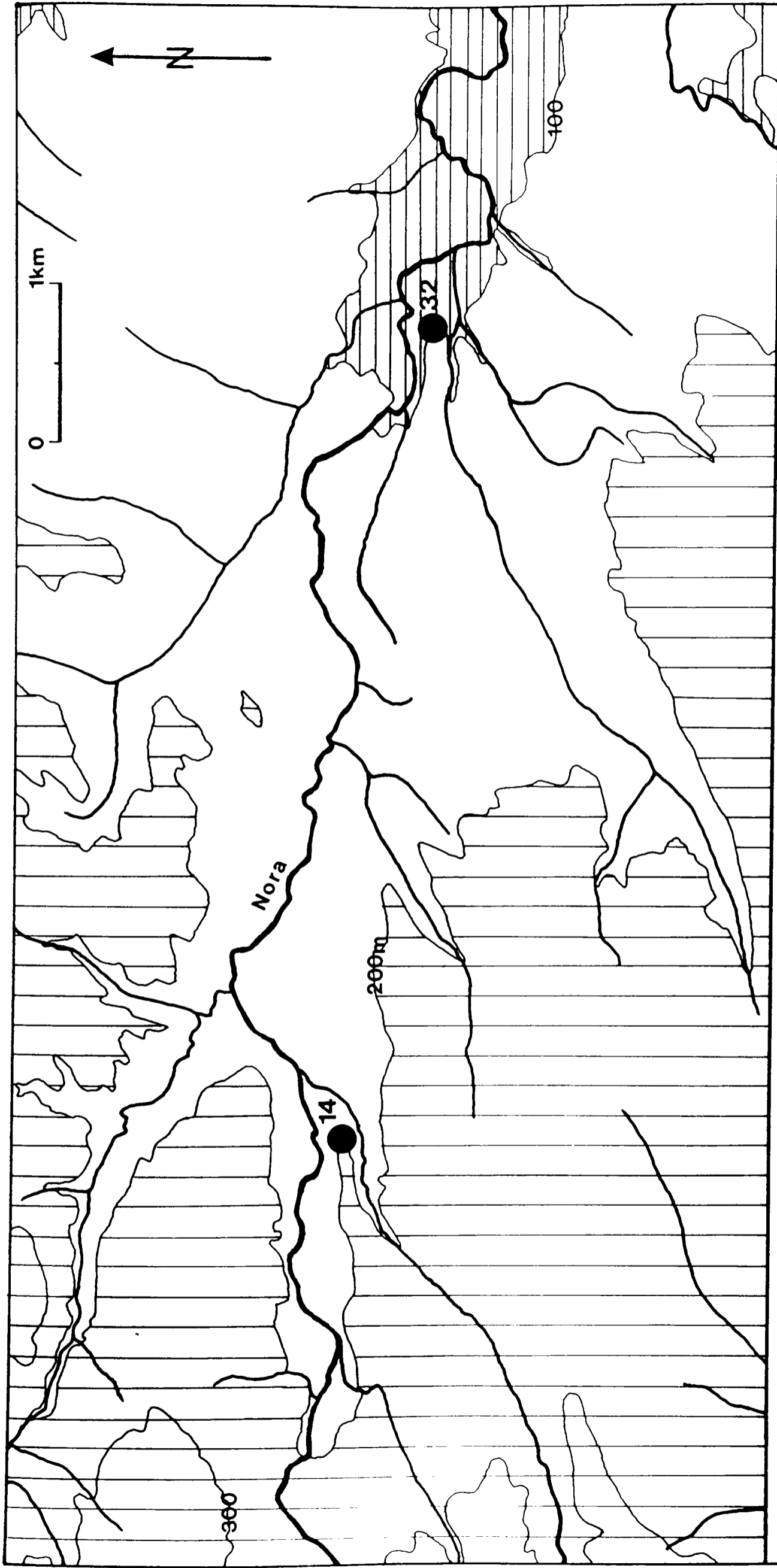


Fig. 95. Middle Neolithic sites along the Nora valley [PE].

14. Catignano, 32. Villa Badessa. (The numbers equate to the site serial numbers used in Appendix 1.)

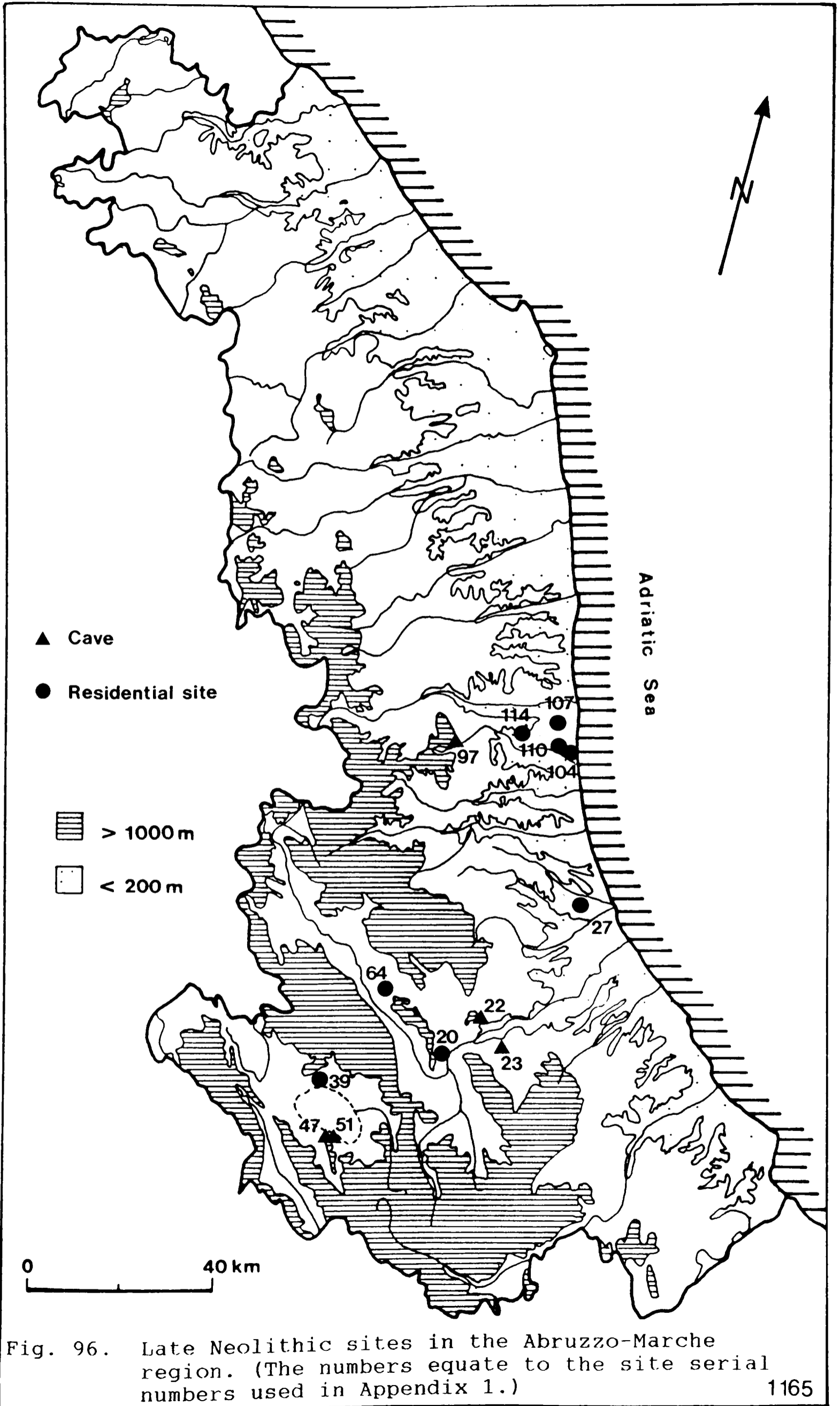


Fig. 96. Late Neolithic sites in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)

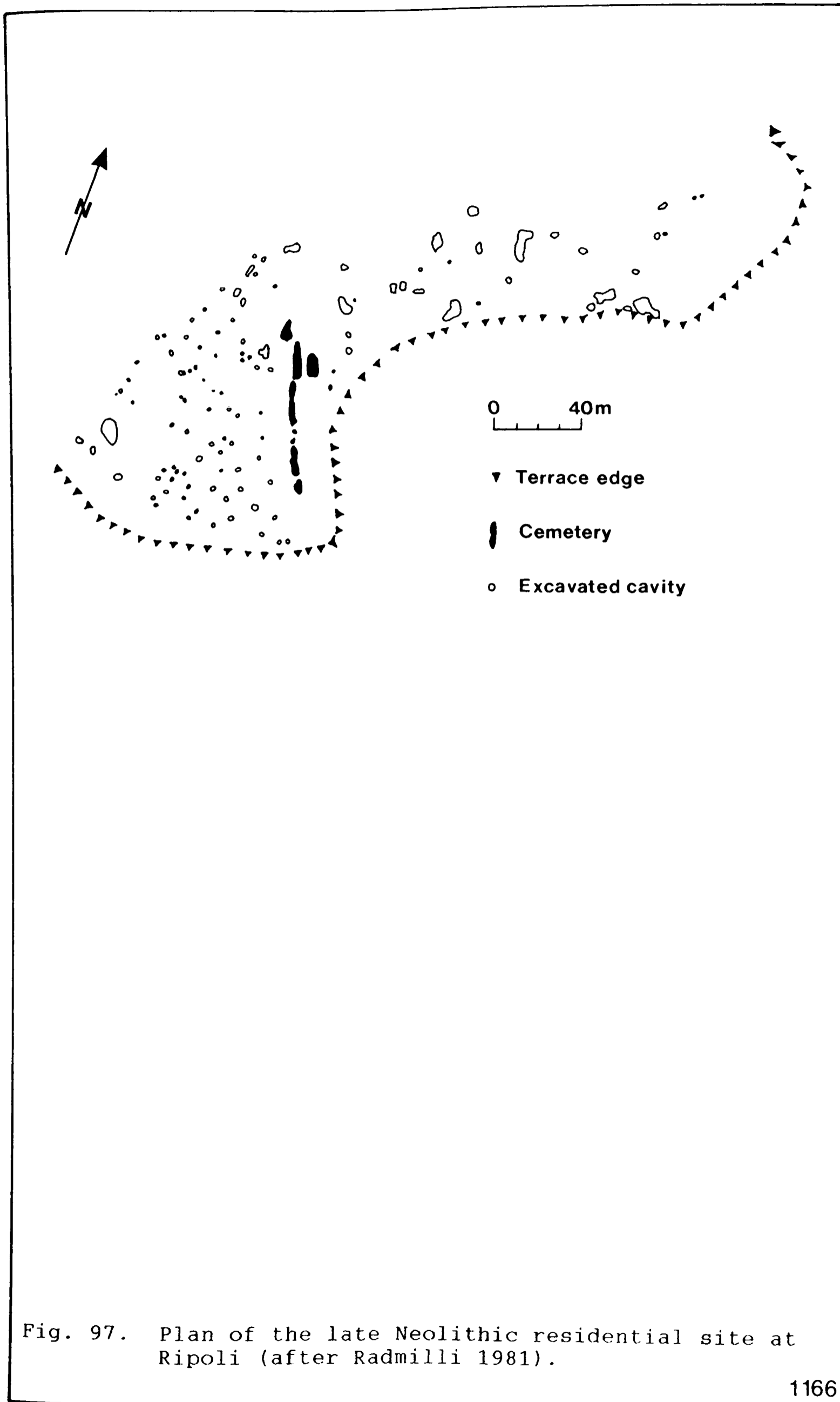


Fig. 97. Plan of the late Neolithic residential site at Ripoli (after Radmilli 1981).

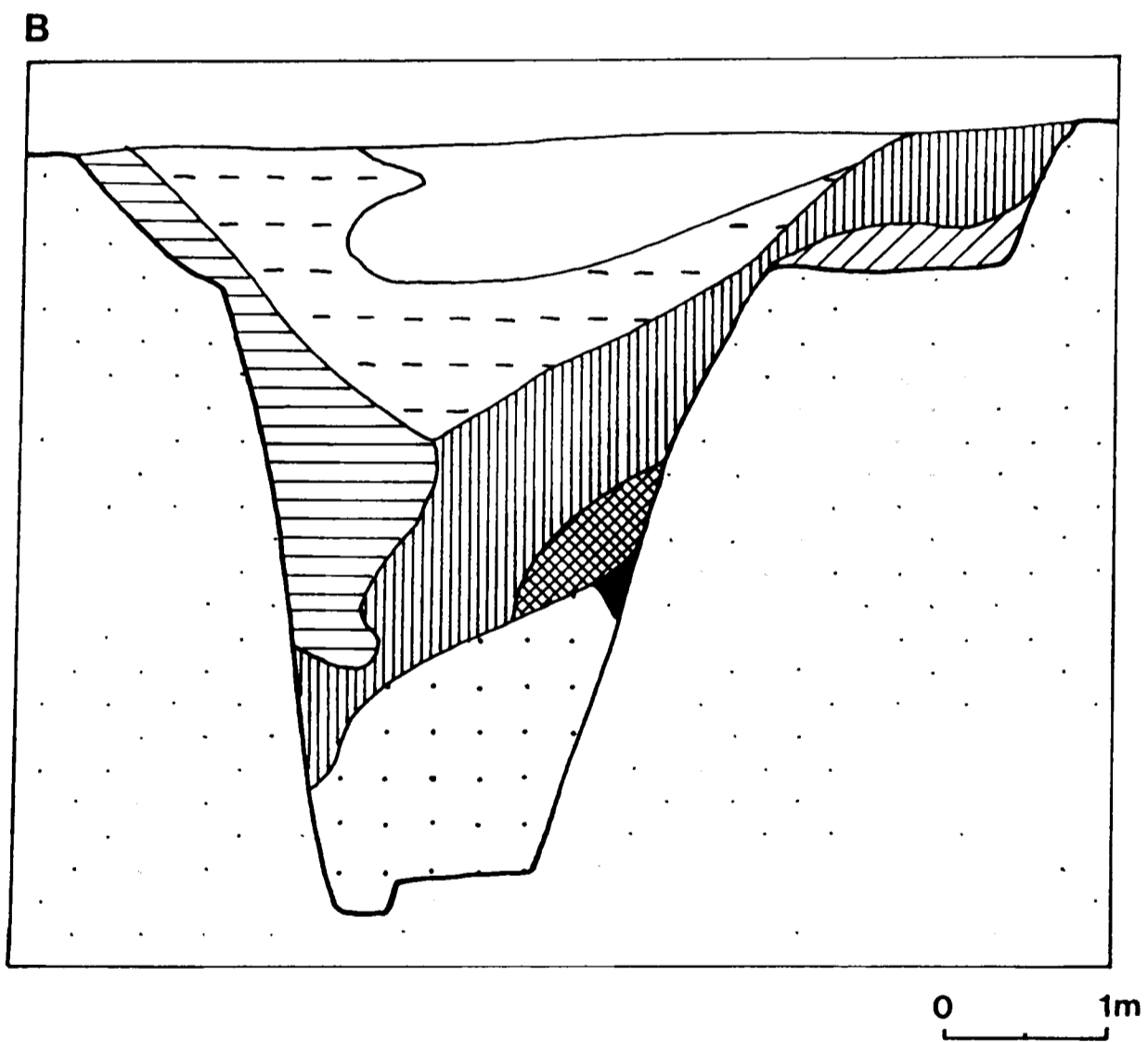
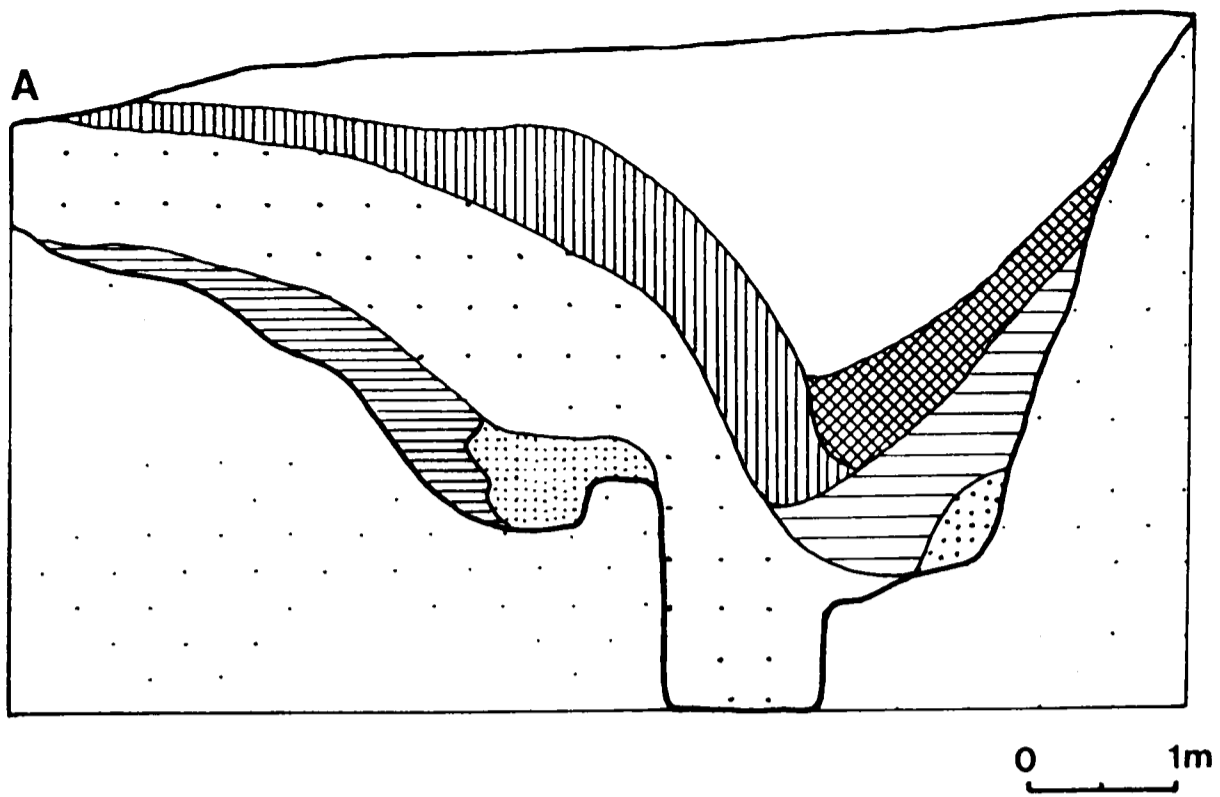
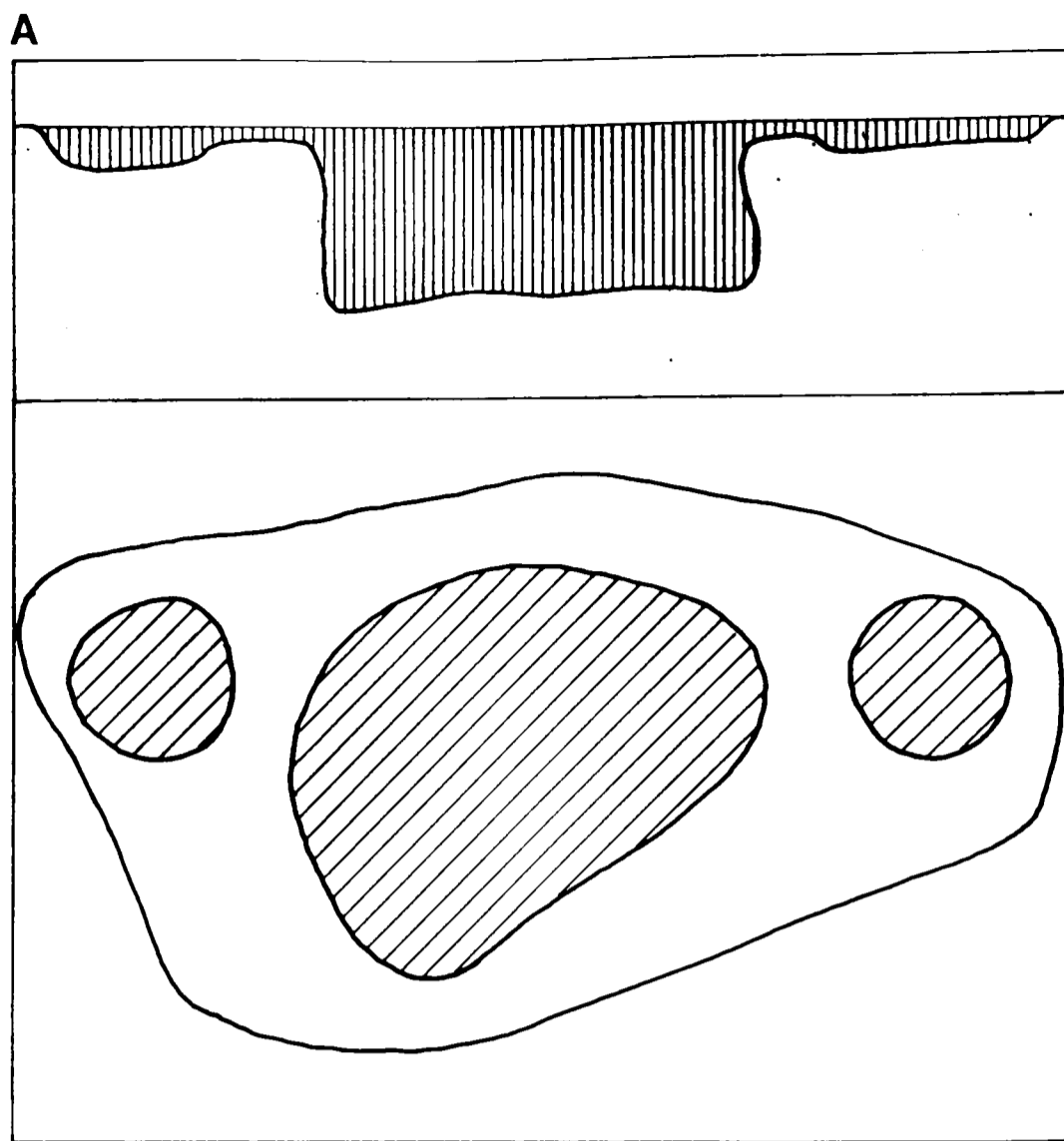
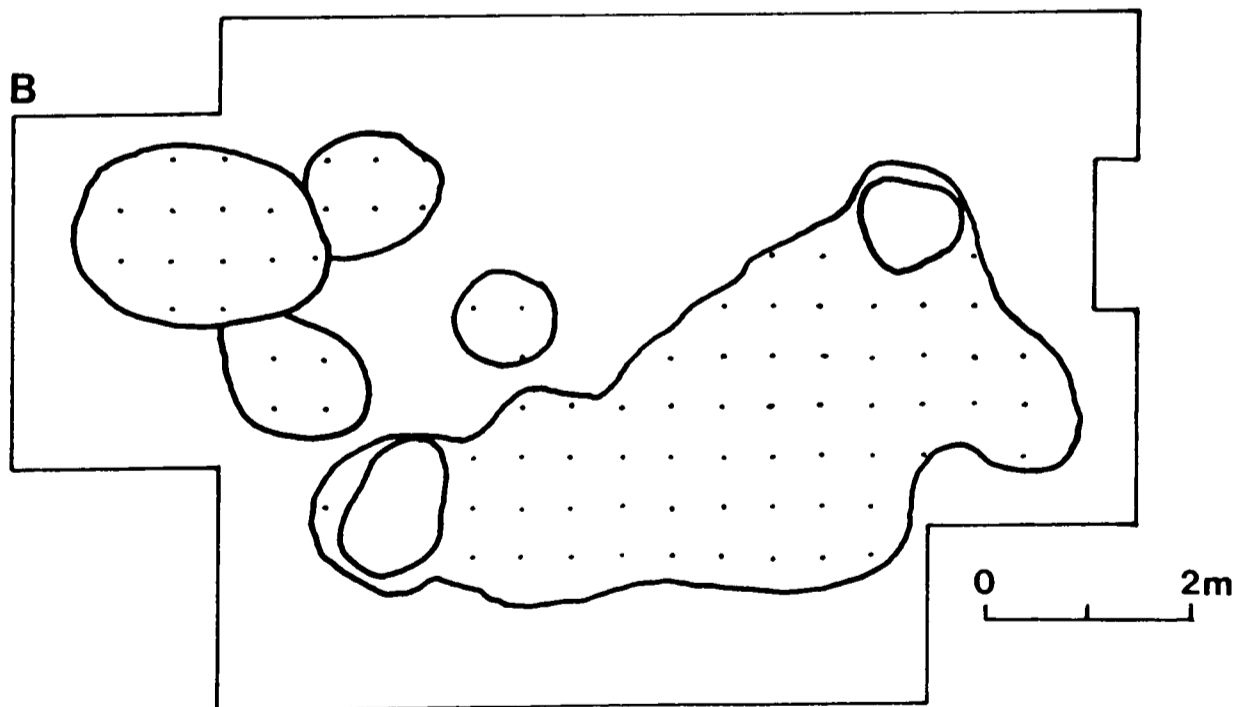


Fig. 98. Sections of the ditch at the late - final Neolithic/early Copper Age site at Ripoli (A. after Radmilli and Cremonesi 1964; B. after Cremonesi 1963).



0 3m



0 2m

Fig. 99. Cavities at late and final Neolithic/early Copper Age sites in the Abruzzo-Marche region.

A. Section and plan of late Neolithic cavity 12 at Ripoli (after Cremonesi 1965), B. Plan of final Neolithic/early Copper Age cavities at Monte Tinello (after Silvestrini Lavagnoli 1983).

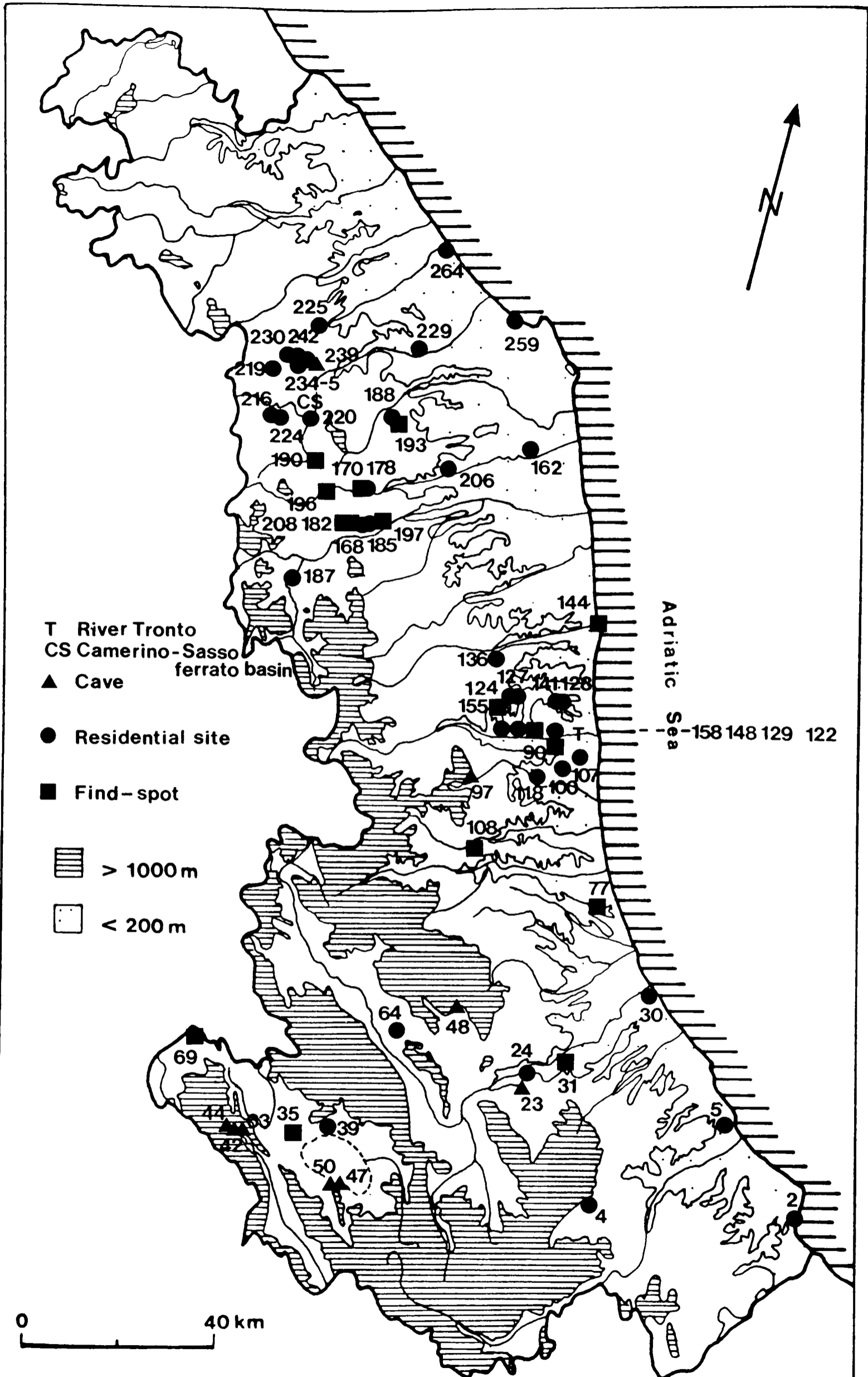


Fig. 100. Final Neolithic/early Copper Age sites in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)

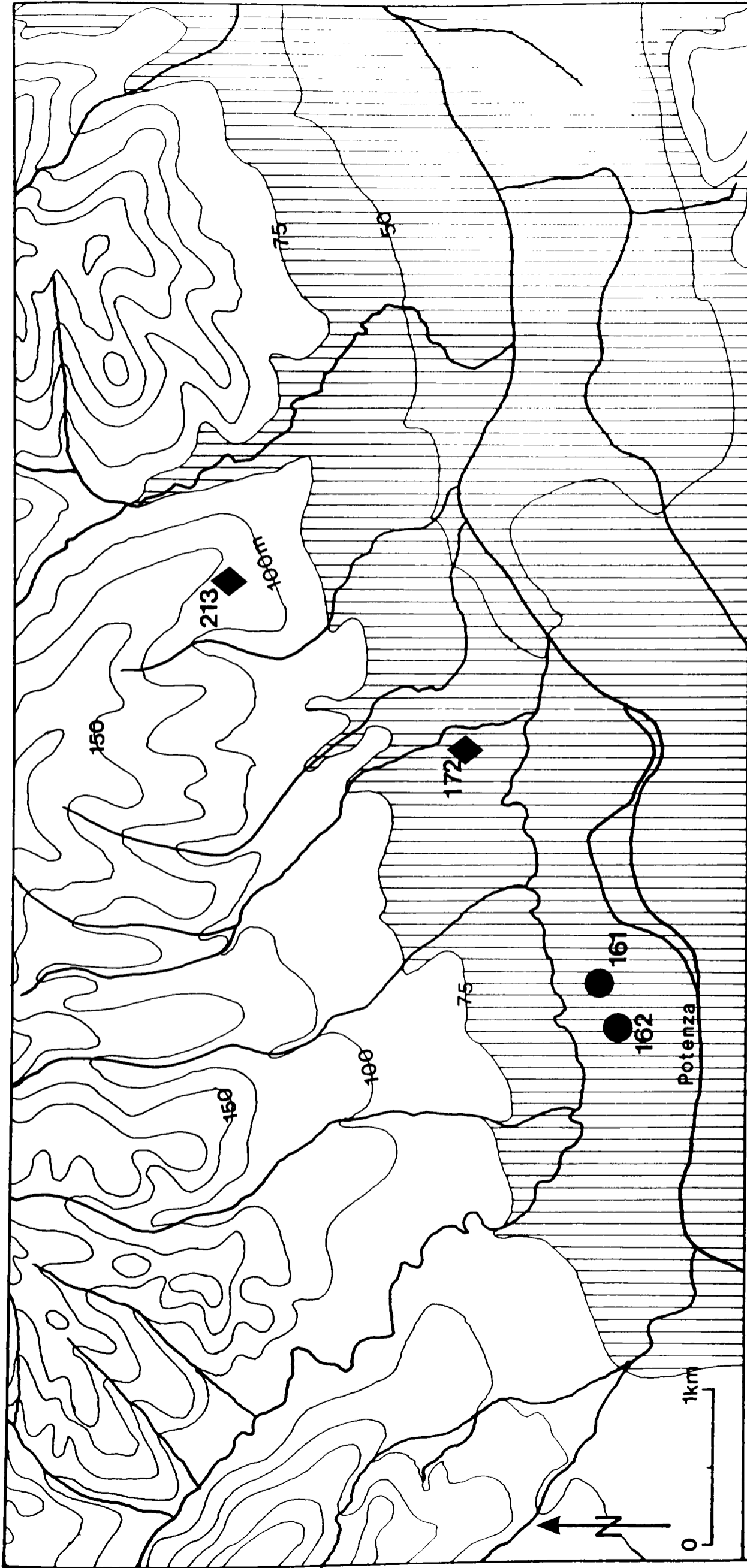


Fig. 101. Copper Age sites along the Potenza valley [MC].
 161. Area Guzzini East, 162. Area Guzzini West, 172. Cava Koch, 213. Via Duomo. (The numbers equate to the site serial numbers used in Appendix 1.)

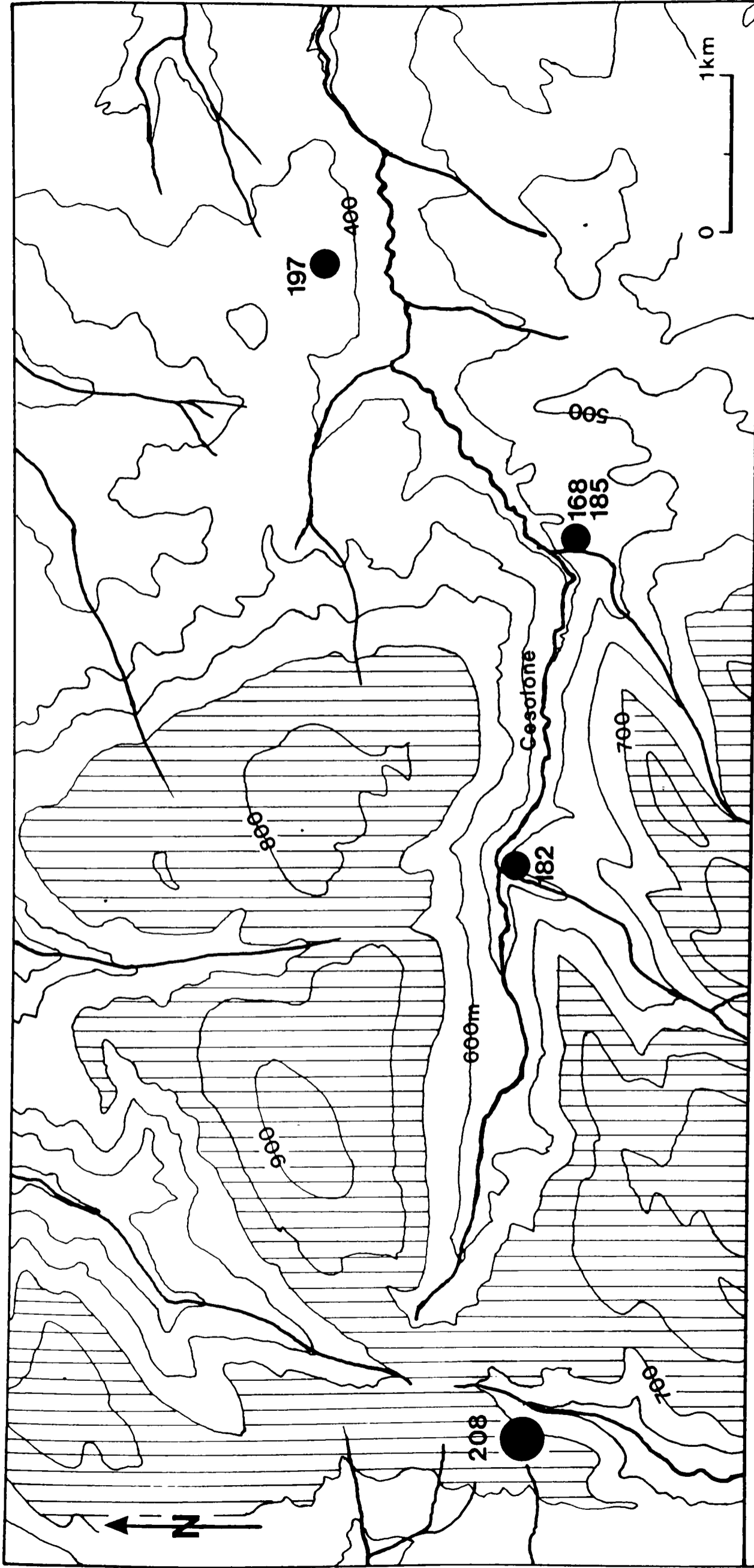


Fig. 102. Copper Age sites along the Cesolone valley [MC].

168/185. Capanacce/La Pisciarella, 182. Il Colle, Castel San Venanzo, 197. Pian delle Mure, 208. Torre Beregna. (The numbers equate to the site serial numbers used in Appendix 1.)

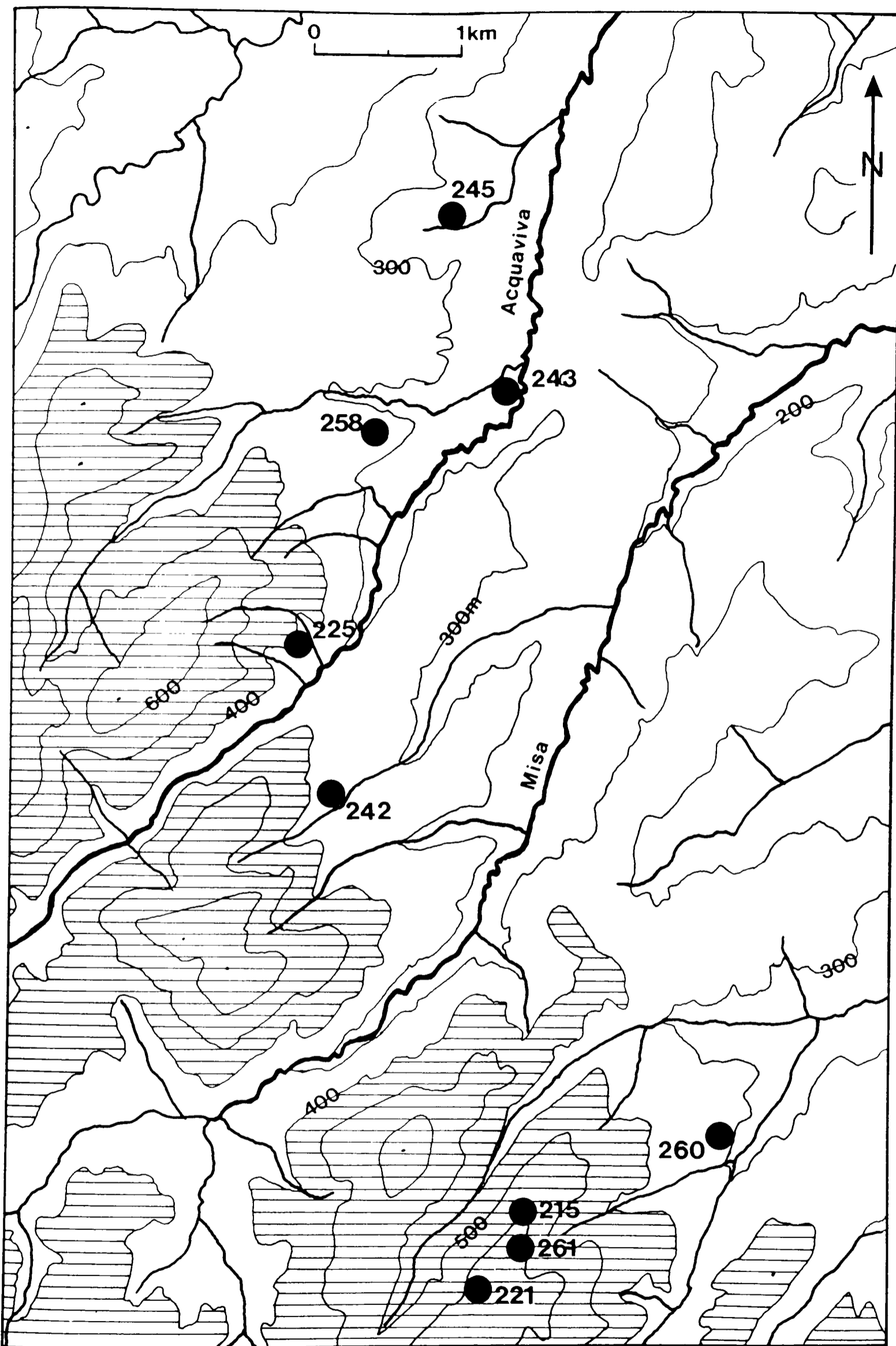


Fig. 103. Copper Age sites along the Acquaviva stream and in the area of Arcevia [AN].
 215. Appurano, 221. Bosimano, 225. Cava Giacometti, 242. Le Conche, 243. Le Conelle, 245. Madonna delle Spinelle, 258. Pianetti, 260. Prosano, 261. Protonara. (The numbers equate to the site serial numbers used in Appendix 1.)

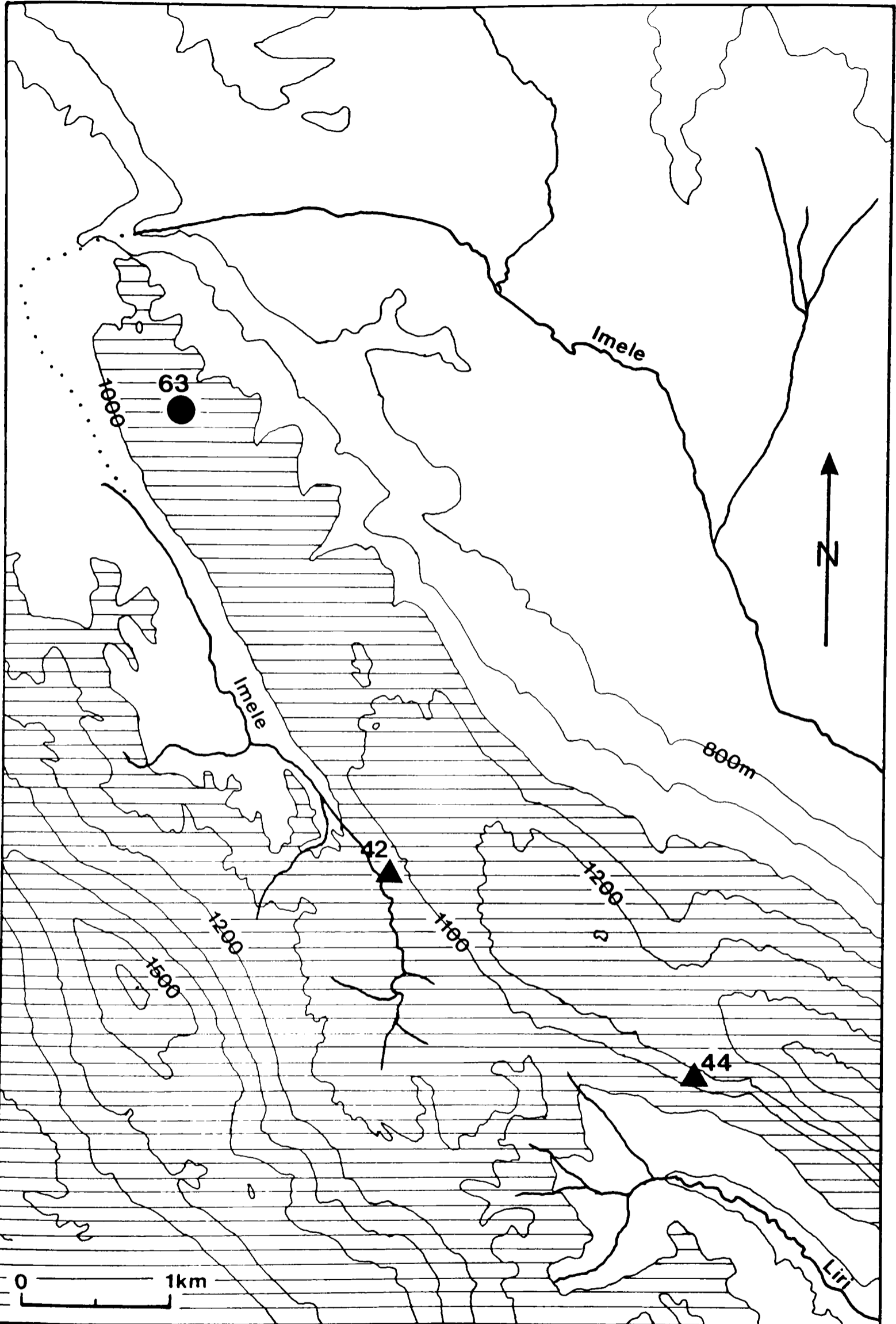


Fig. 104. Copper Age sites at the heads of the Imele and Liri valleys [AQ].

42. Grotta Beatrice Cenci, 44. Grotta Cola II, 63. Riparo Monte la Difesa. (The numbers equate to the site serial numbers used in Appendix 1.)

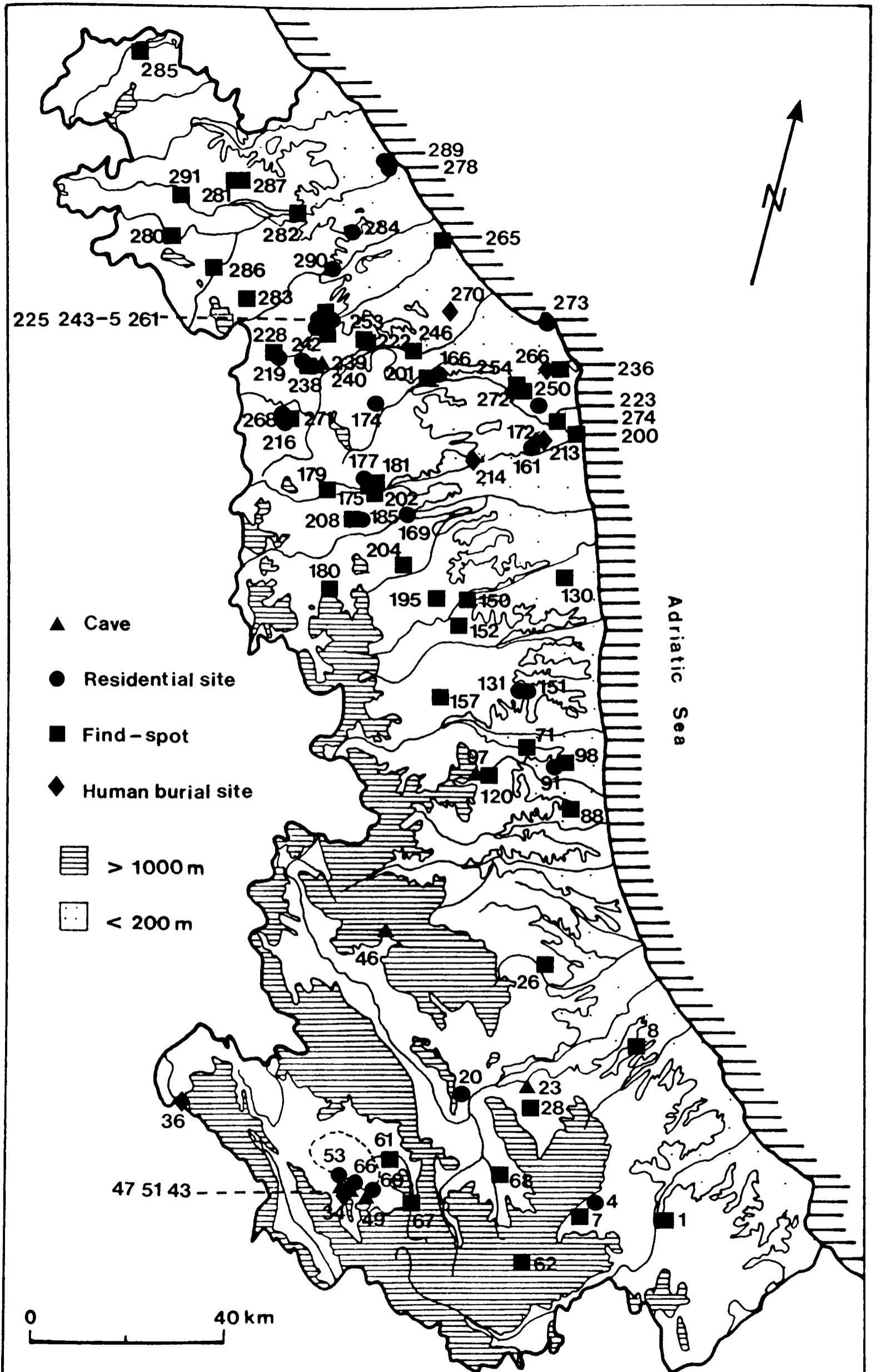


Fig. 105. Middle-late Copper Age sites in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)

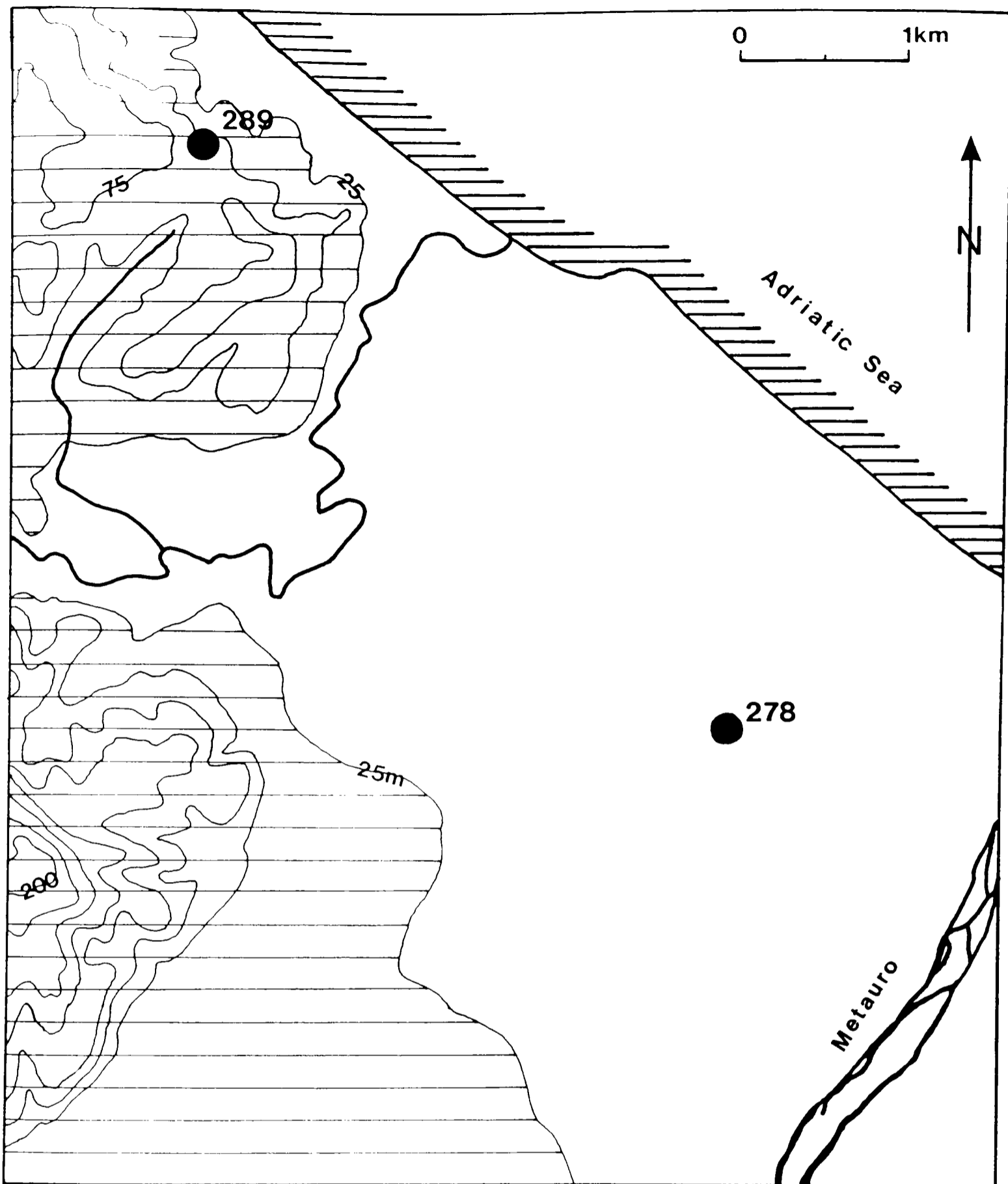


Fig. 106. Copper Age sites in the coastal lowlands near Fano [PO].

278. Campo di Aviazione, 289. S. Biagio. (The numbers equate to the site serial numbers used in Appendix 1.)

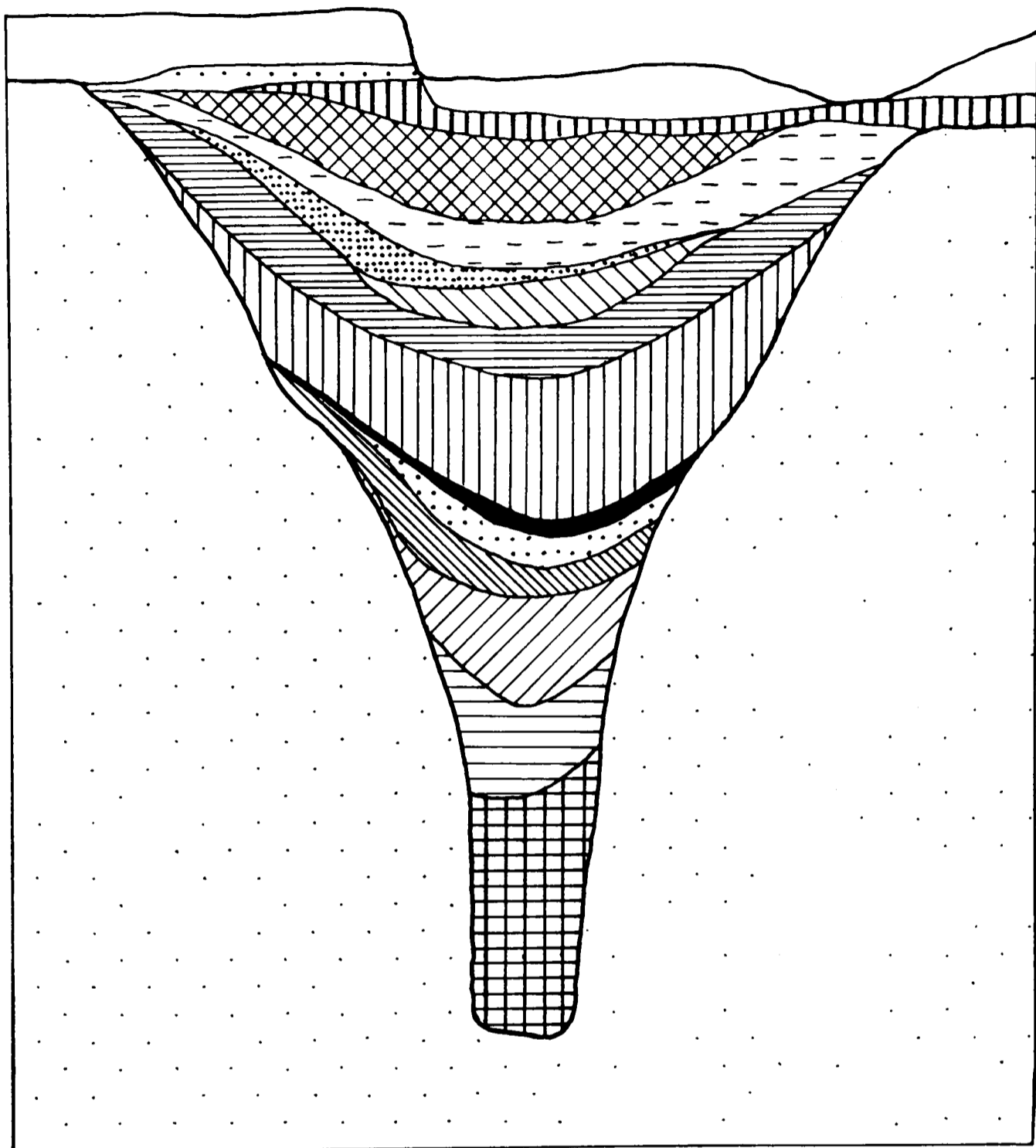


Fig. 107. Section of the middle-late Copper Age ditch at Le Conelle (after Cazzella 1987).

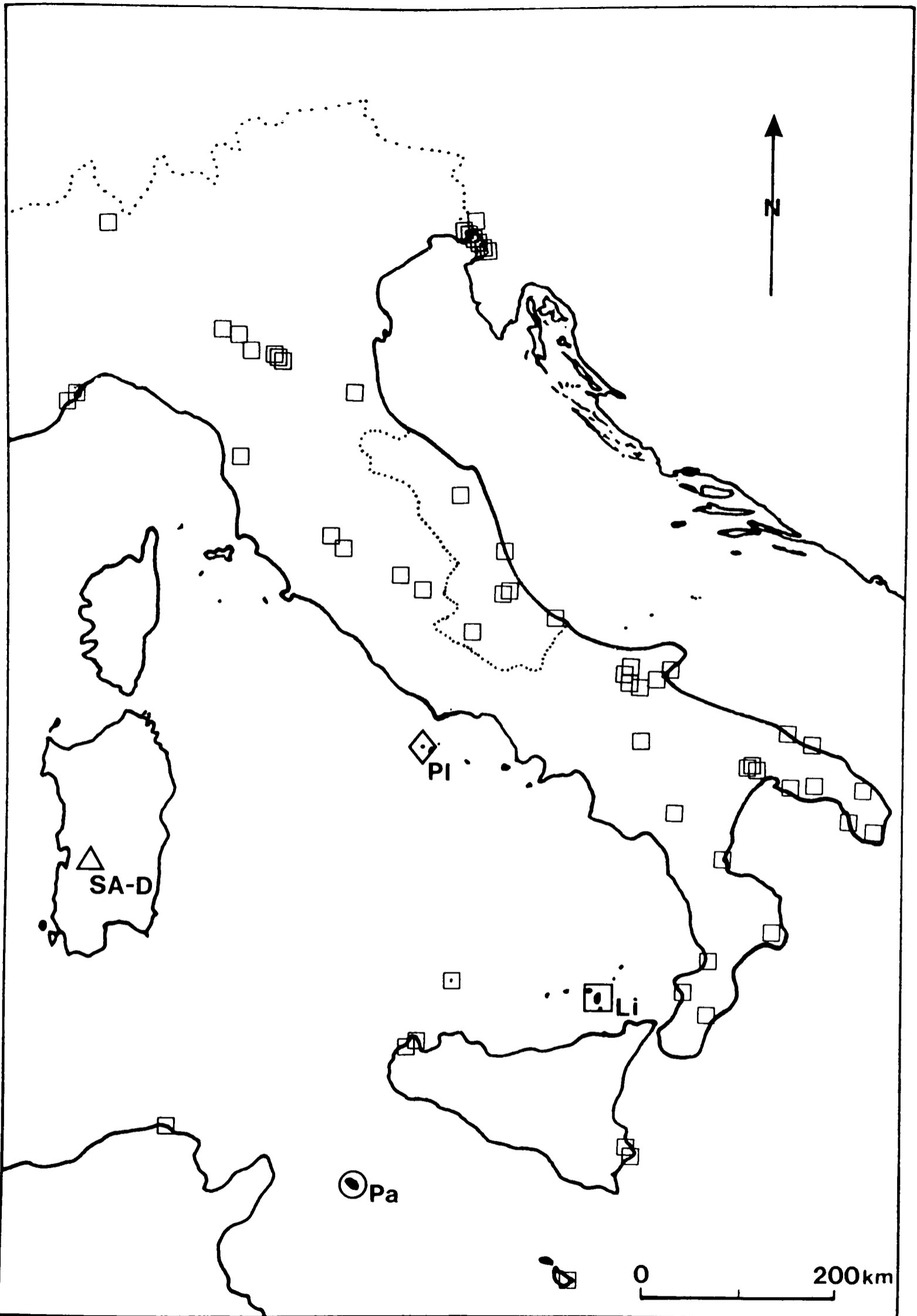


Fig. 108. Distribution of Lipari obsidian in the central Mediterranean.

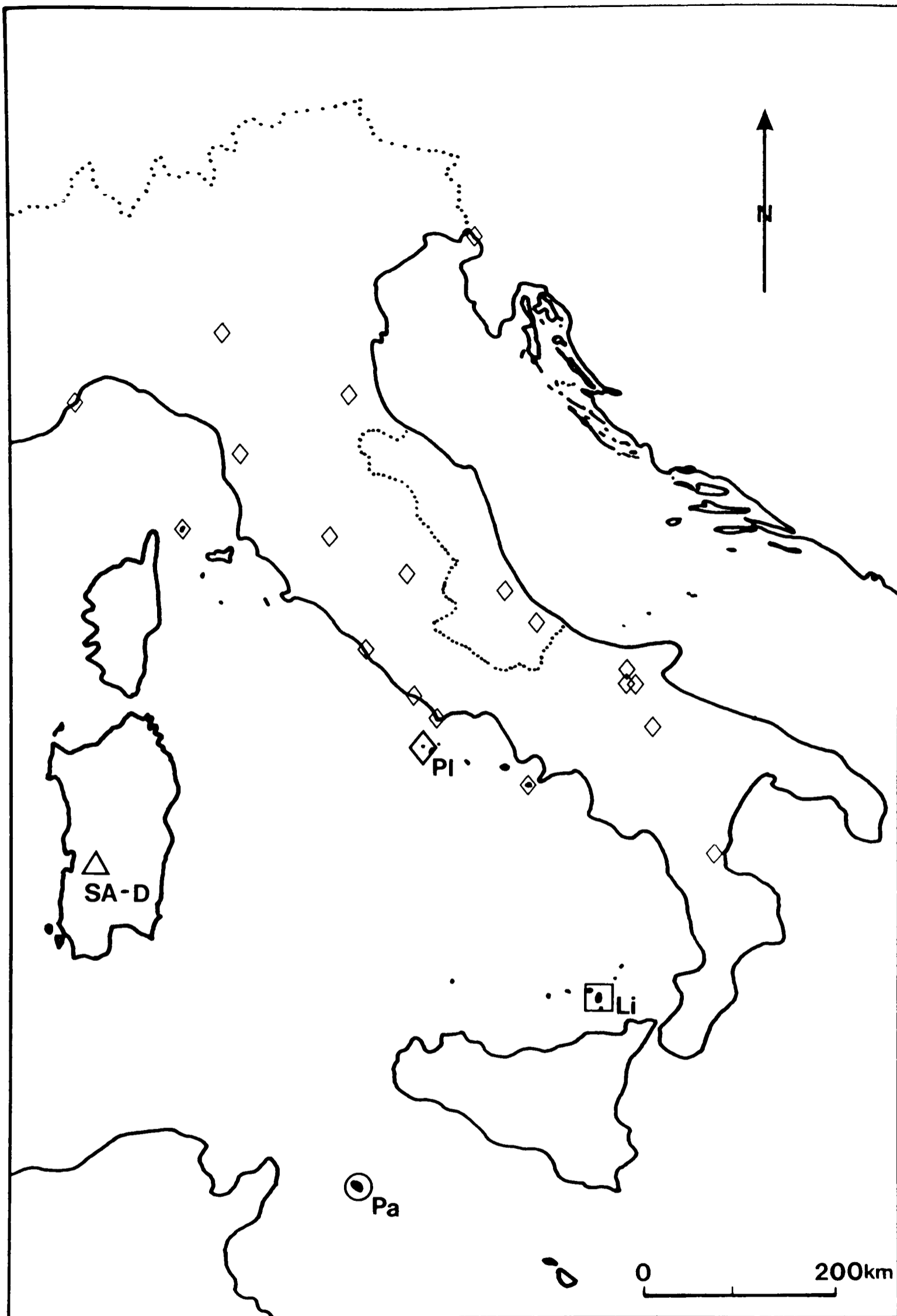


Fig. 109. Distribution of Palmarola obsidian in the central Mediterranean.

Fig. 110. Early Neolithic sites with obsidian in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)

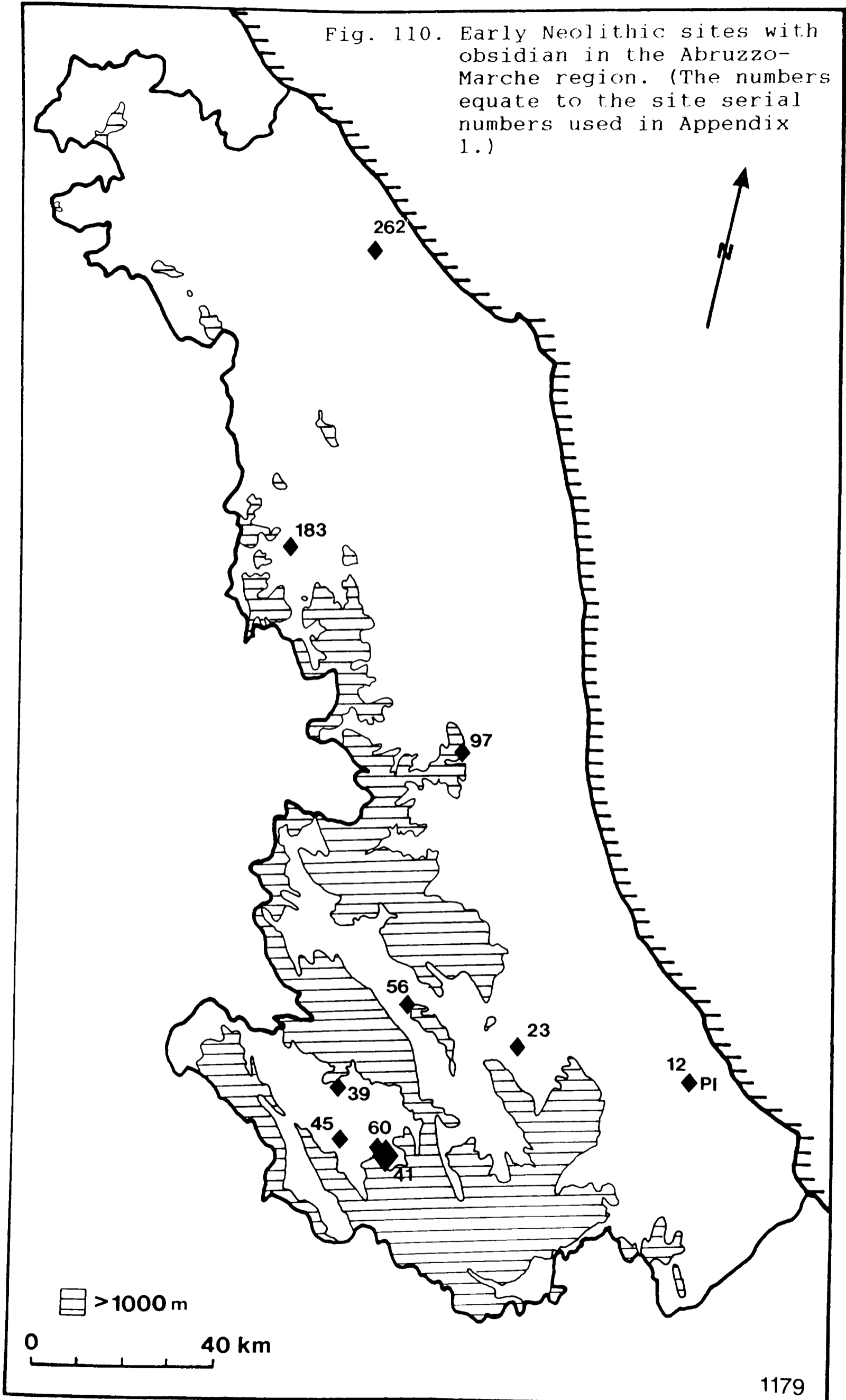


Fig. 111. Middle Neolithic sites with obsidian in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)



Fig. 112. Late Neolithic sites with obsidian in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)

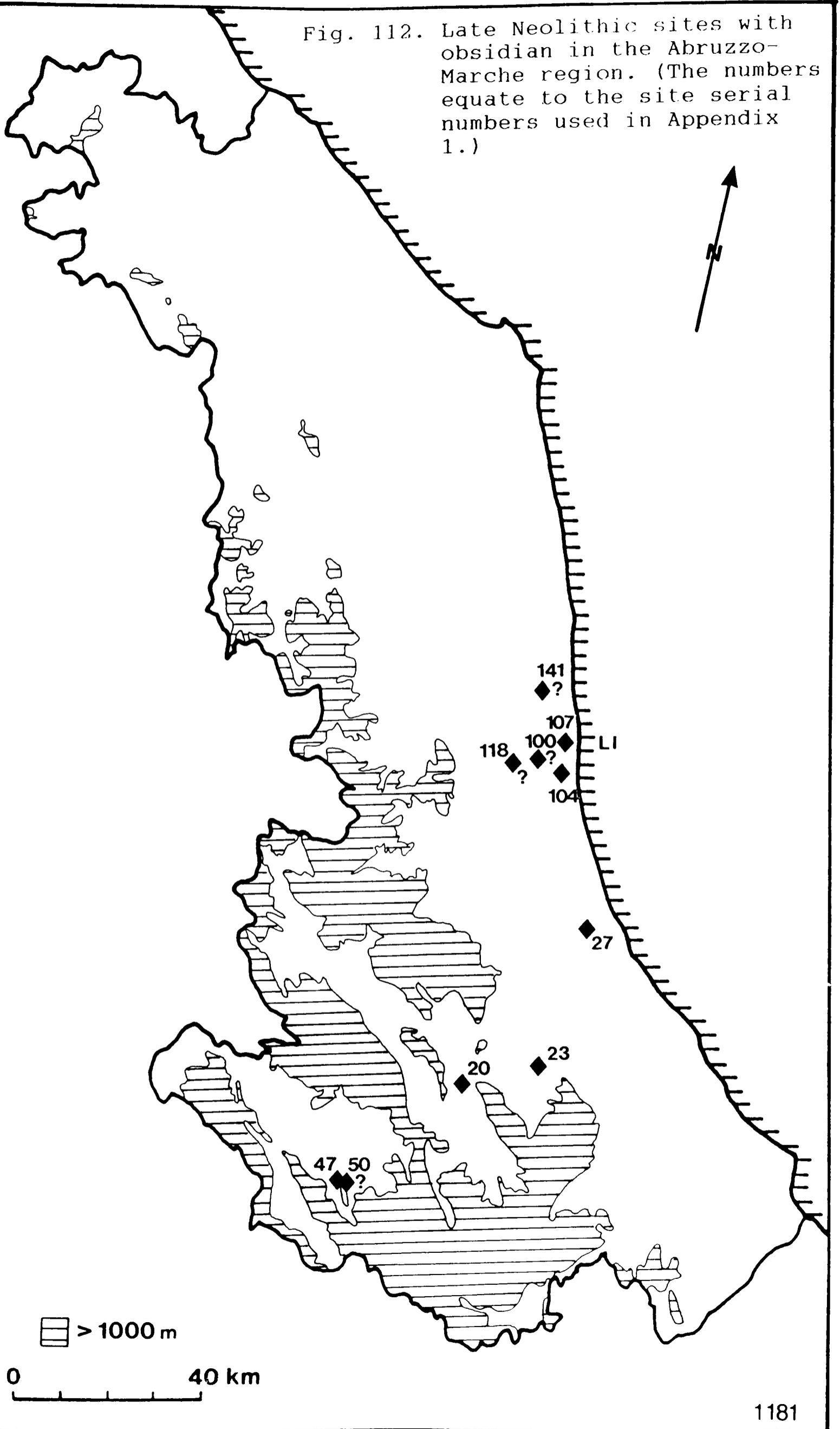
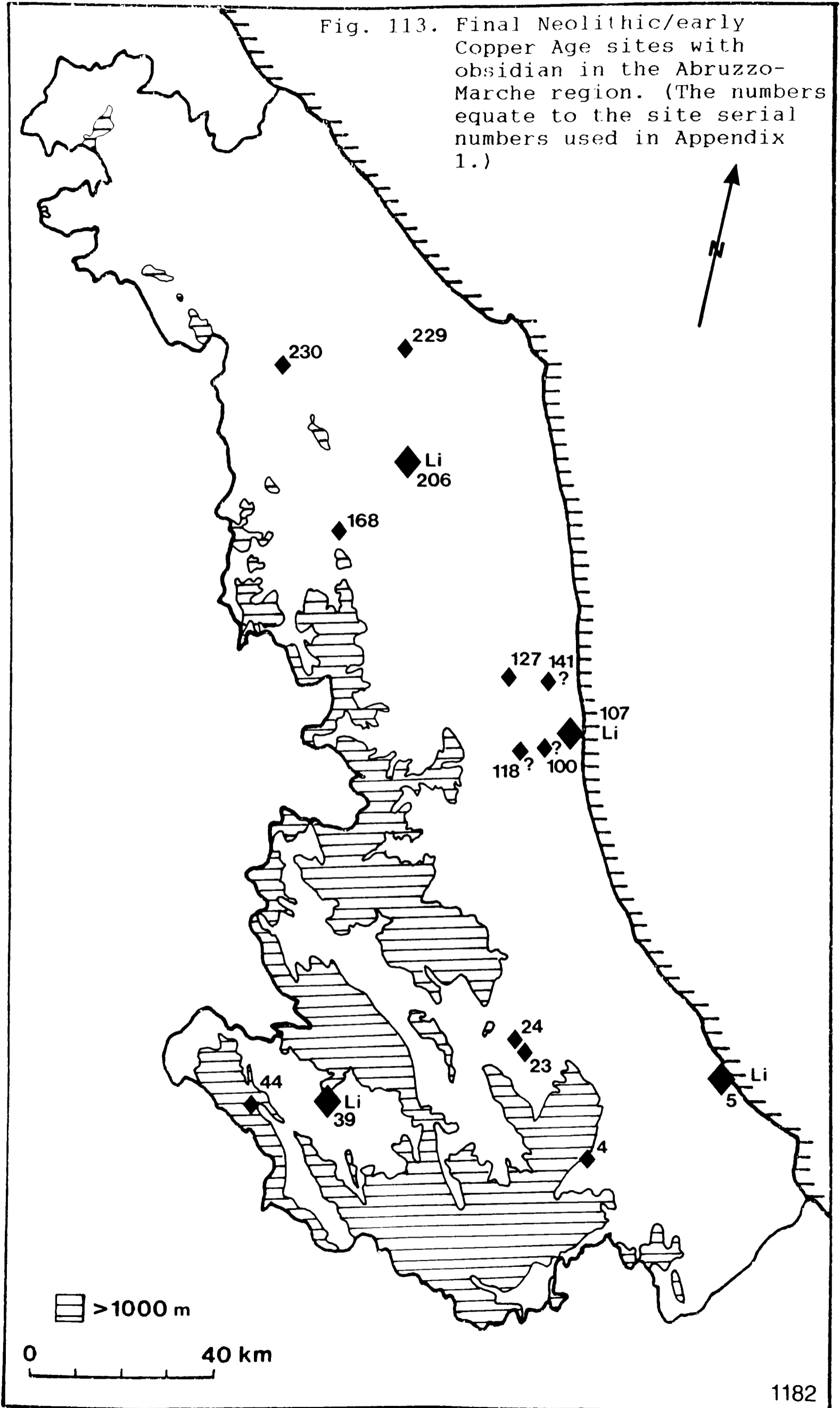


Fig. 113. Final Neolithic/early Copper Age sites with obsidian in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)



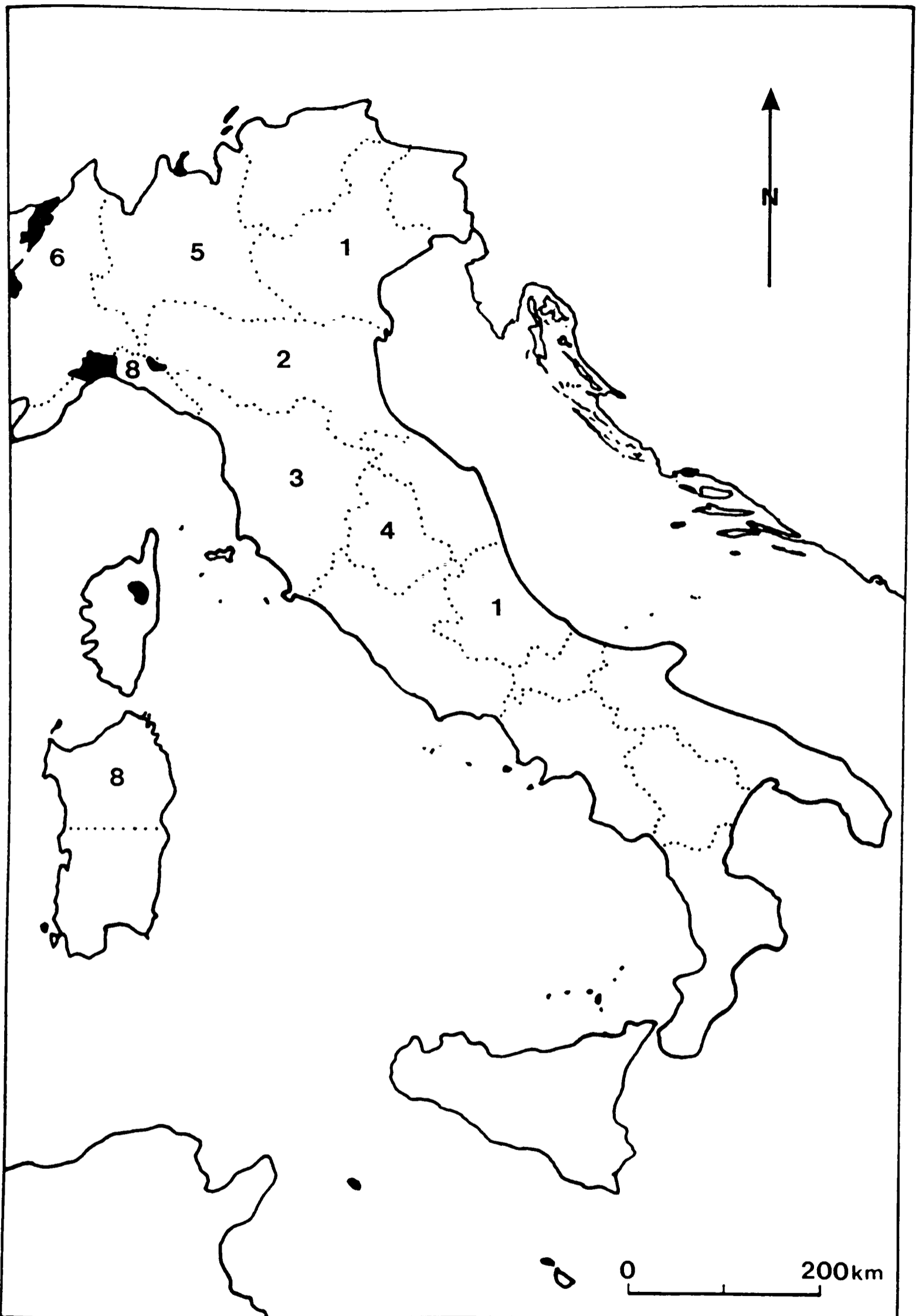


Fig. 114. Distribution of 'greenstone' rings and their sources in Italy and Corsica.

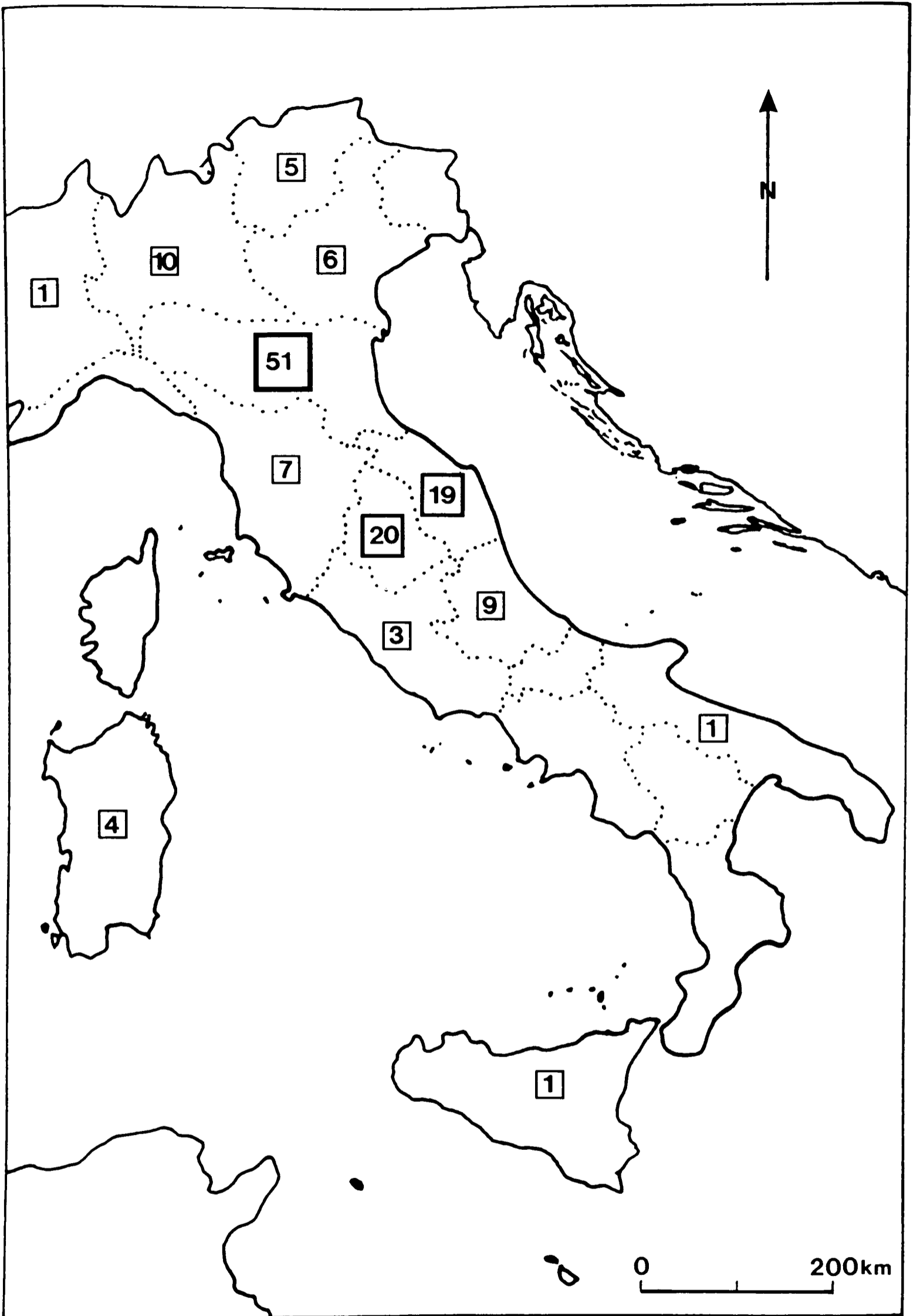


Fig. 115. Distribution of perforated axe-hammers in Italy.

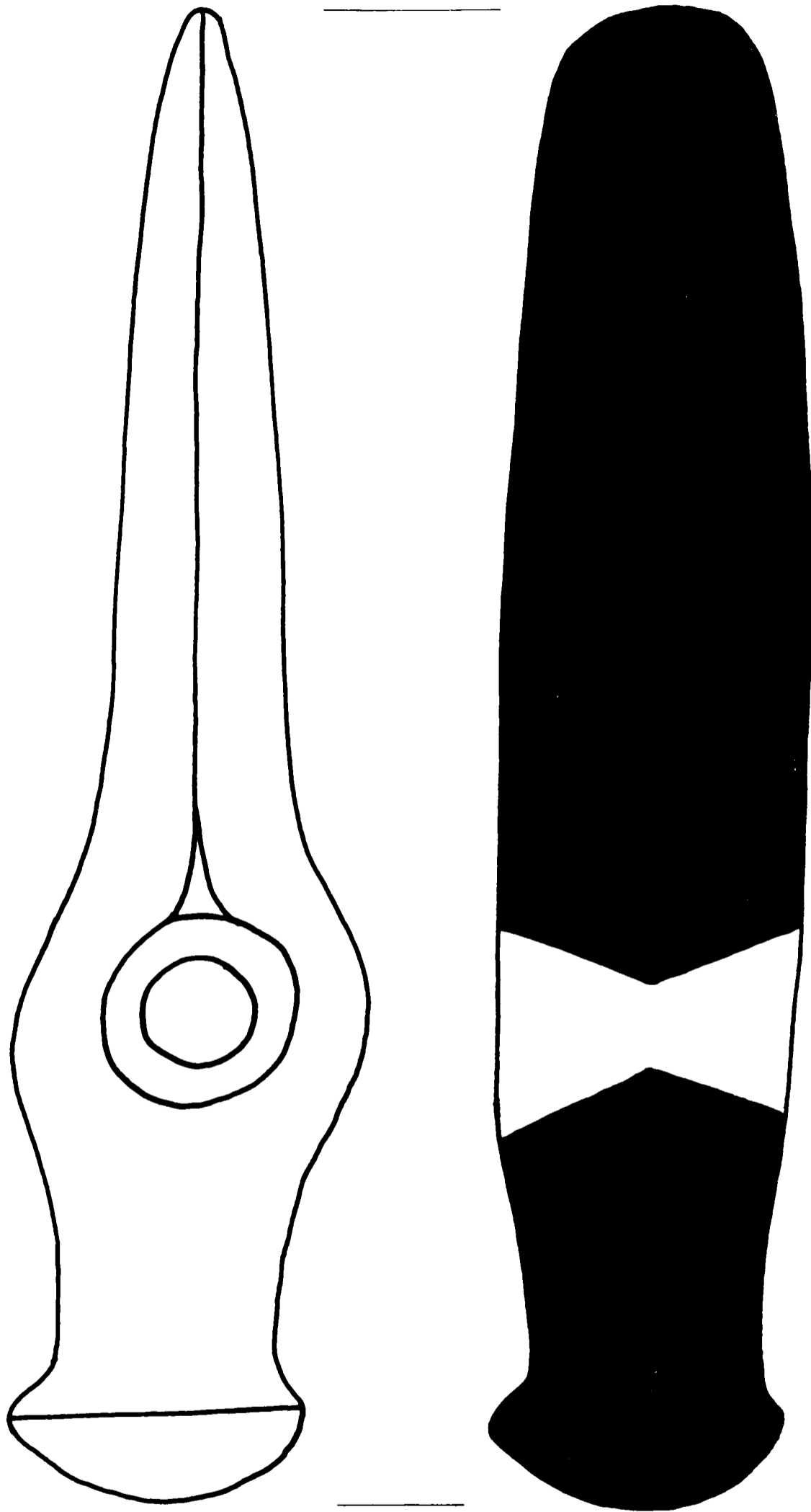
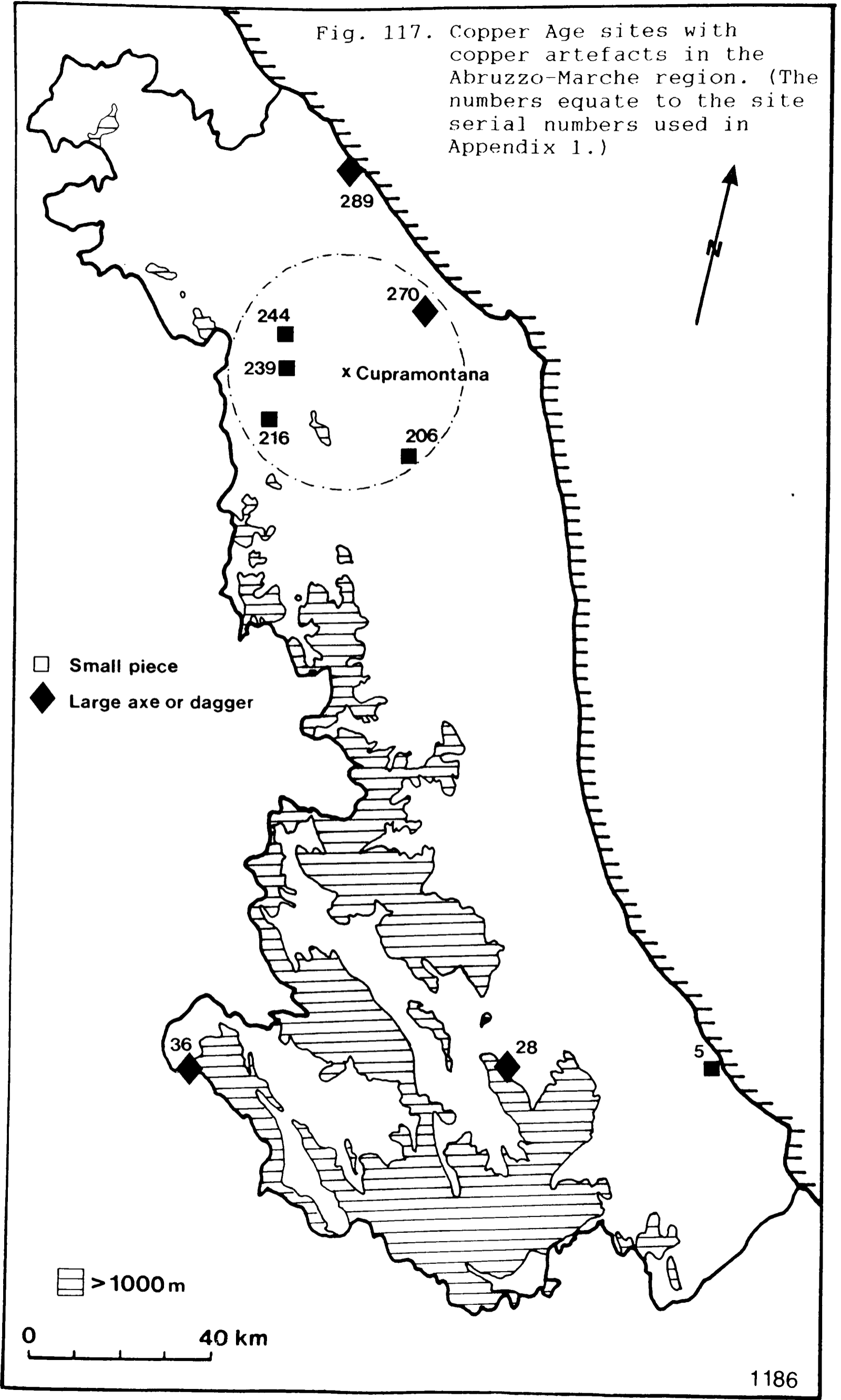
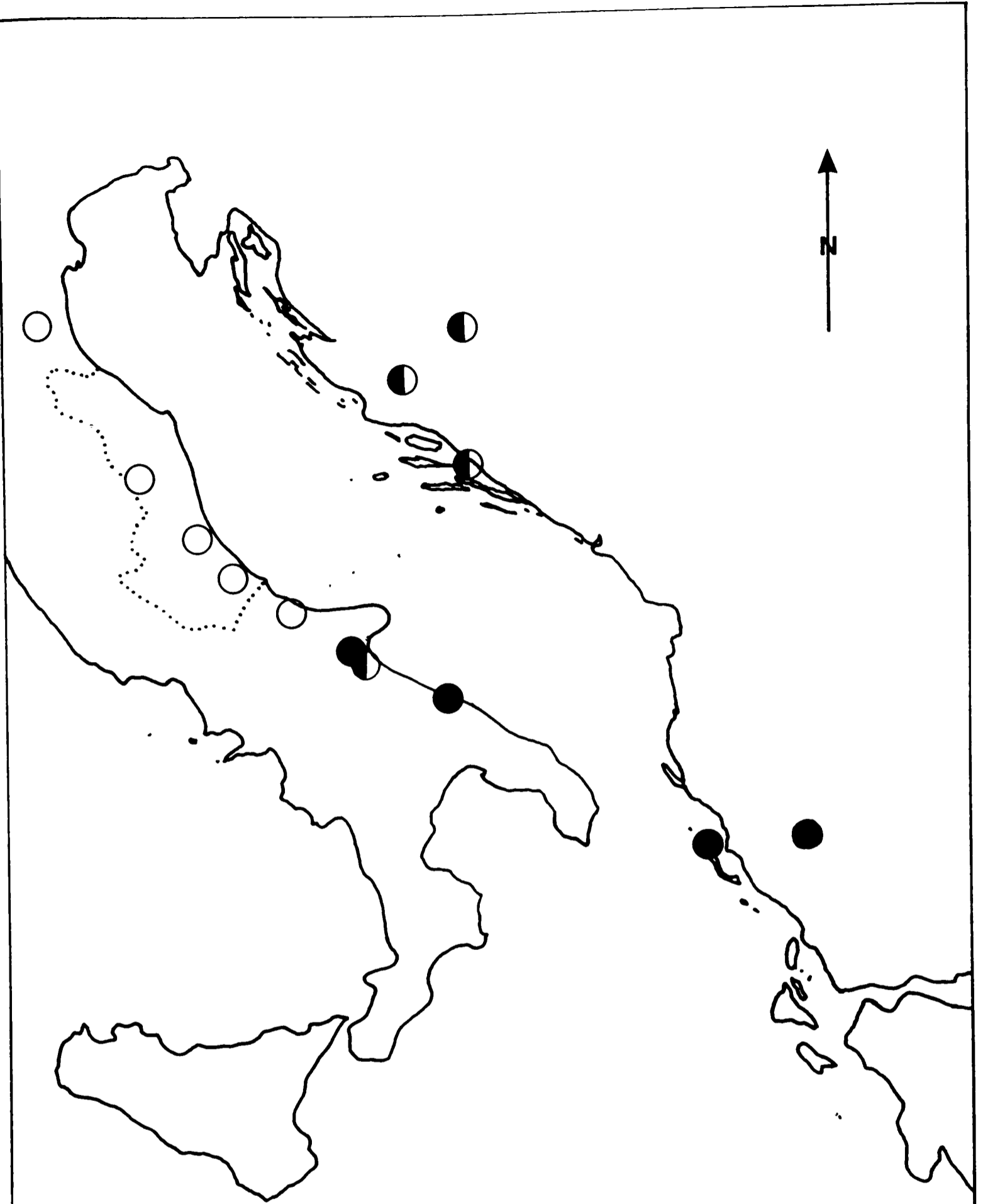


Fig. 116. Knobbed battle-axe from Senigallia [AN]
(unpublished in The British Museum).

Fig. 117. Copper Age sites with copper artefacts in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)





Cal. BC

- 6800 - 6300
- ◐ 6300 - 5800
- 5800 - 5300

0 200km

Fig. 118. Distribution of the earliest radiocarbon dates in different parts of the Adriatic region.

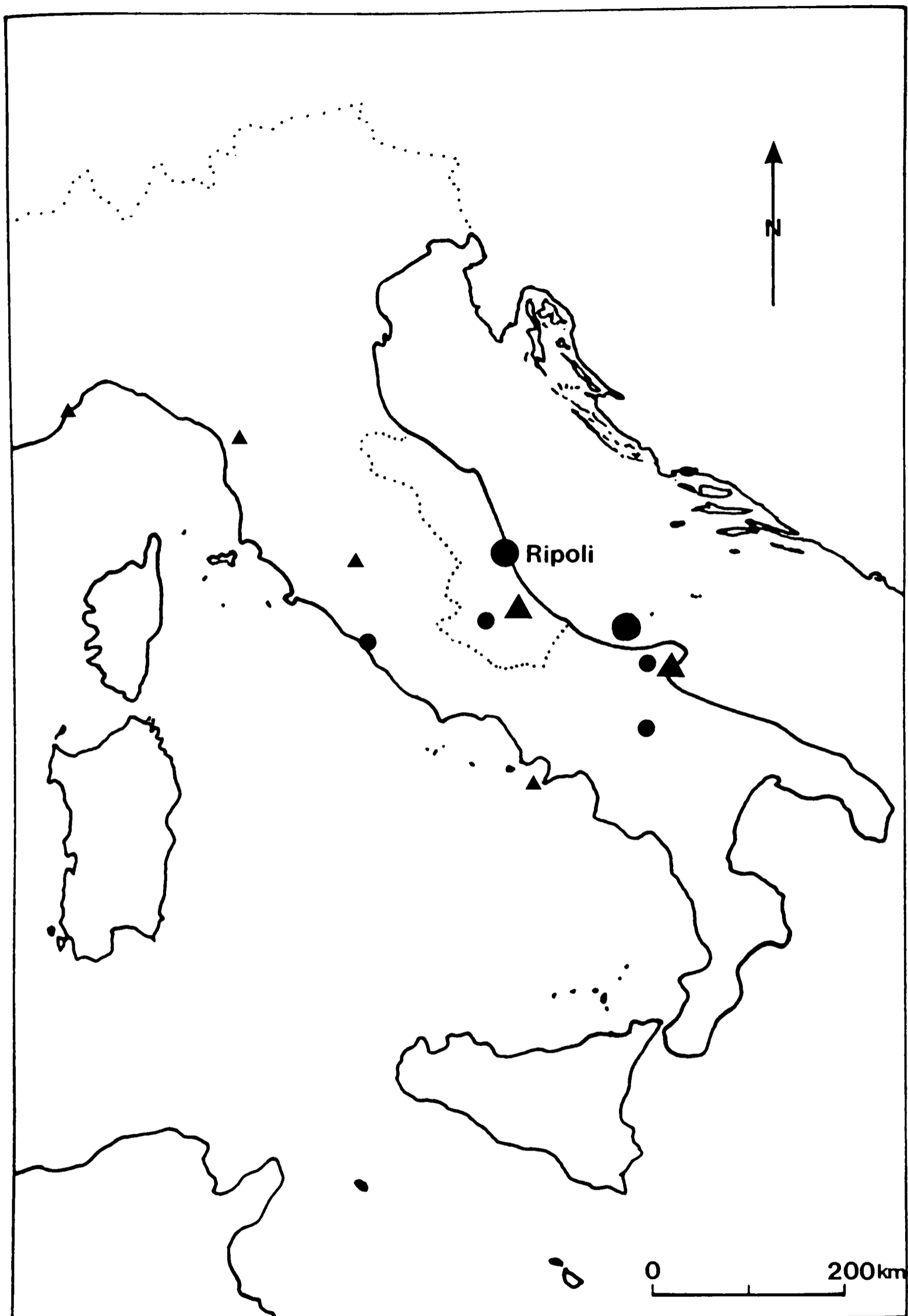


Fig. 119. Distribution of Ripoli painted pottery in Italy.

Circles = open residential sites, triangles = cave sites;
 large symbols = over three sherds, small symbols = one or
 two sherds.

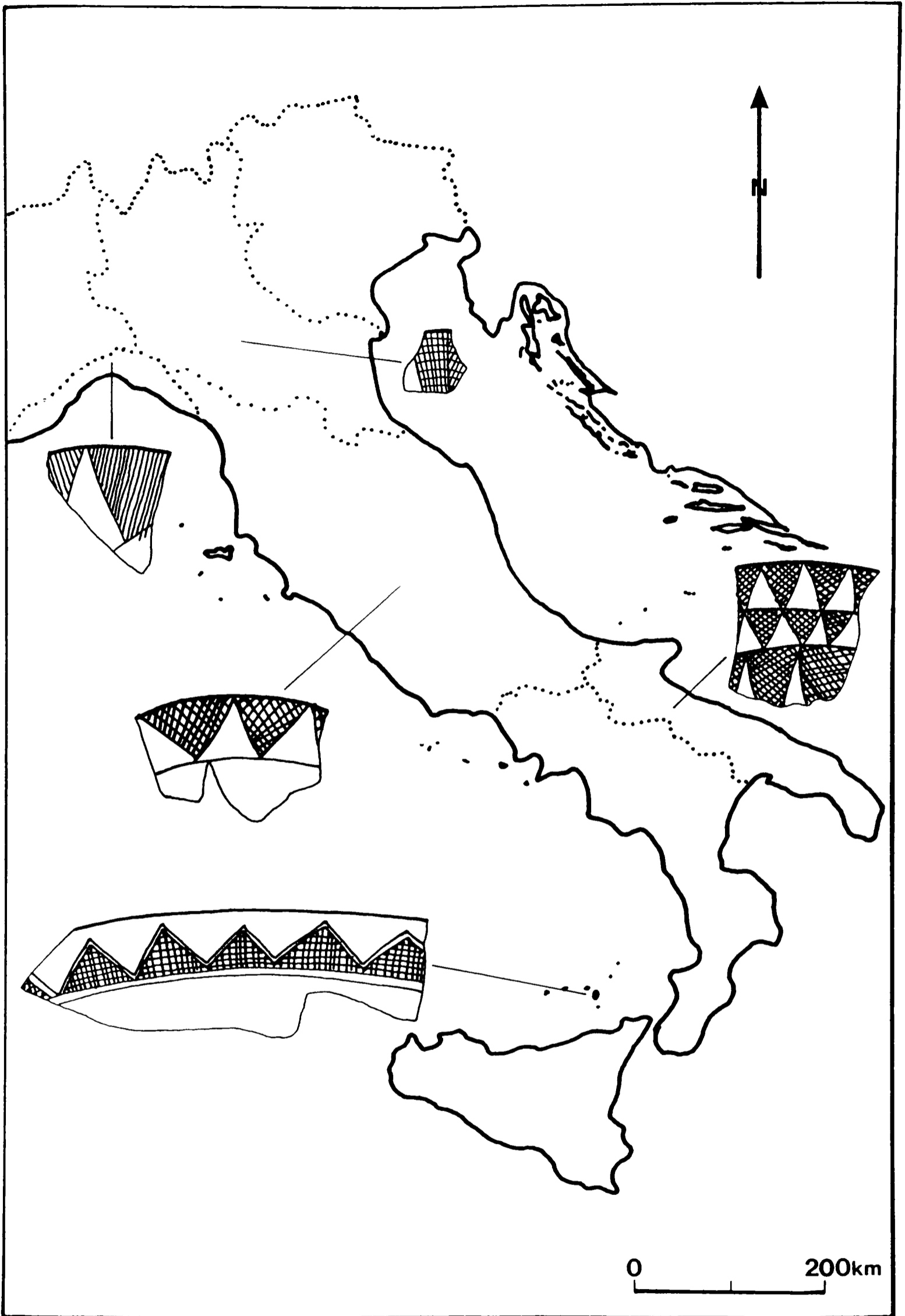


Fig. 120. Regional variations in Italy in decorative motifs found on final Neolithic/early Copper Age dark burnished fineware truncoconical bowls with out-turned rims.

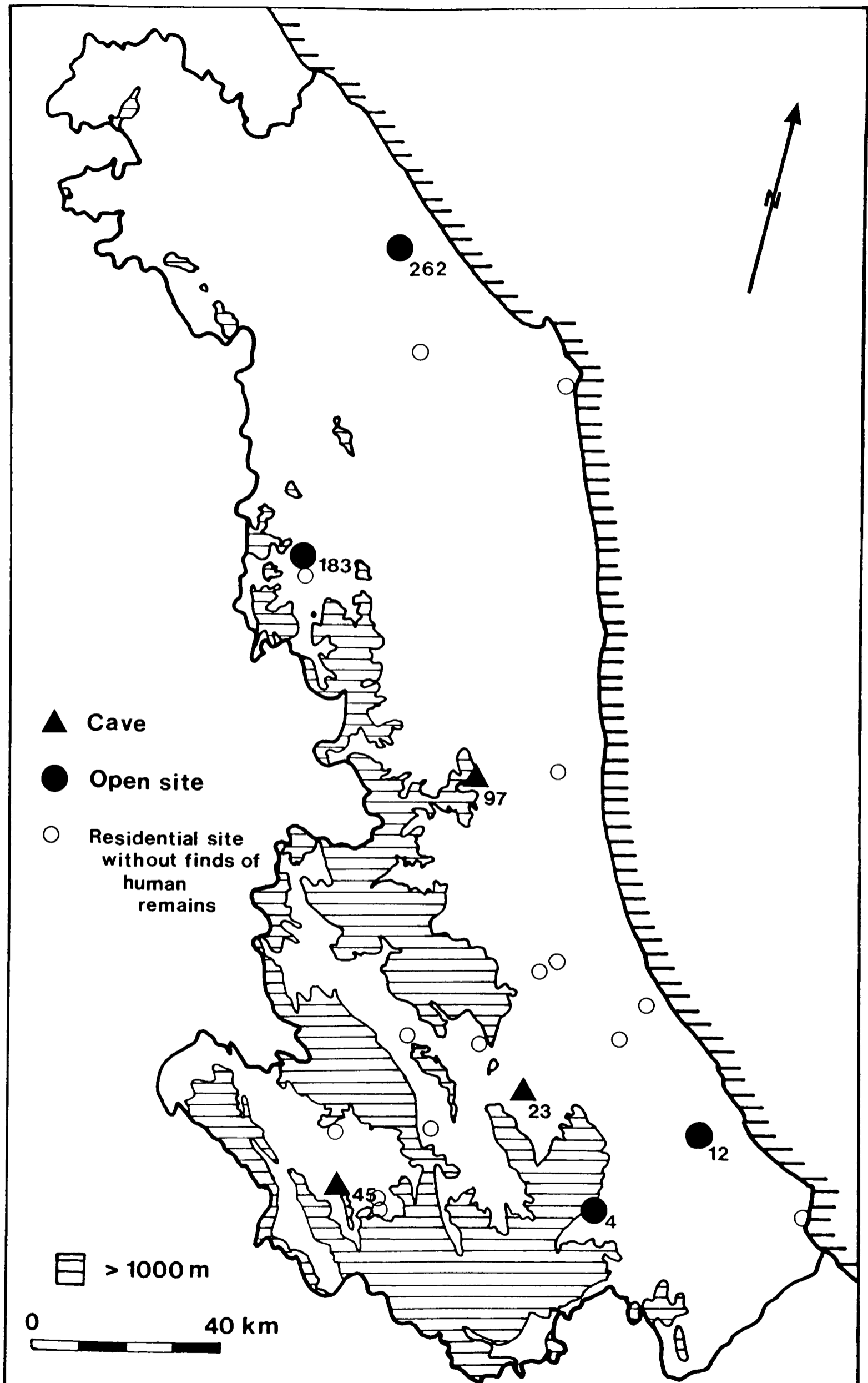


Fig. 121. Early Neolithic sites with finds of human remains in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.) 1190

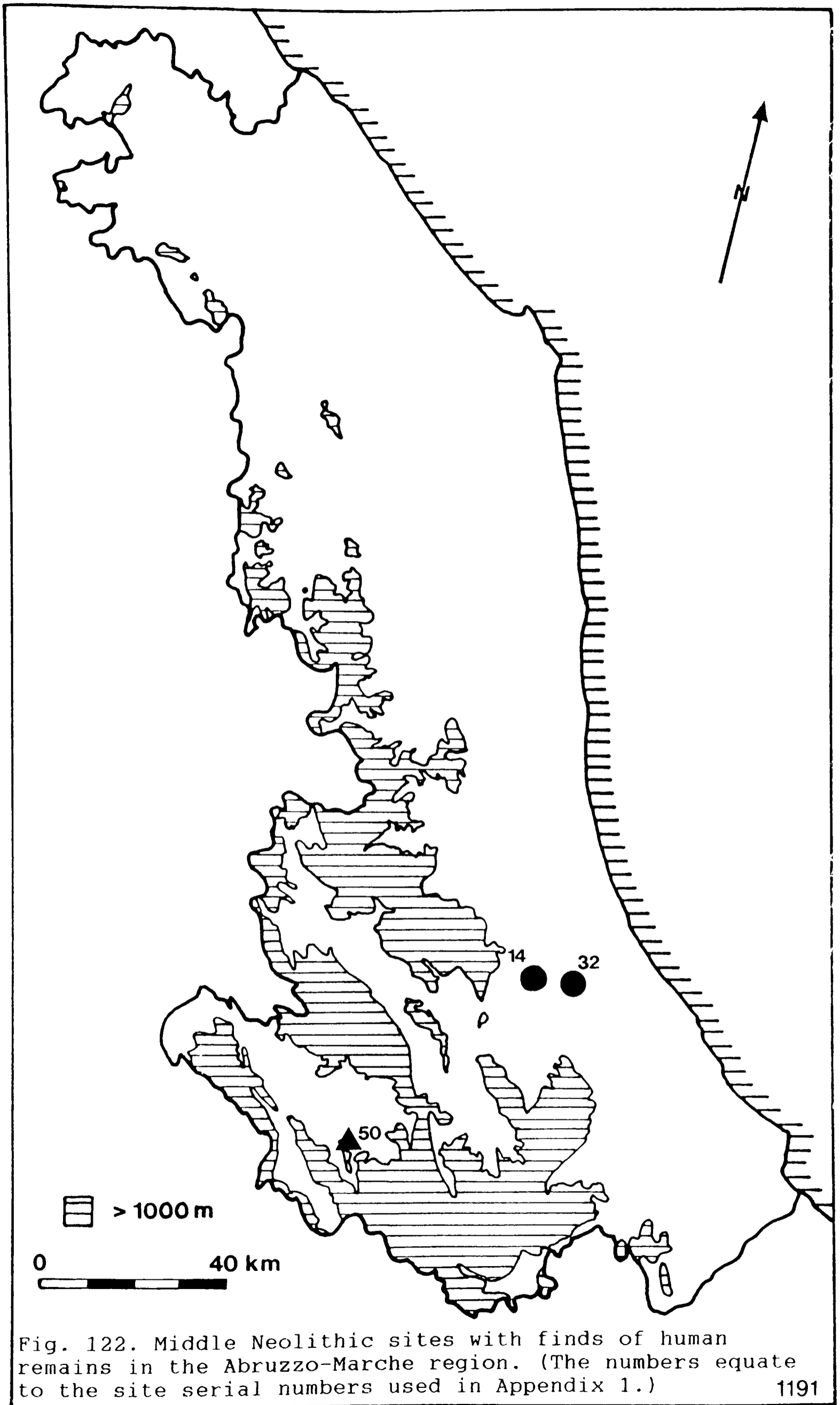


Fig. 122. Middle Neolithic sites with finds of human remains in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)

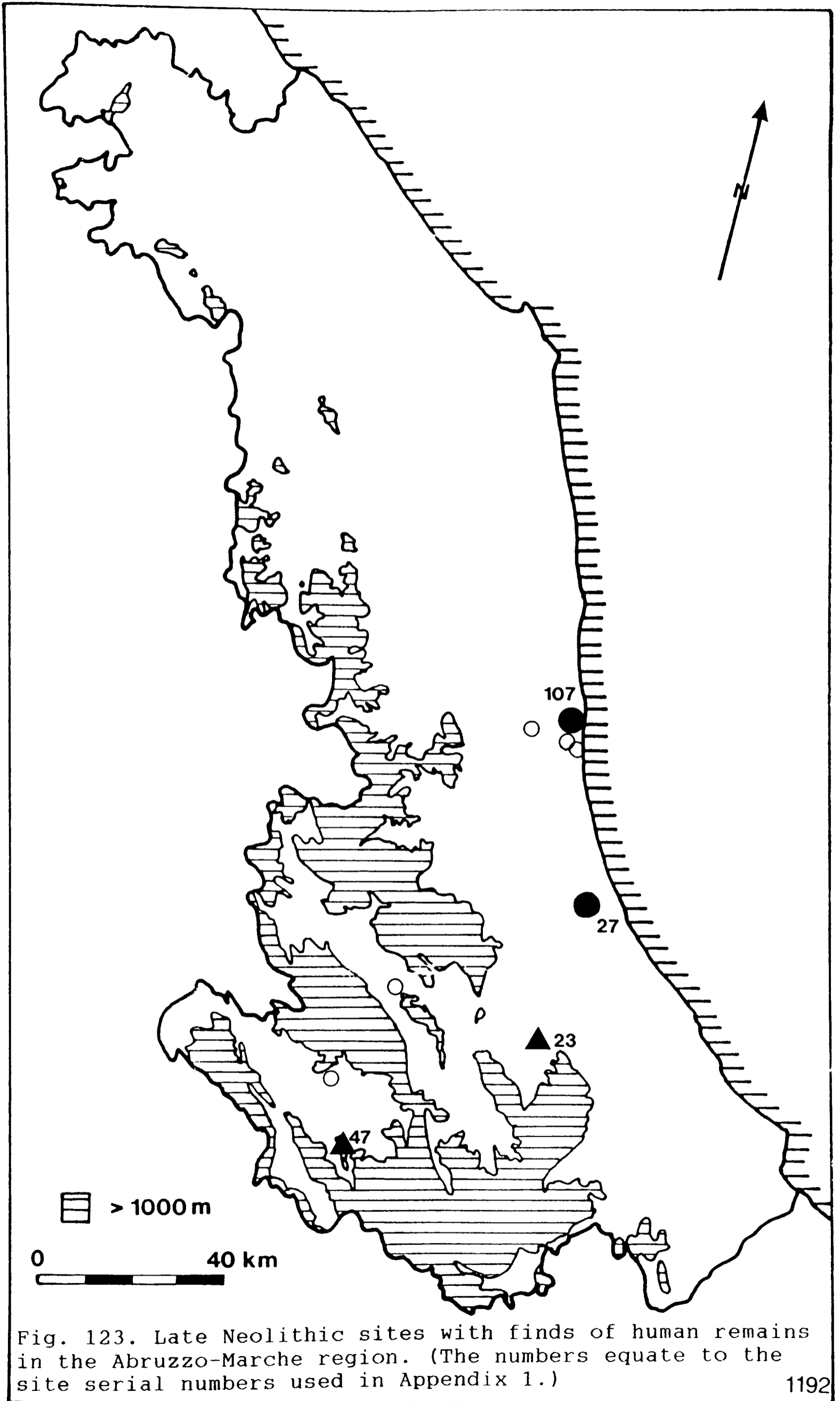


Fig. 123. Late Neolithic sites with finds of human remains in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)

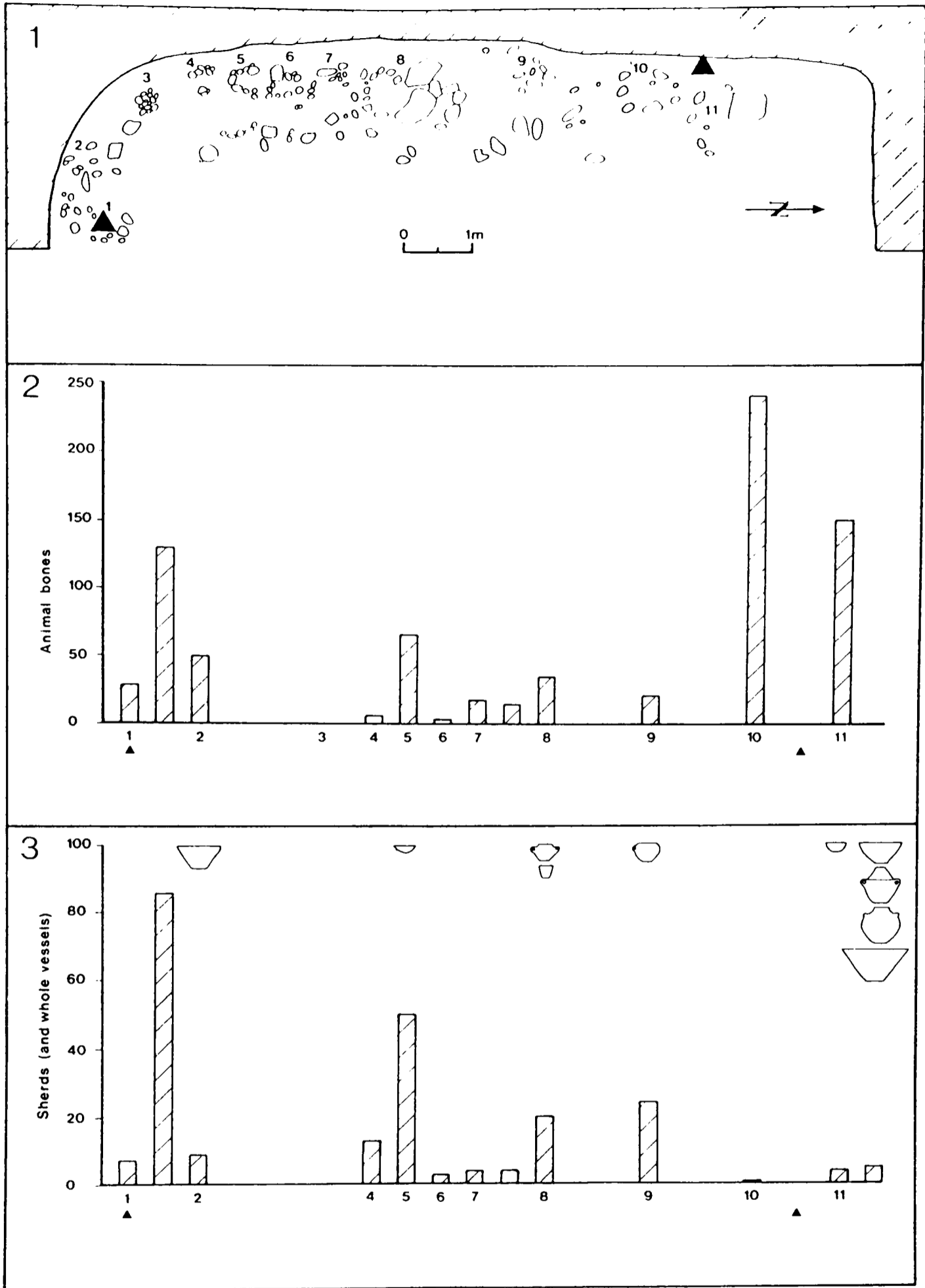


Fig. 124. Patterning deposits in the 'Level of the Circles' in Grotta dei Piccioni.

1. The line of 11 circles of stone (numbered) found close to the back wall of the cave (hatched). The triangles indicate the position of the child remains (after Cremonesi 1965), 2. Numbers of animal bones found in and around the circles of stone (numbered along the bottom axis), 3. Numbers of pottery sherds (below) and whole vessels (above) found in and around the circles of stone.

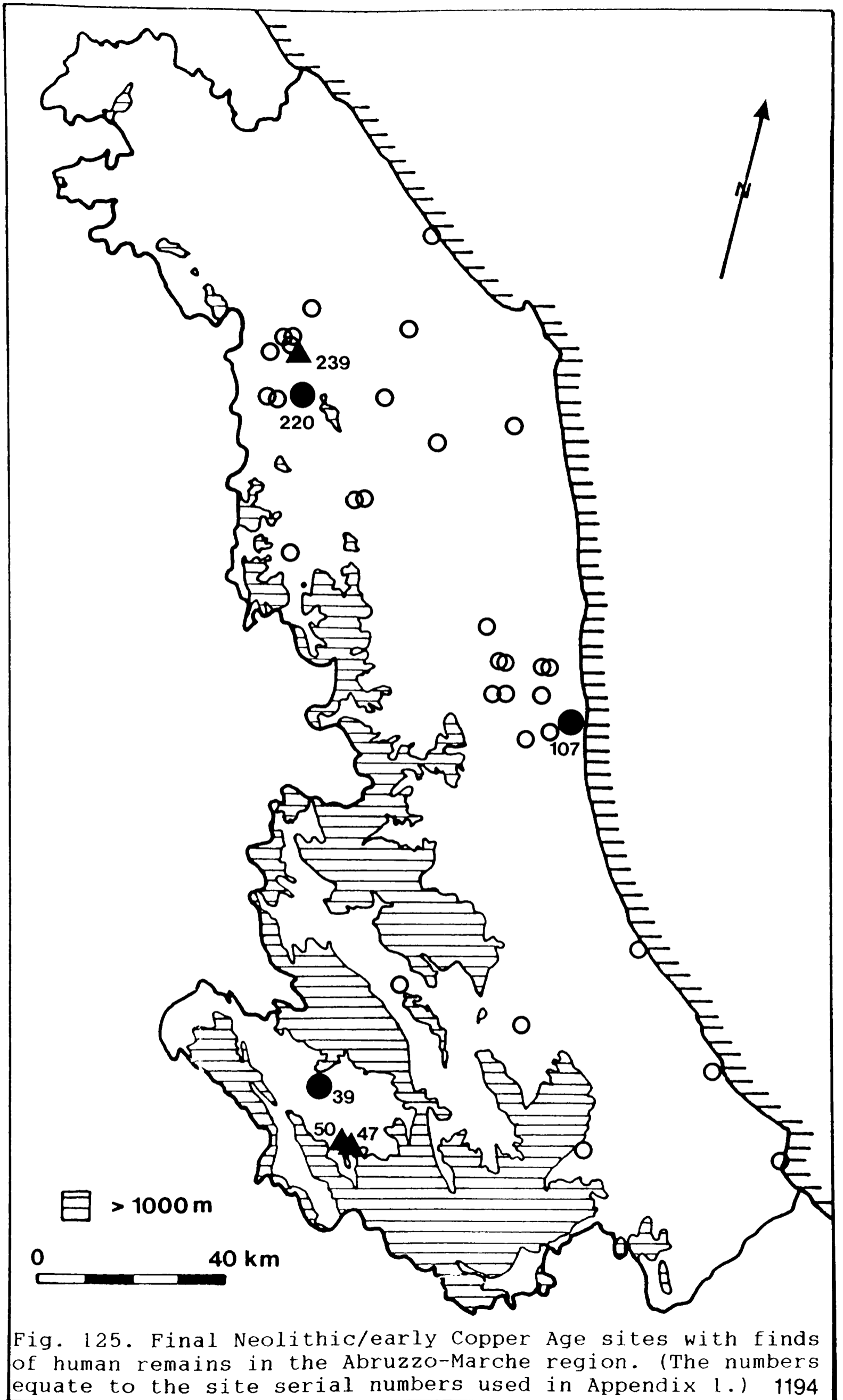


Fig. 125. Final Neolithic/early Copper Age sites with finds of human remains in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.) 1194

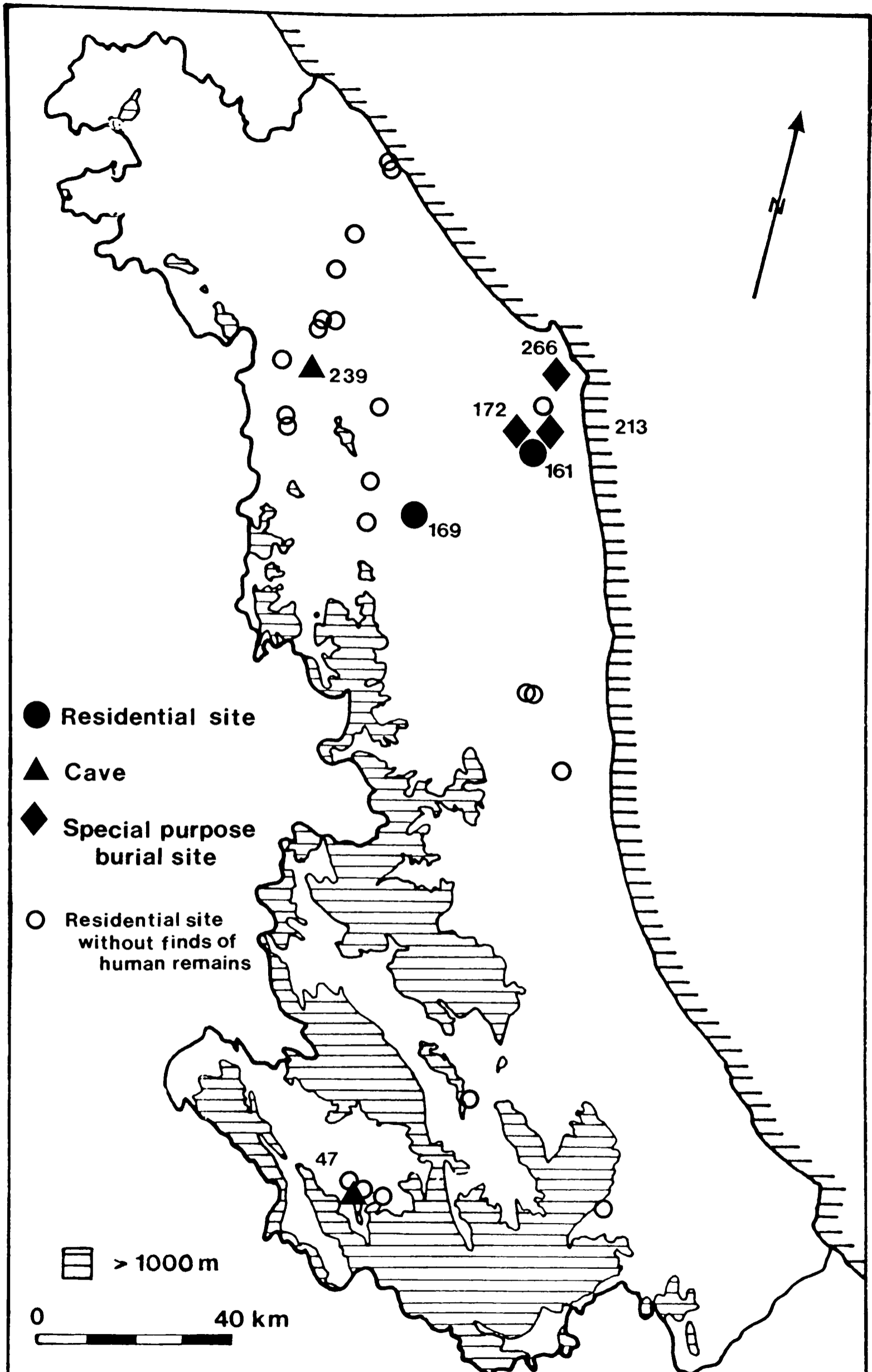


Fig. 126. Middle Copper Age sites with finds of human remains in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)

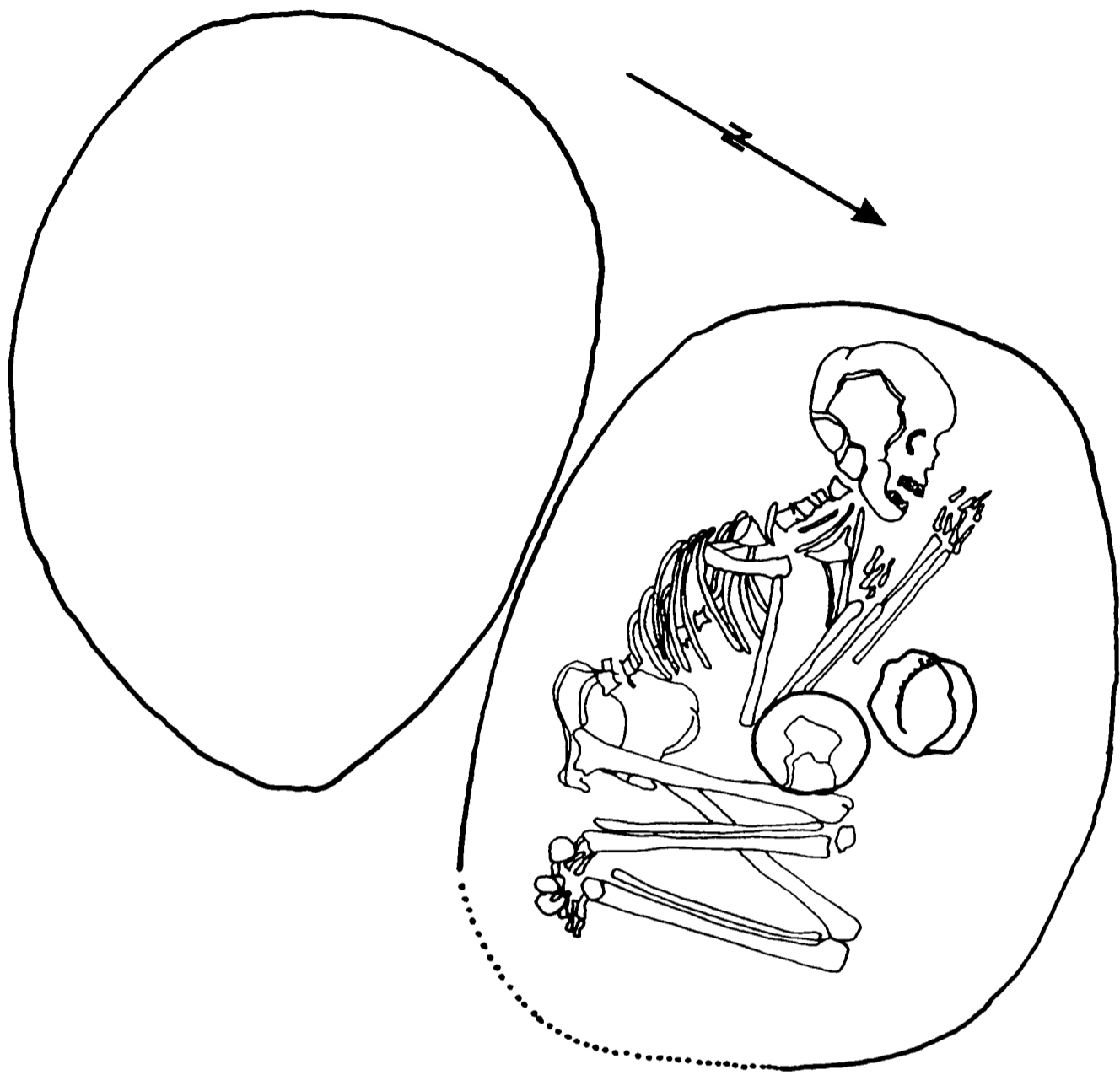


Fig. 127. Middle Copper Age burial (with two pottery vessels) at Area Guzzini East [MC] (after Percossi Serenelli and Silvestrini Lavagnoli 1988).

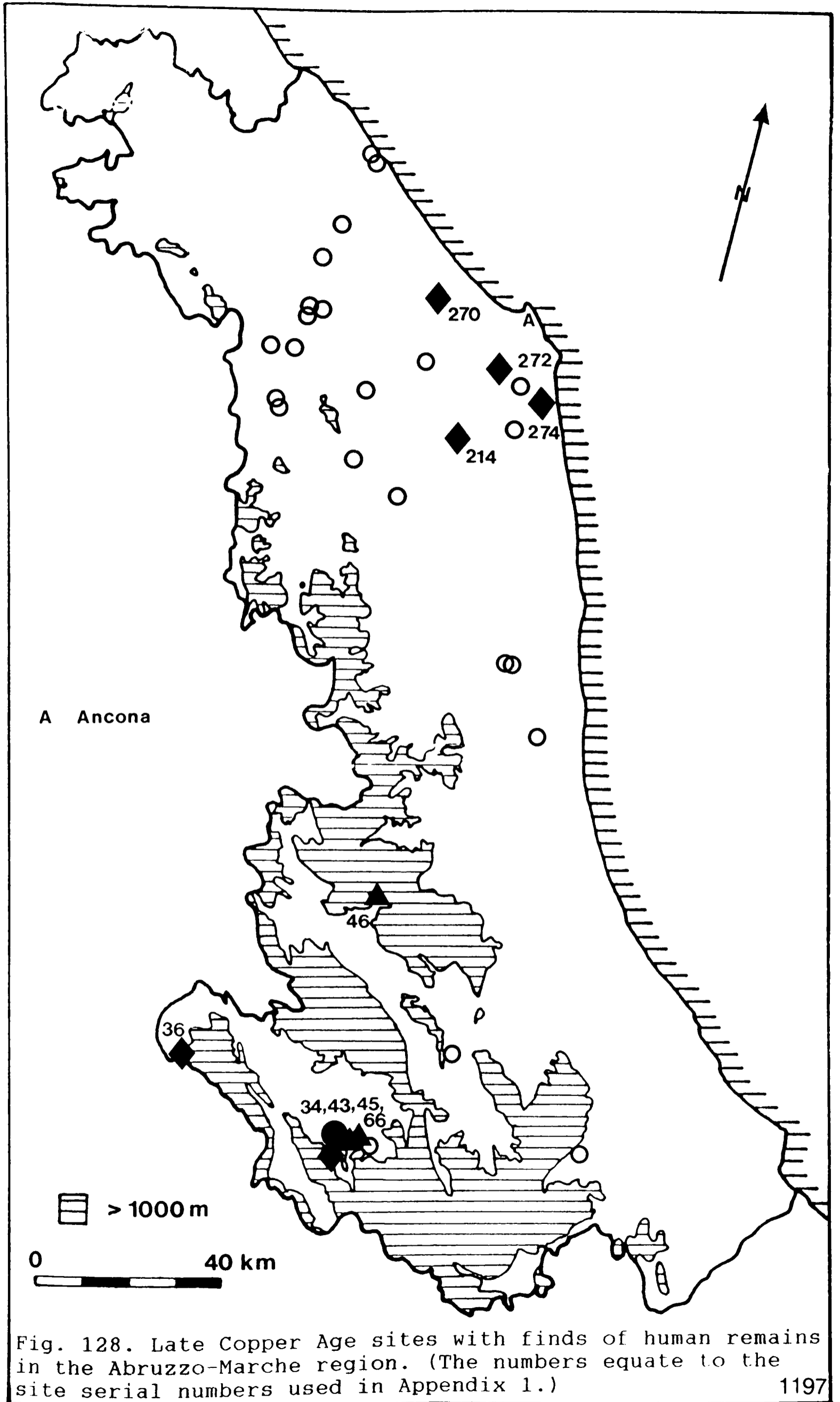


Fig. 128. Late Copper Age sites with finds of human remains in the Abruzzo-Marche region. (The numbers equate to the site serial numbers used in Appendix 1.)

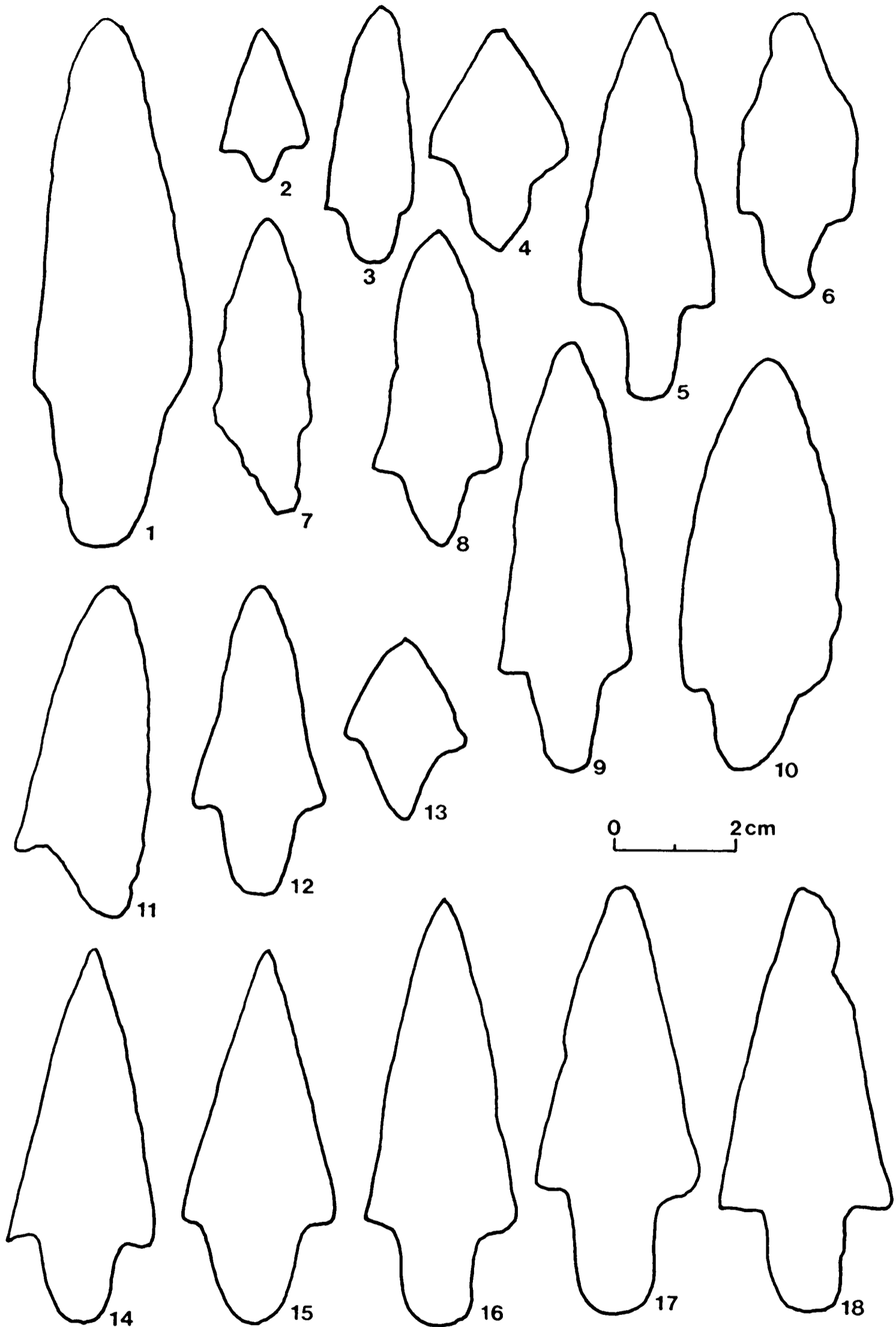


Fig. 129. Unpublished Copper Age arrowheads from the provinces of Chieti and L'Aquila, Abruzzo.

1. Bomba [CH] (Pigorini Museum), 2-4. Lettopalena [CH] (Perugia Museum), 5-8. Maiella mountains [CH] (Pigorini Museum), 9-10. S. Tommaso [CH] (Perugia Museum), 11-13. Avezzano [AQ] (Perugia Museum), 14-18. Camerata [AQ] (Pigorini Museum).

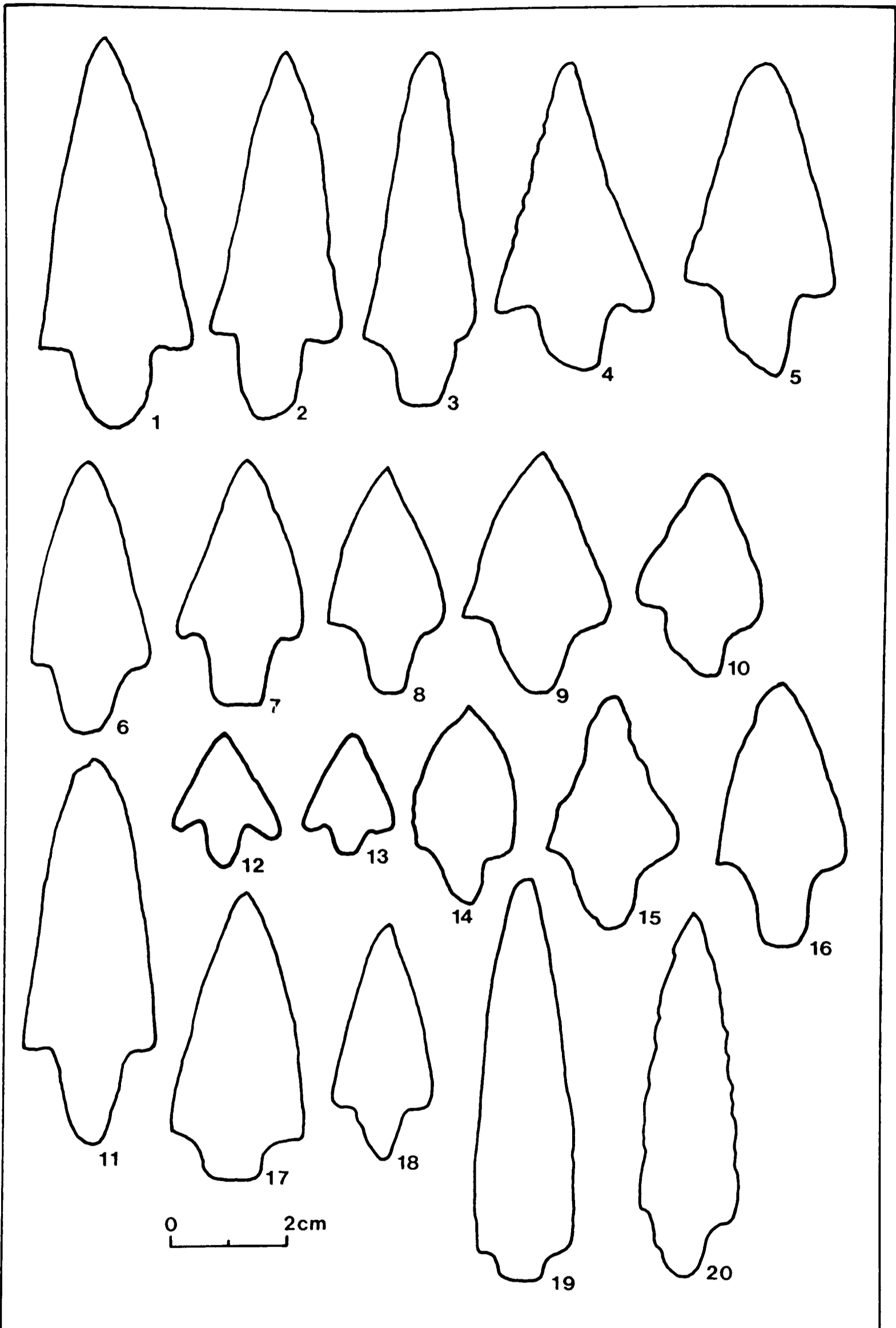


Fig. 130. Unpublished Copper Age arrowheads from the L'Aquila province, Abruzzo.

1-10. Camerata (Pigorini Museum), 11. Capestrano (Perugia Museum), 12-16. La Troja (Perugia Museum), 17-20. Luco-Trasacco (17-18 Pigorini Museum, 19-20 Pigorini Museum). 1199

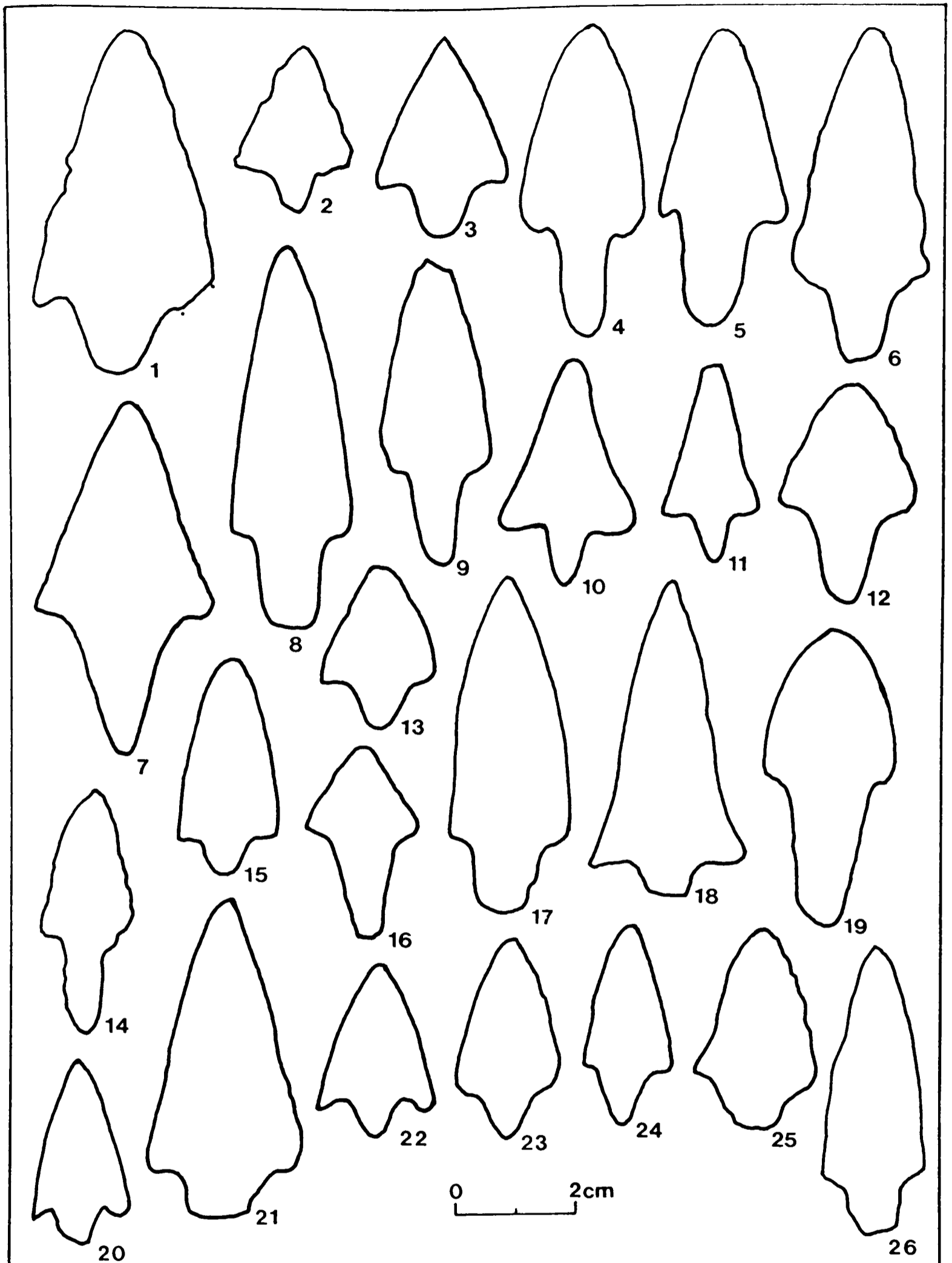


Fig. 131. Unpublished Copper Age arrowheads from the L'Aquila province, Abruzzo.

1-2. S. Giovanni - S. Lorenzo (Perugia Museum), 3. S. Sebastiano (Perugia Museum), 4-25. Sulmona basin (4-15 Pigorini Museum, 16-25 Perugia Museum), 26. Villalungo (Perugia Museum).

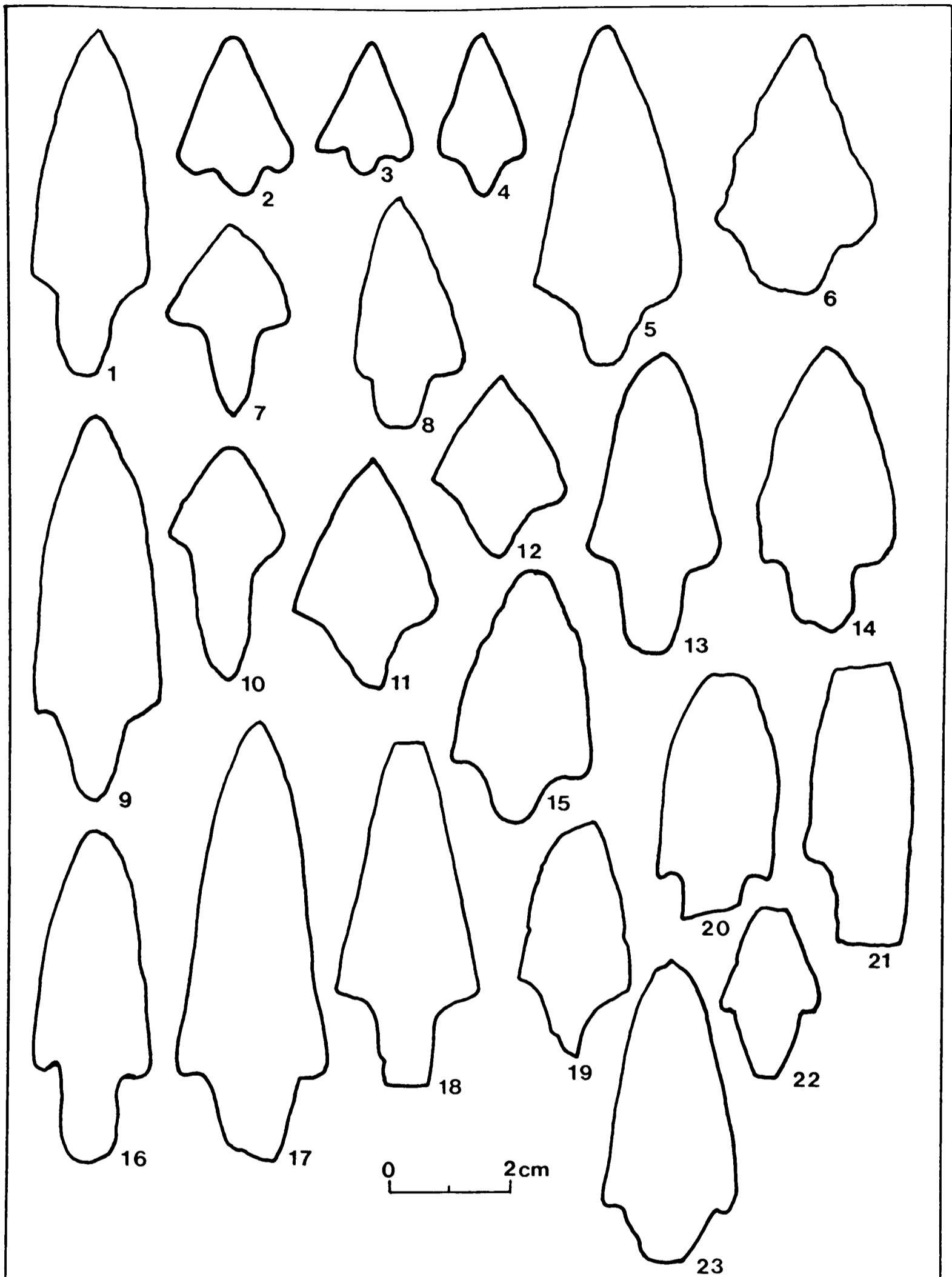


Fig. 132. Unpublished Copper Age arrowheads from the provinces of L'Aquila and Teramo, Abruzzo.

1. Tufo [AQ] (Perugia Museum), 2-4. Ancarano [TE] (Perugia Museum), 5-6. Colonella [TE] (Perugia Museum), 7-15. Nereto [TE] (Perugia Museum), 16-18. Rocciano [TE] (Perugia Museum), 19-20. Salinello valley [TE] (Perugia Museum), 21-23. Valle del Vomano [TE] (Pigorini Museum).

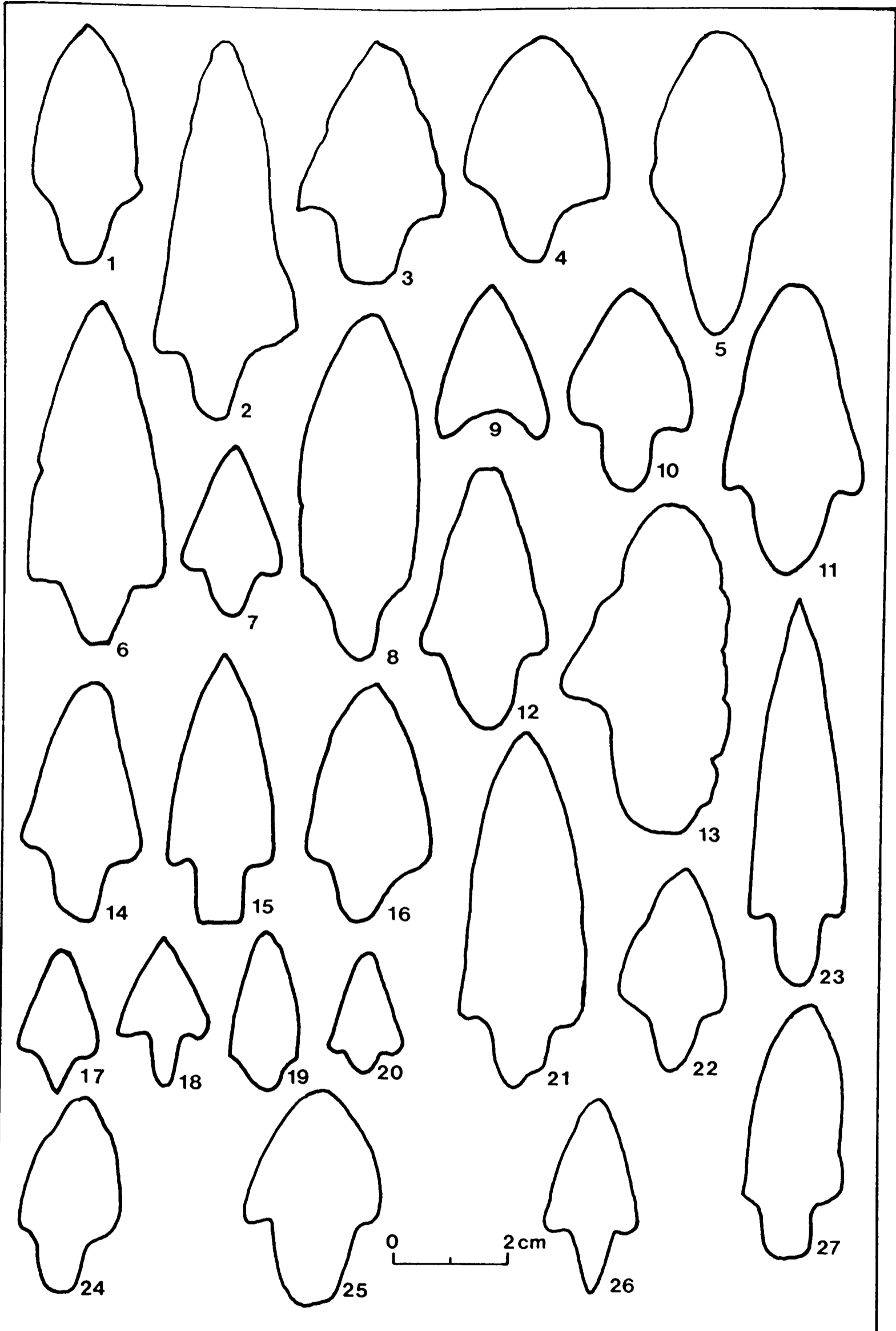


Fig. 133. Unpublished Copper Age arrowheads from the Ascoli-Piceno province, Marche.

1. Castel Trosino (Pigorini Museum), 2-27. Colle del Tronto (Pigorini Museum).

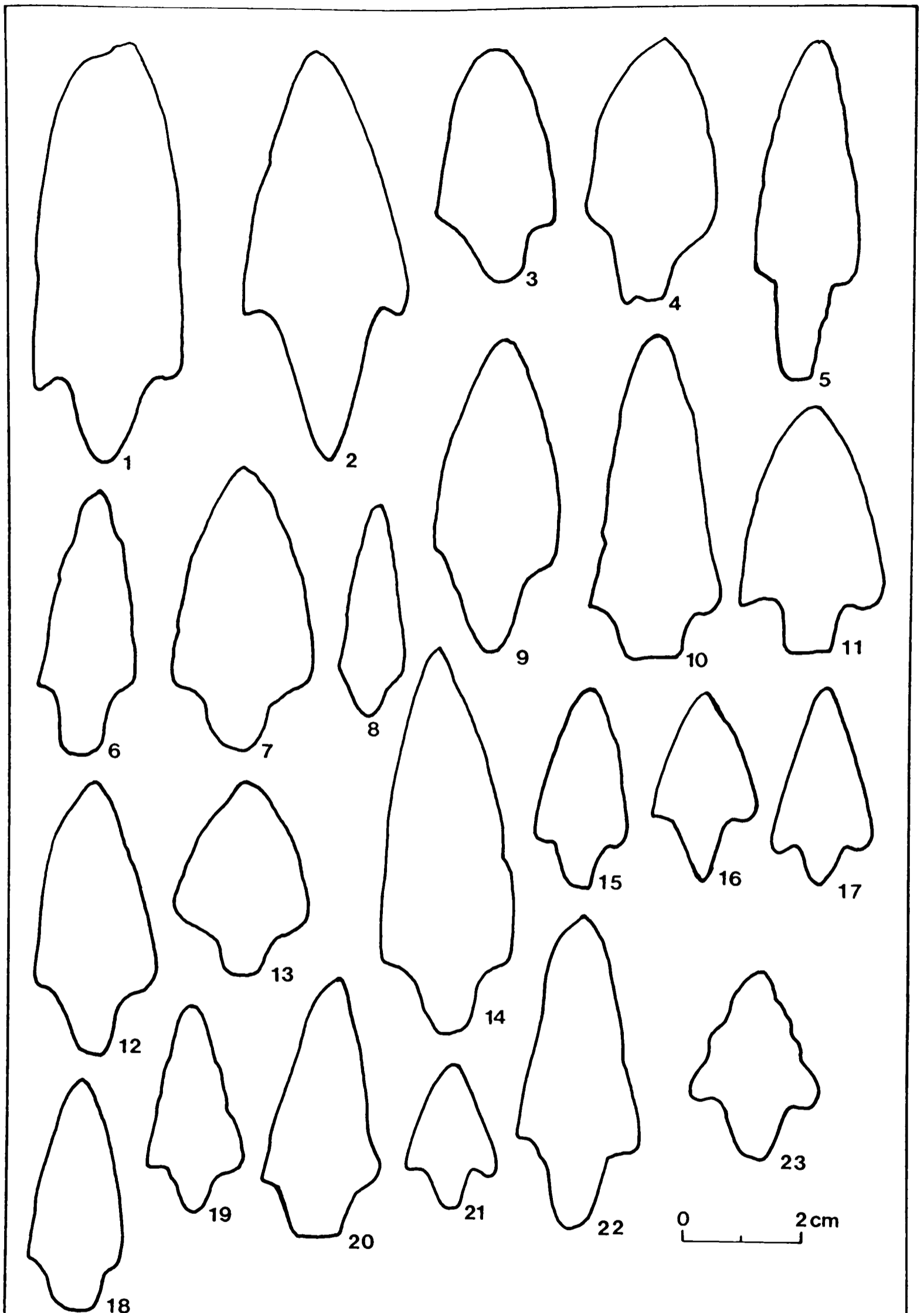


Fig. 134. Unpublished Copper Age arrowheads from the Ascoli-Piceno province, Marche.

1-3. Fermo (1-2 Pigorini Museum, 3 Perugia Museum), 4. Gran Caso (Pigorini Museum), 5. Montalto Marche (Perugia Museum), 6. Monte Granaro (Pigorini Museum), 7-13. Pagliari del Tronto (Perugia Museum), 14-19. Pedaso (Perugia Museum), 20. Ponte (Perugia Museum), 21-23. S. Benedetto del Tronto (21-22 Pigorini Museum, 23. Perugia Museum). 1203

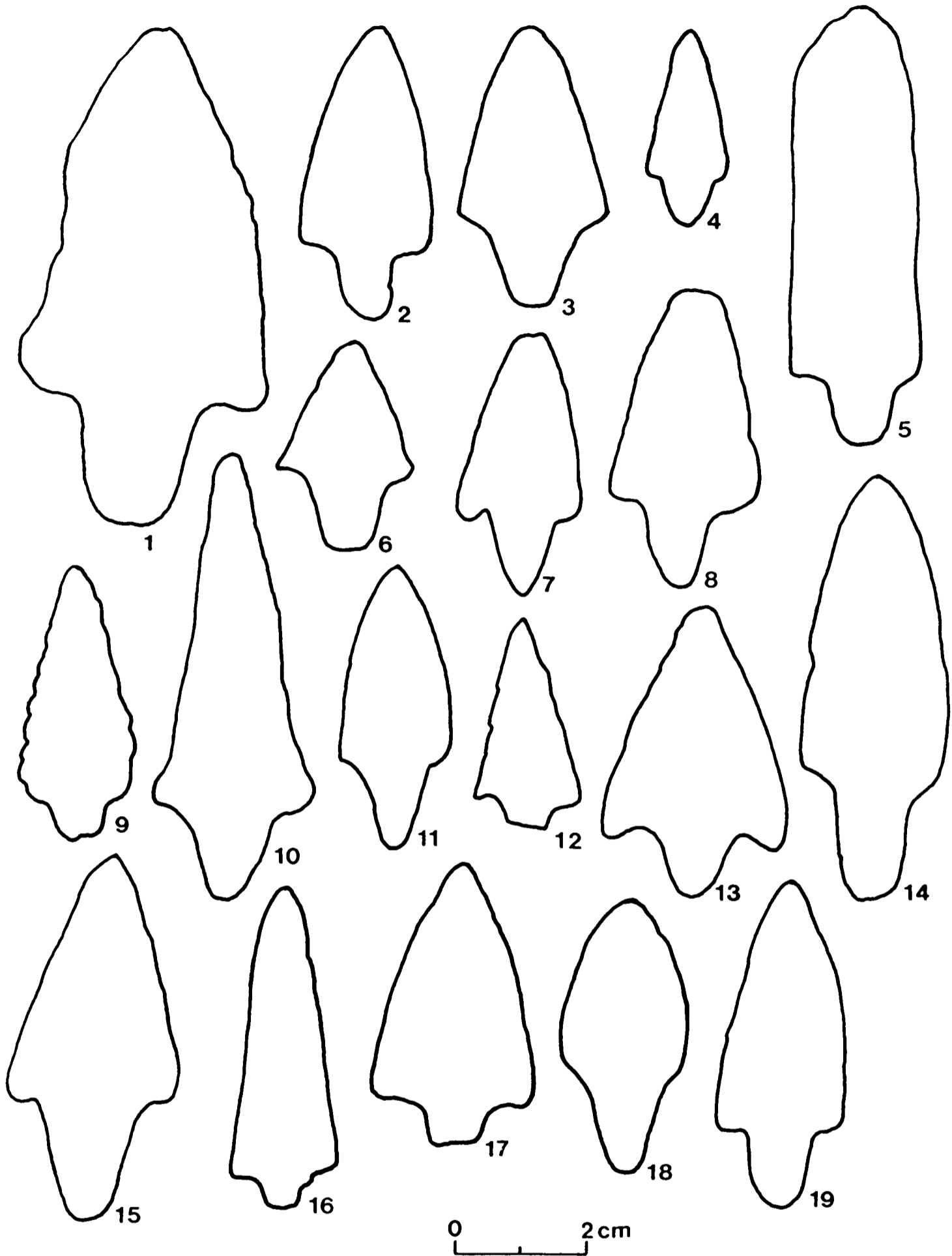


Fig. 135. Unpublished Copper Age arrowheads from the Ascoli-Piceno province, Marche.

1-4. Servigliano (Pigorini Museum), 5-11. S. Vittoria in Matenano, 12-18. Valle del Tronto (Pigorini Museum), 19. Venarotta/Vindola (Pigorini Museum).

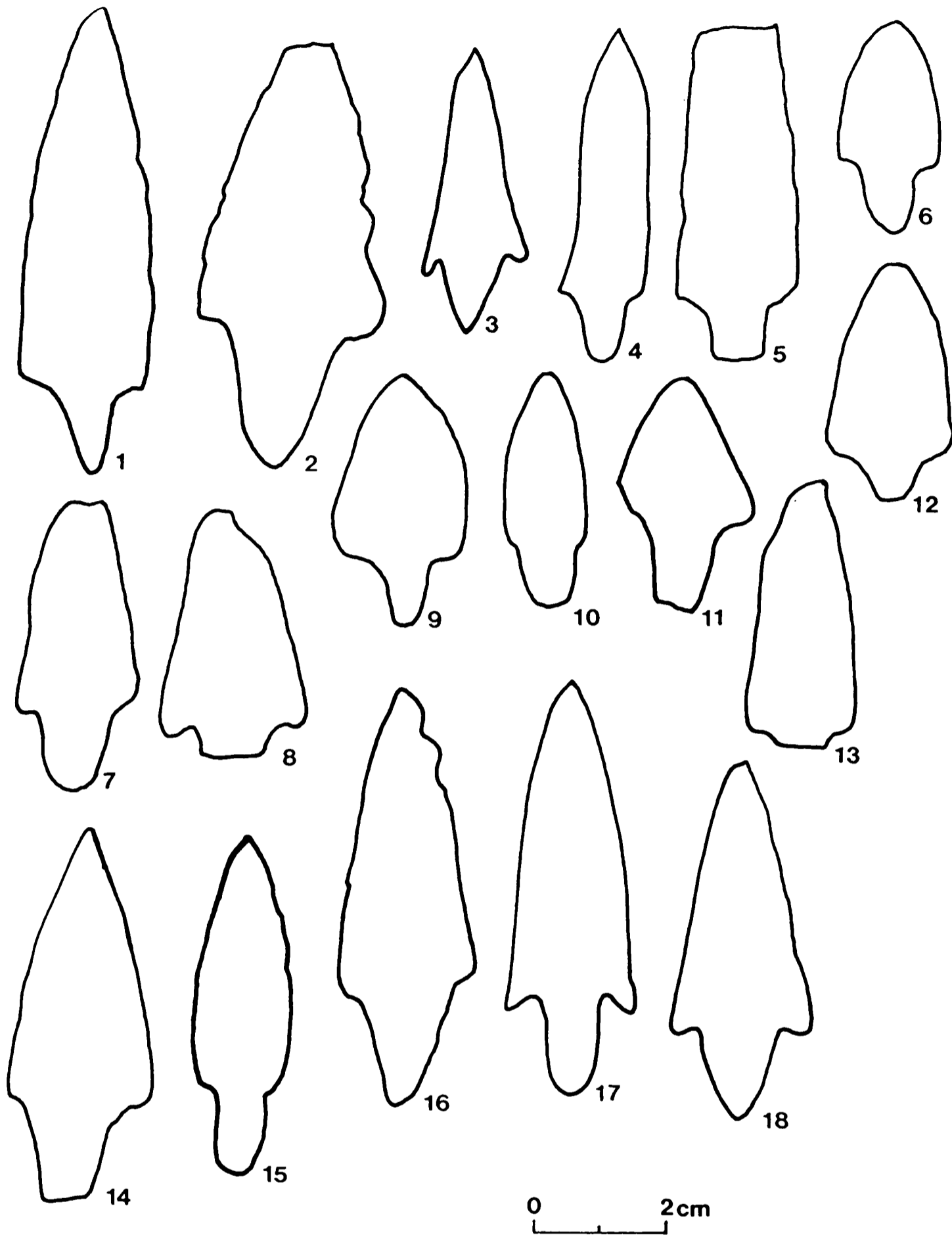


Fig. 136. Unpublished Copper Age arrowheads from the Macerata province, Marche.

1-4. Appignano (Pigorini Museum), 5-13. Area Guzzini East (Ancona Museum), 14. Bovara (Perugia Museum), 15-16. Casone (Pigorini Museum), 17. Crispiero (Pigorini Museum), 18. Fiastra (Perugia Museum).

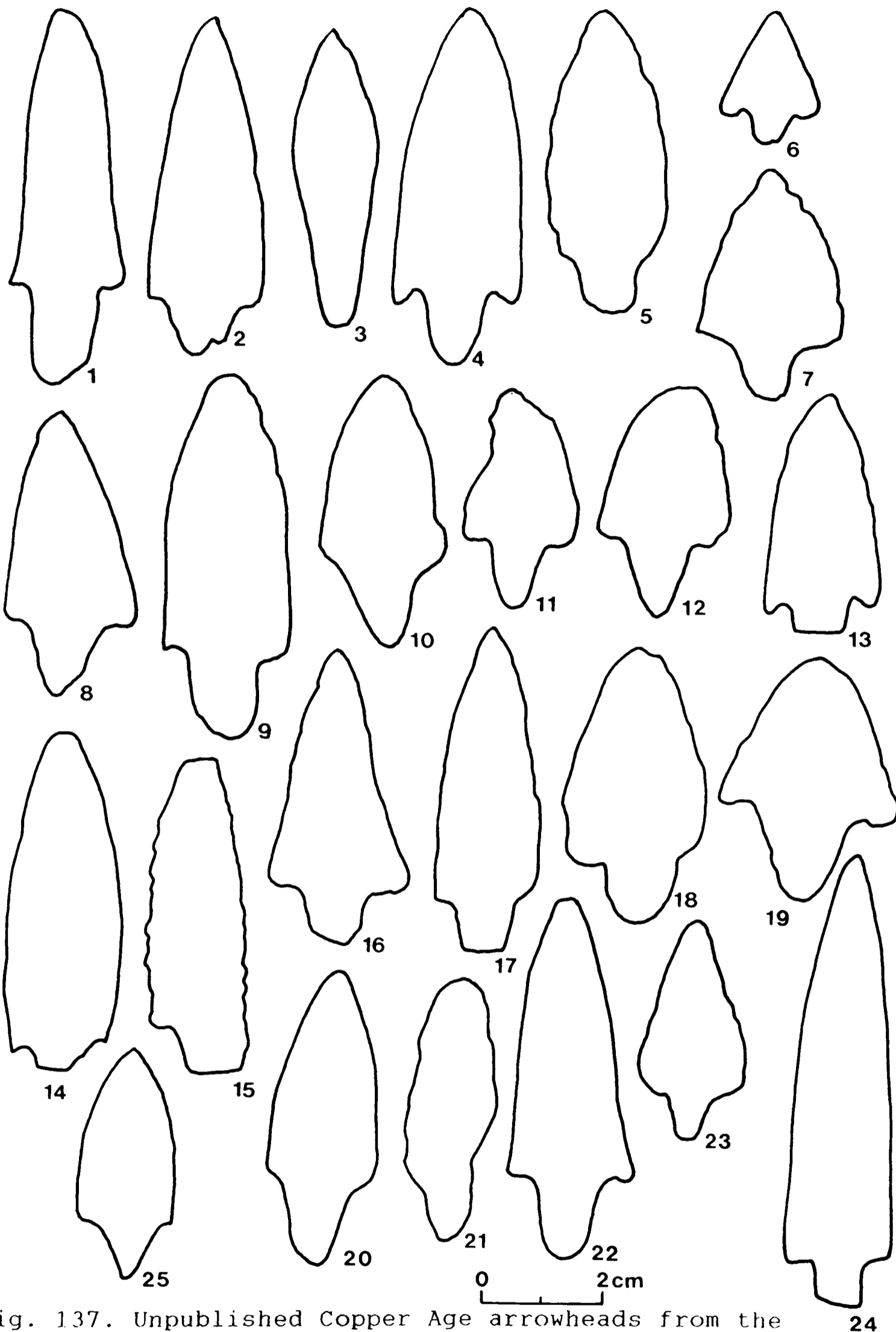


Fig. 137. Unpublished Copper Age arrowheads from the Macerata province, Marche.

1-5. Matelica (Perugia Museum), 6-8. Monteleone (Perugia Museum), 9. Pantaneta (Perugia Museum), 10. Penna S. Giovanni (Pigorini Museum), 11. 11-12. Pian delle Mure (Pigorini Museum), 13-14. Podere del Tufo (Pigorini Museum), 15-20. Polverina (Perugia Museum), 21-22. Porto Recanati (Pigorini Museum), 23. Valle del Cesolone (Pigorini Museum), 24-25. Villa Potenza (Bologna Museum). 1206

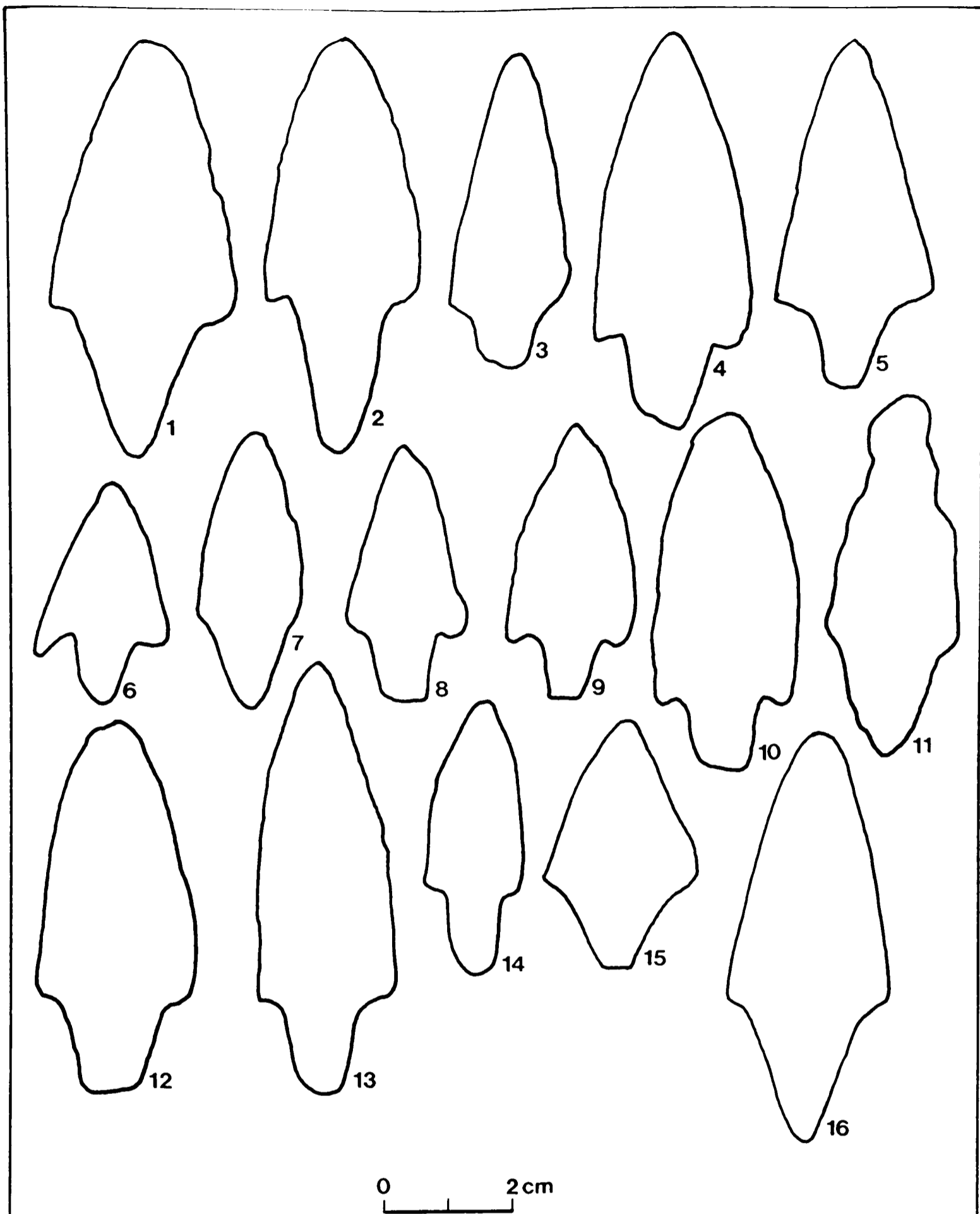


Fig. 138. Unpublished Copper Age arrowheads from the Ancona province, Marche.

1. Buzzetto (Pigorini Museum), 2-3. Cerreto (Perugia Museum), 4-5. Fabriano (Pigorini), 6-9. Fienili (Pigorini Museum), 10-12. Genga (Pigorini Museum), 13-14. Moje, 15. Novali (Pigorini Museum), 16. Osimo (Perugia Museum). 1207

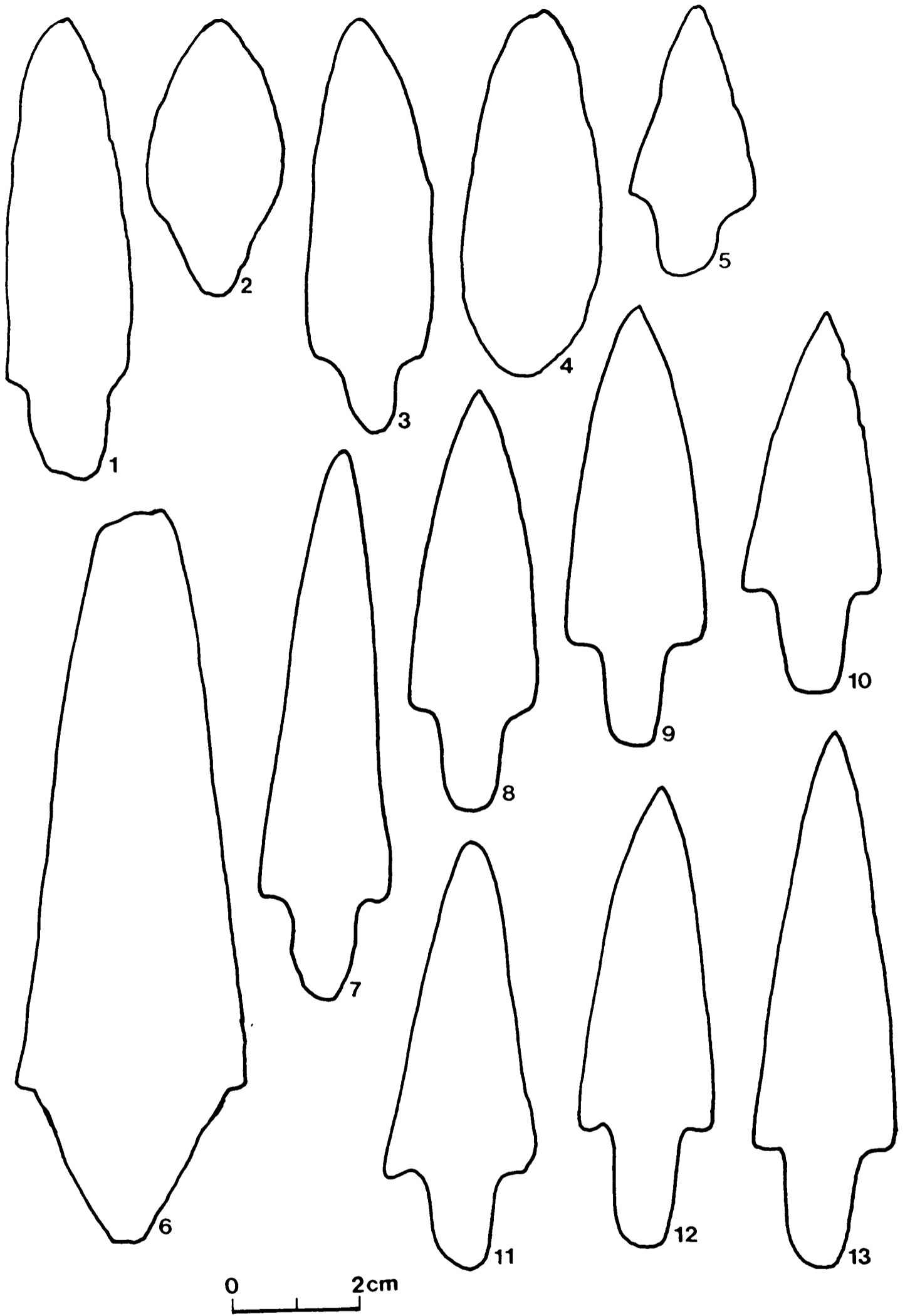


Fig. 139. Unpublished Copper Age arrowheads from the Ancona province, Marche.

1-2. Osimo (Perugia Museum), 3-5. Pergola - Sassoferrato (Perugia Museum), 6-13. S. Rocco (Pigorini Museum). 1208

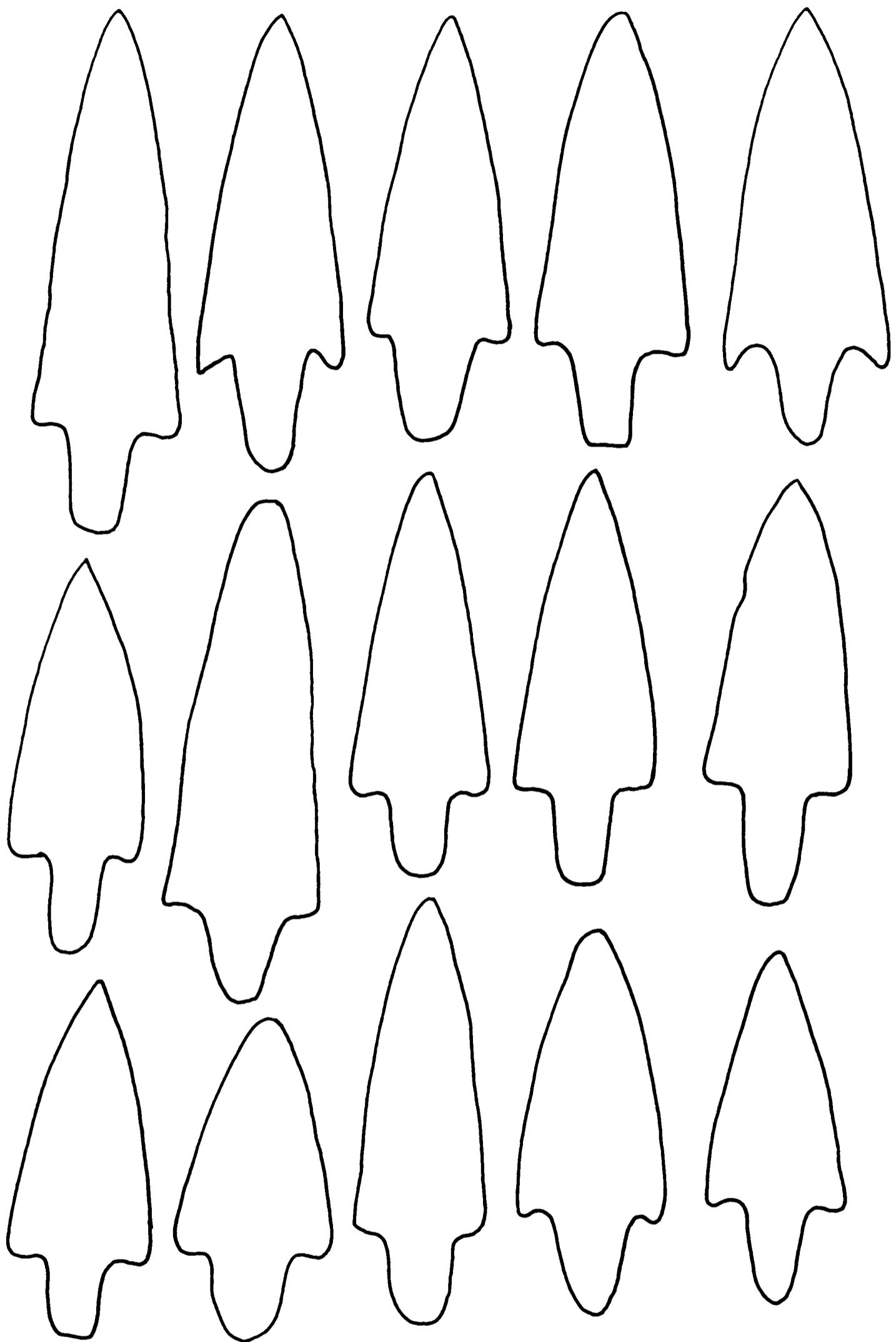


Fig. 140. Unpublished Copper Age arrowheads from S. Rocco (Pigorini Museum).

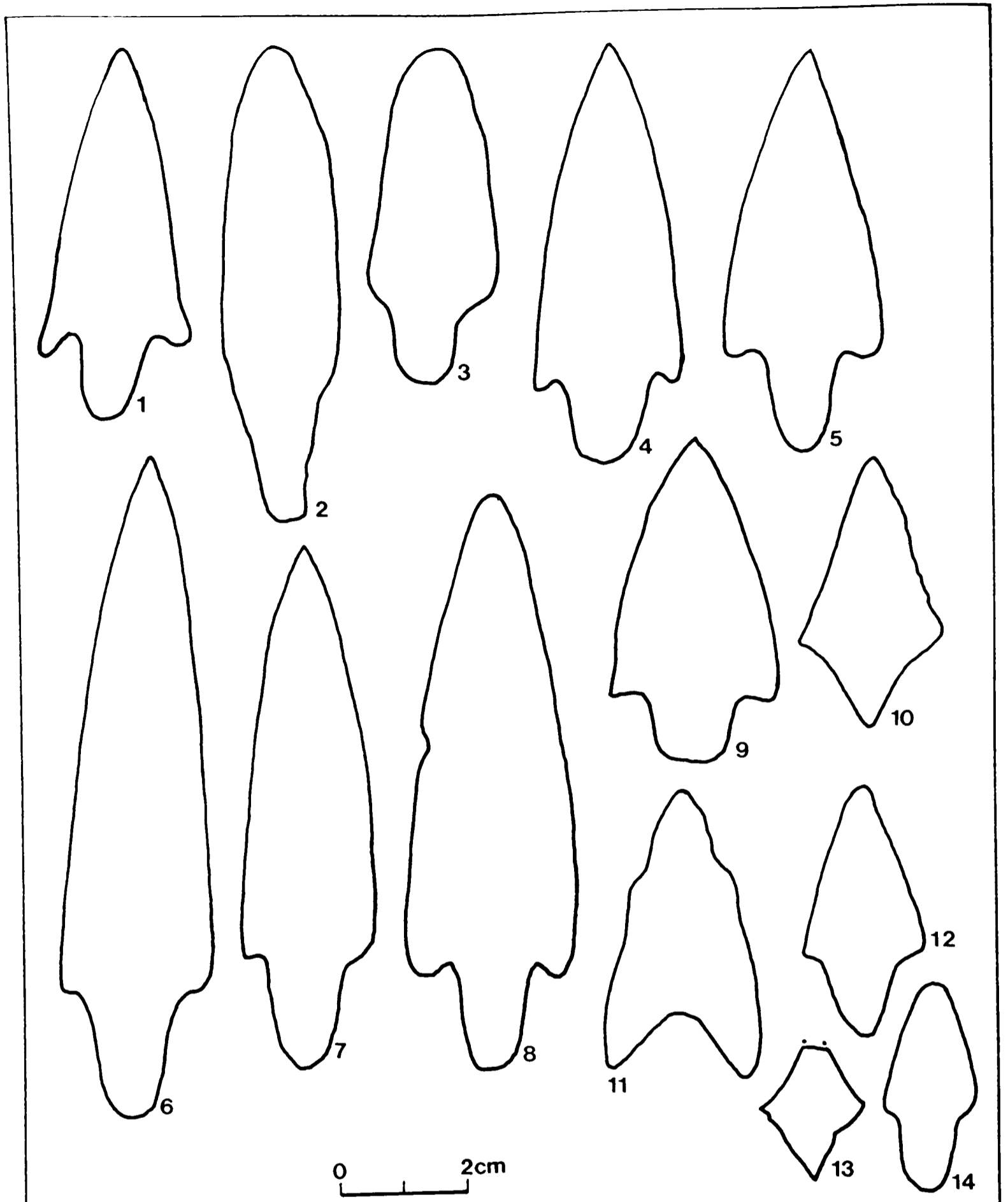


Fig. 141. Unpublished Copper Age arrowheads from the provinces of Ancona and Pesaro-Urbino, Marche.

1. S. Rocco (Pigorini Museum), 2-3. Tignano (Perugia Museum), 4-9. Fossombrone (Pigorini Museum), 10. Frontone (Perugia Museum), 11-14. Orciano (Pigorini Museum). 1210

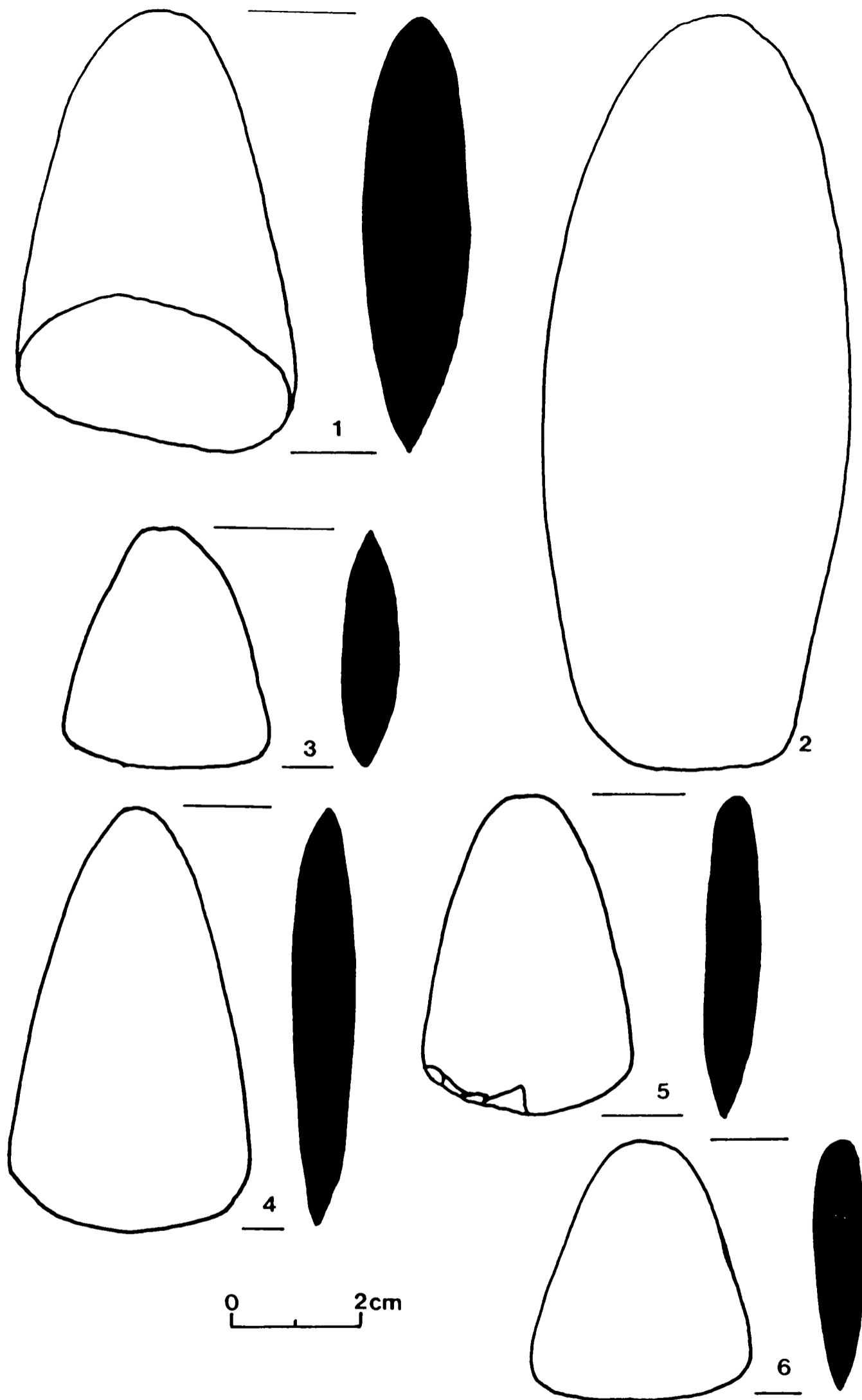


Fig. 142. Unpublished Neolithic - Copper Age axes from Abruzzo.

1-2. Lanciano [CH] (Pigorini Museum), 3-6. Luco dei Marsi - Trasacco [AQ] (Pigorini Museum).

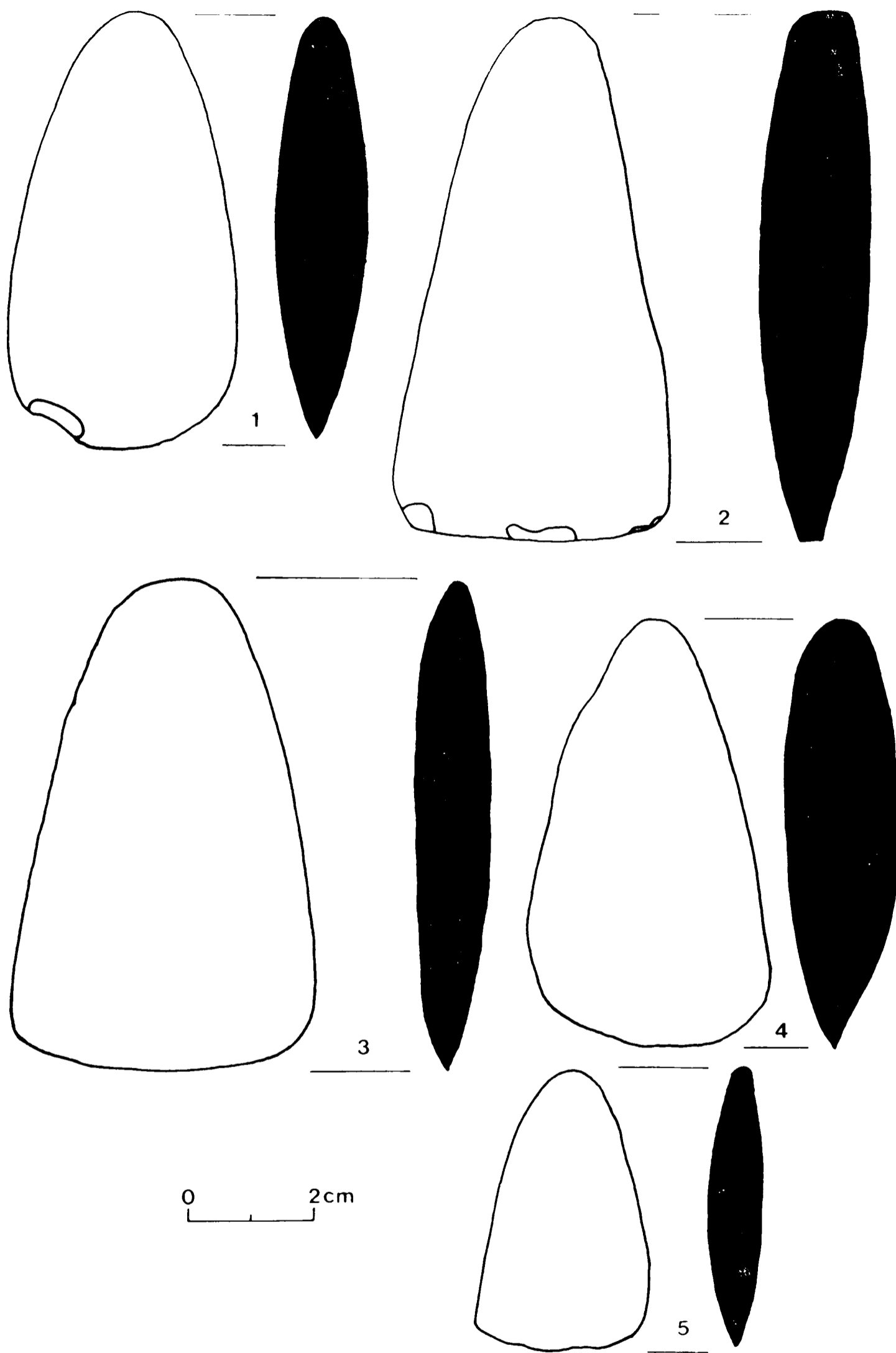


Fig. 143. Unpublished Neolithic - Copper Age axes from the L'Aquila province, Abruzzo.

1-2. Lago del Muro - Francisco (Pigorini Museum), 3-5. Massa d'Albe (Pigorini Museum).

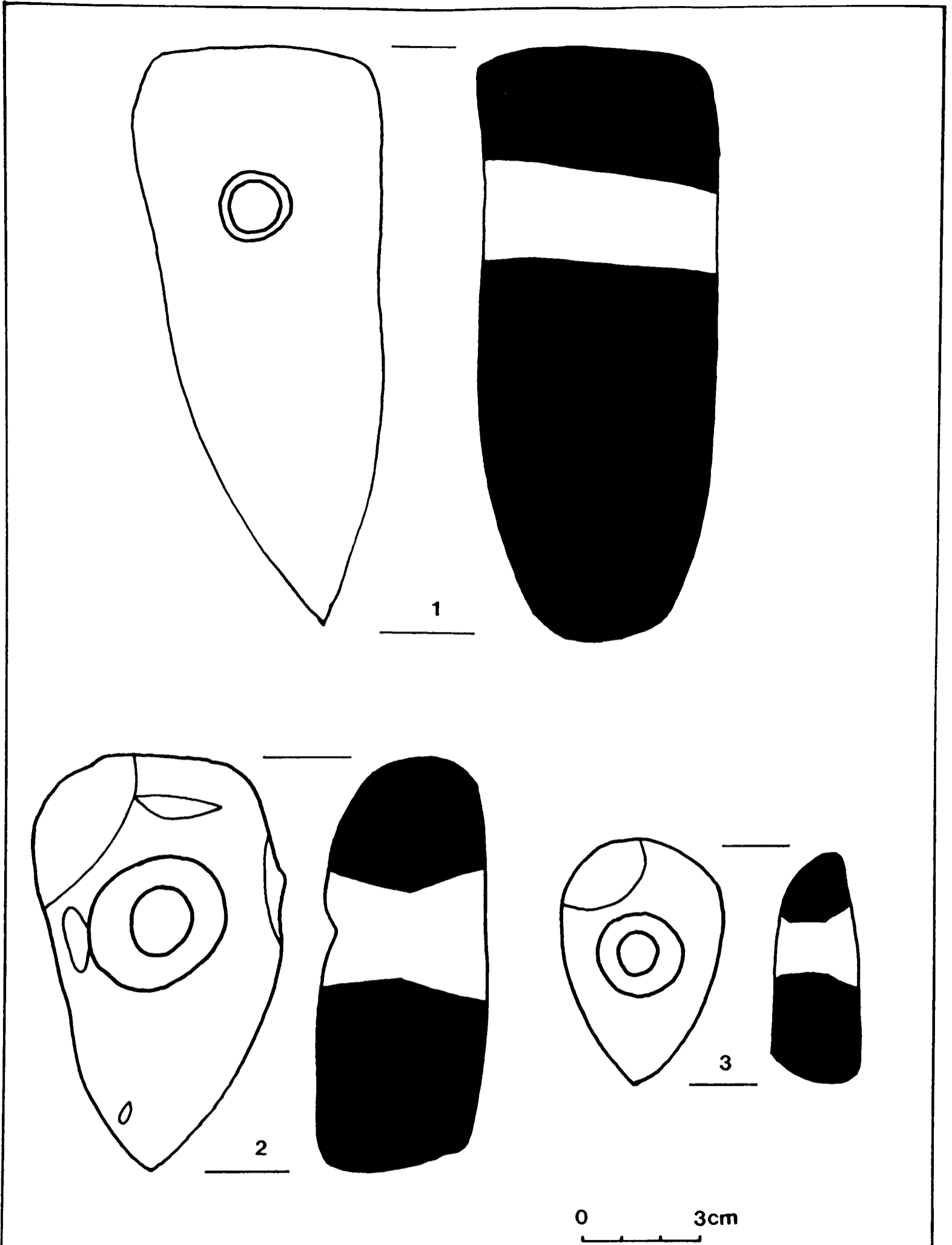


Fig. 144. Unpublished Neolithic - Copper Age axes from the L'Aquila province, Abruzzo.

1. Pescina [AQ] (Pigorini Museum), 2-3. Pescocostanzo (Pigorini Museum).

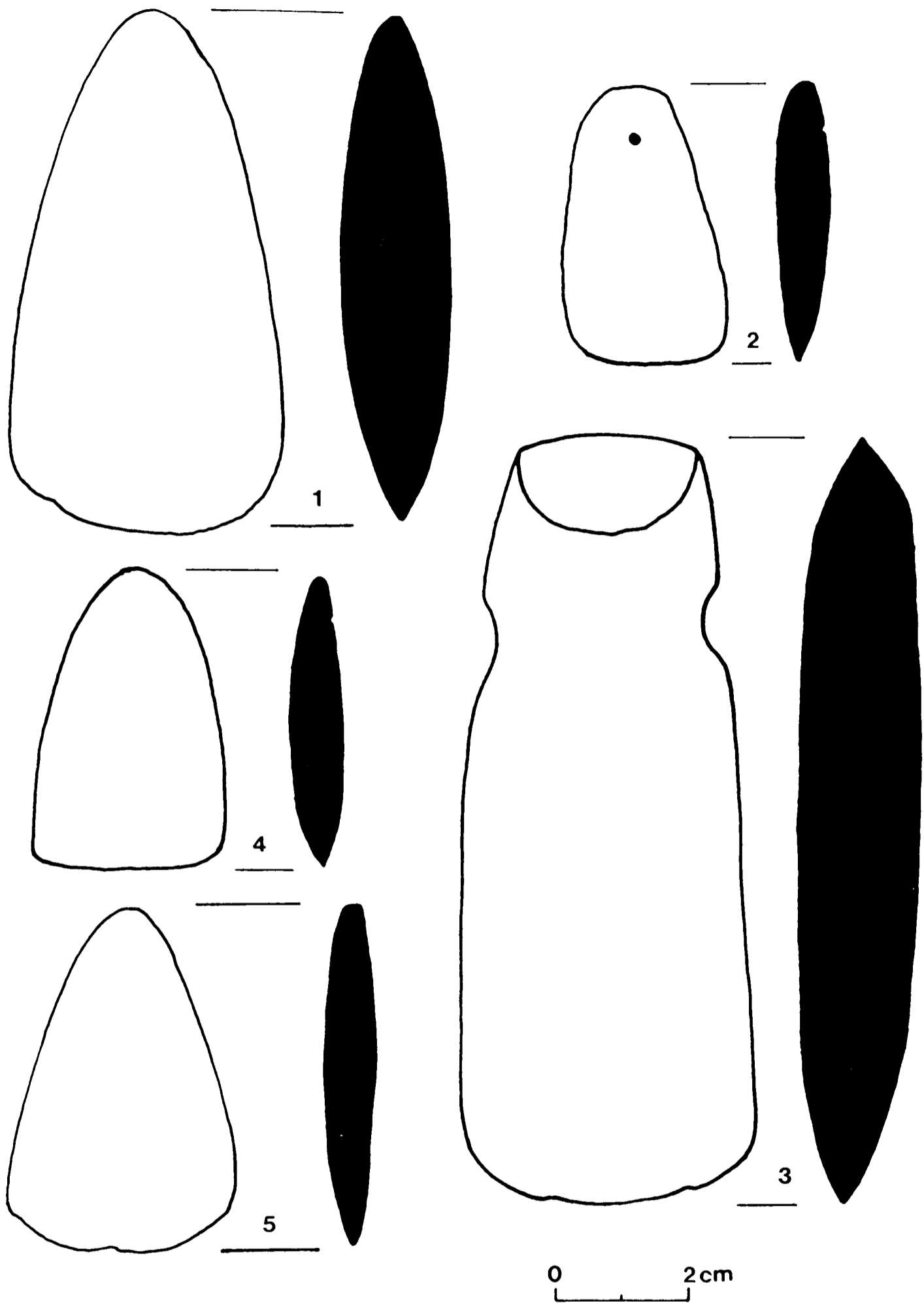


Fig. 145. Unpublished Neolithic - Copper Age axes from Abruzzo and Marche.

1. Rocciano [TE] (Pigorini Museum), 2-3. Acquasanta [AP] (Pigorini Museum), 4. Lisciano del Tronto [AP] (Pigorini Museum), 5. Il Colle, S. Venanzio [MC] (Pigorini Museum).

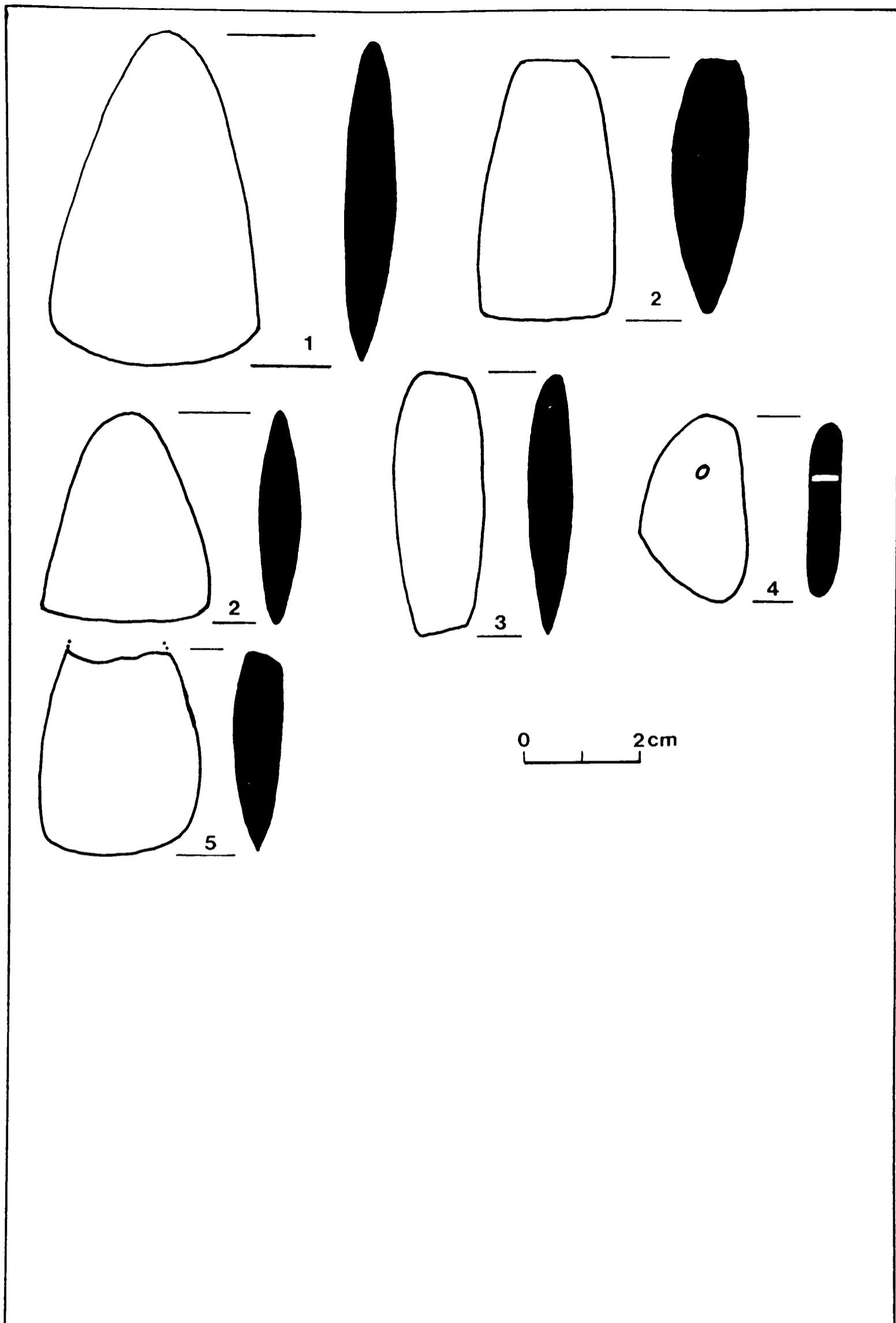


Fig. 146. Unpublished Neolithic - Copper Age axes from Marche.

1. Laverino [MC] (Pigorini Museum), 2. Villa Potenza [MC] (Bologna Museum), 3. Fabriano [AN] (Pigorini Museum), 4-5. Fienili [AN] (Pigorini Museum), 6. Belvedere Ostrense - Ostra [AN] (Pigorini Museum).

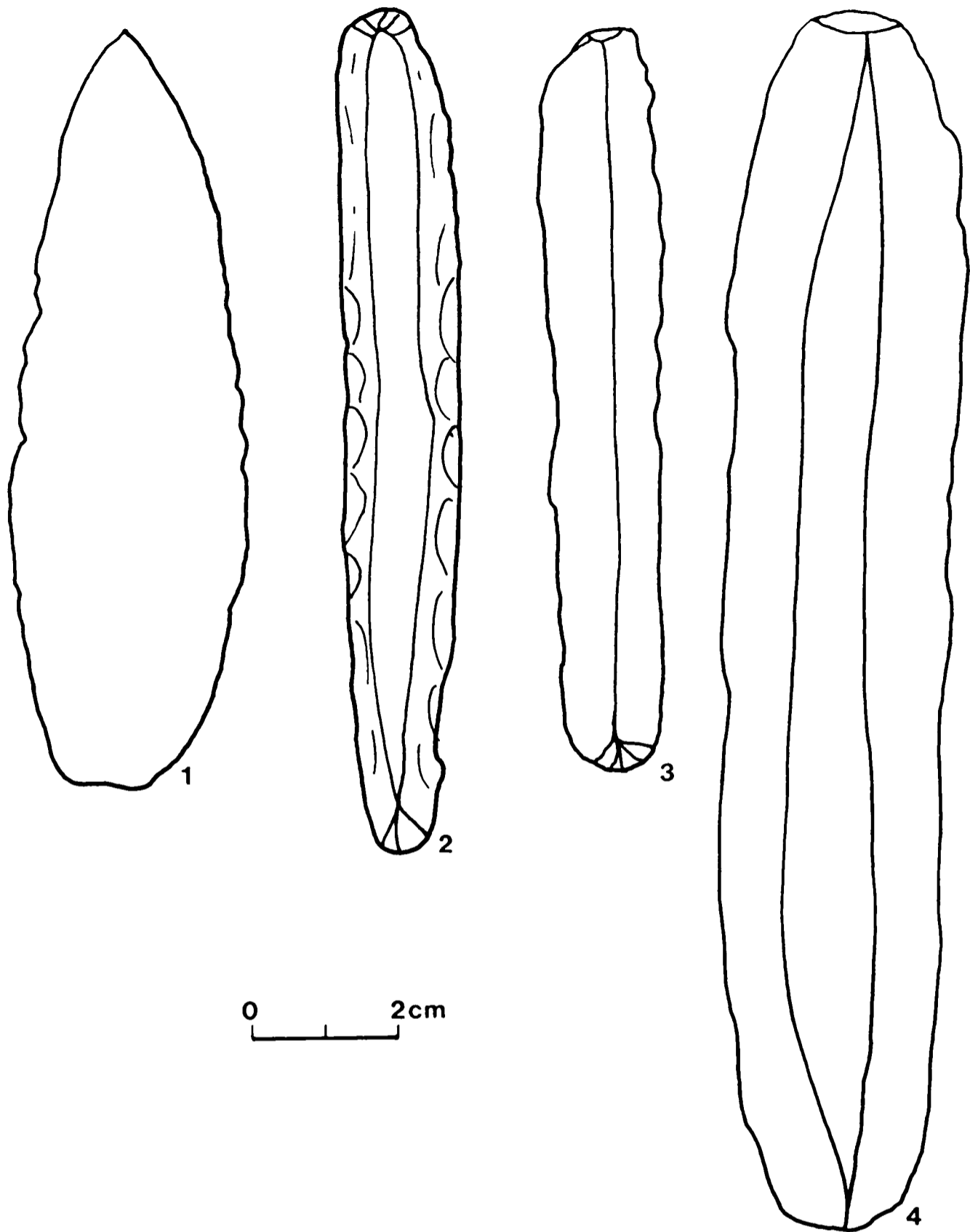
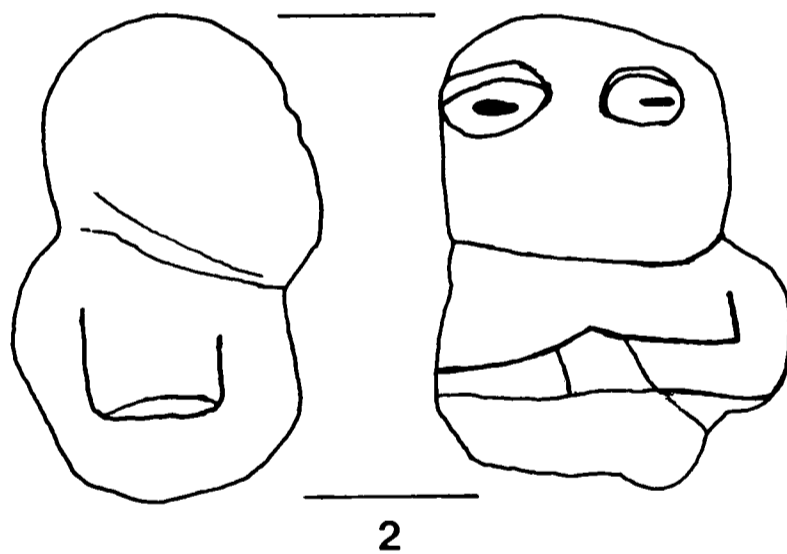
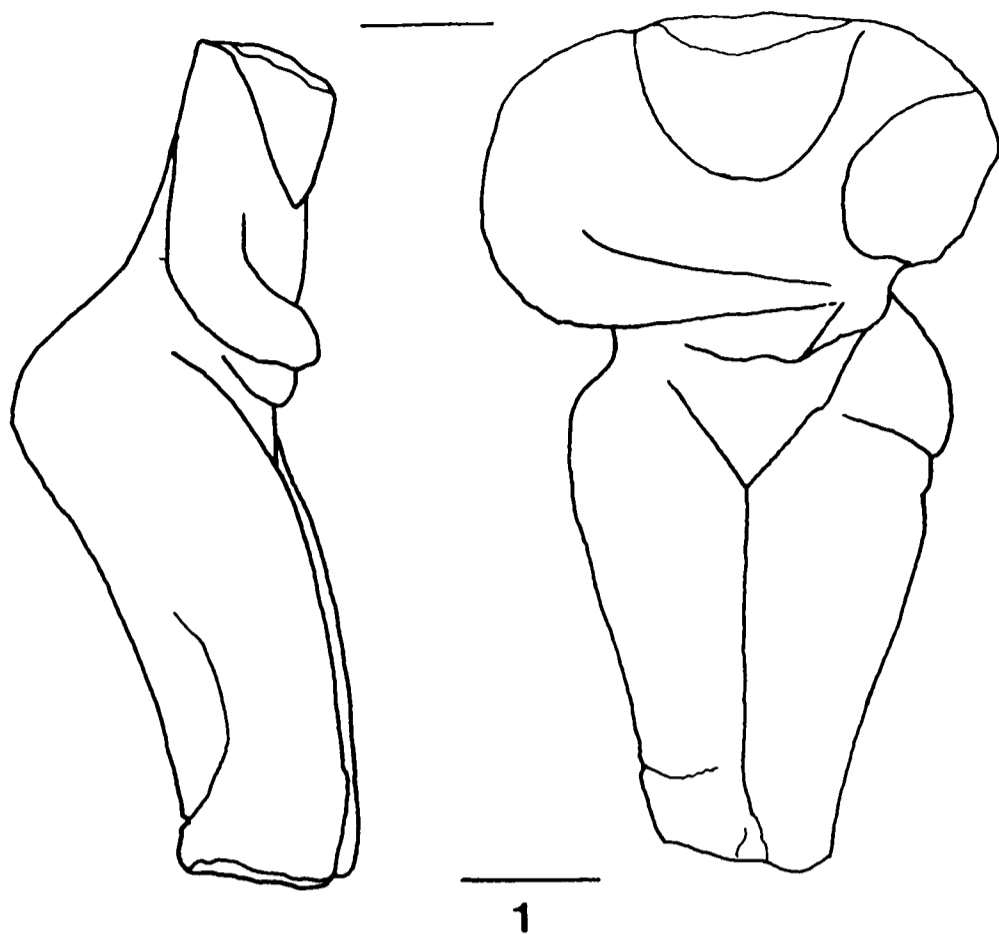


Fig. 147. Unpublished Copper Age long retouched blades from Abruzzo and Marche.

1-3. Luco dei Marsi - Trasacco [AQ] (Pigorini Museum), 4. S. Rocco [AN] (Pigorini Museum).



0 2cm

Fig. 148. Final Neolithic/early Copper Age figurines from Abruzzo.

1. Fonti di S. Callisto [PE] (after Mattiocco 1981), 2. Cellitto [AQ] (after Irti 1979b).

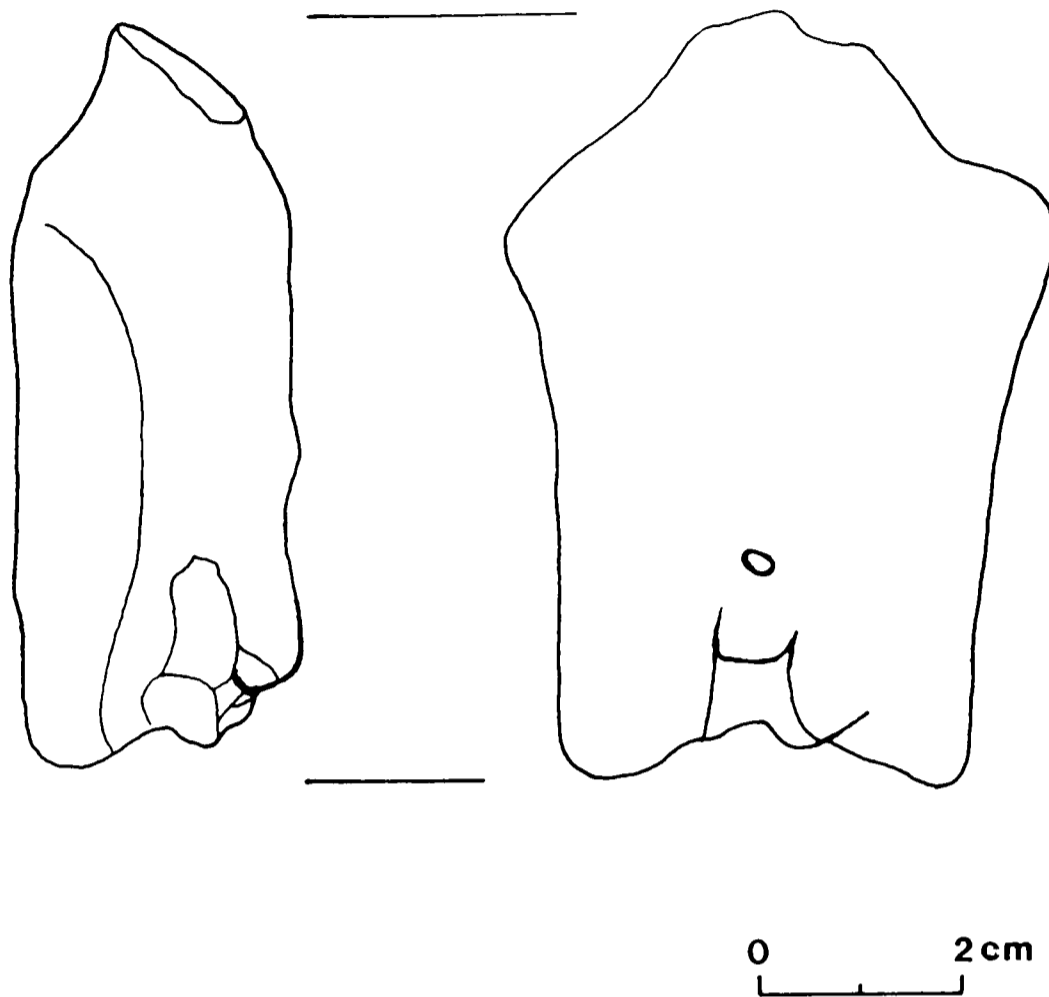


Fig. 149. Copper - Bronze Age figurine from Ortucchio [AQ]
(after Irti 1979a).



Plate 1. The River Pescara near Piano d'Orta [PE].



Plate 2. The Orta gorge viewed from Grotta dei Piccioni [PE].



Plate 3. Grotta dei Piccioni (in the centre of the photo)
[PE].



Plate 4. Villaggio Leopardi (in the centre of the photo), and the Gran Sasso mountain range (in the background) [PE].



Plate 5. Fonti di S. Callisto (in the centre-right of the photo, covered today by a fish farm), and the Sulmona-Popoli intermontane basin (in the background) [PE].



Plate 6. Grotta di Pescosansonesco (in the upper-centre of the photo), and Monte la Queglia [PE].



Plate 7. Salle village, and Monte Morrone [PE].



Plate 8. The Fucino lake basin (drained in the 19th century), and Monte Sirente (in the background), viewed from Grotta la Punta [AQ].



Plate 9. Ortucchio village, and the south-eastern end of the Fucino lake basin [AQ].



Plate 10. Grotta la Punta and Grotta Maritza (located along the bottom of the outcrop in the centre-left and centre-right of the photo), and Monte Praticelle [AQ].



Plate 11. Grotta Continenza (in the centre of the photo),
and Monte Alto [AQ].

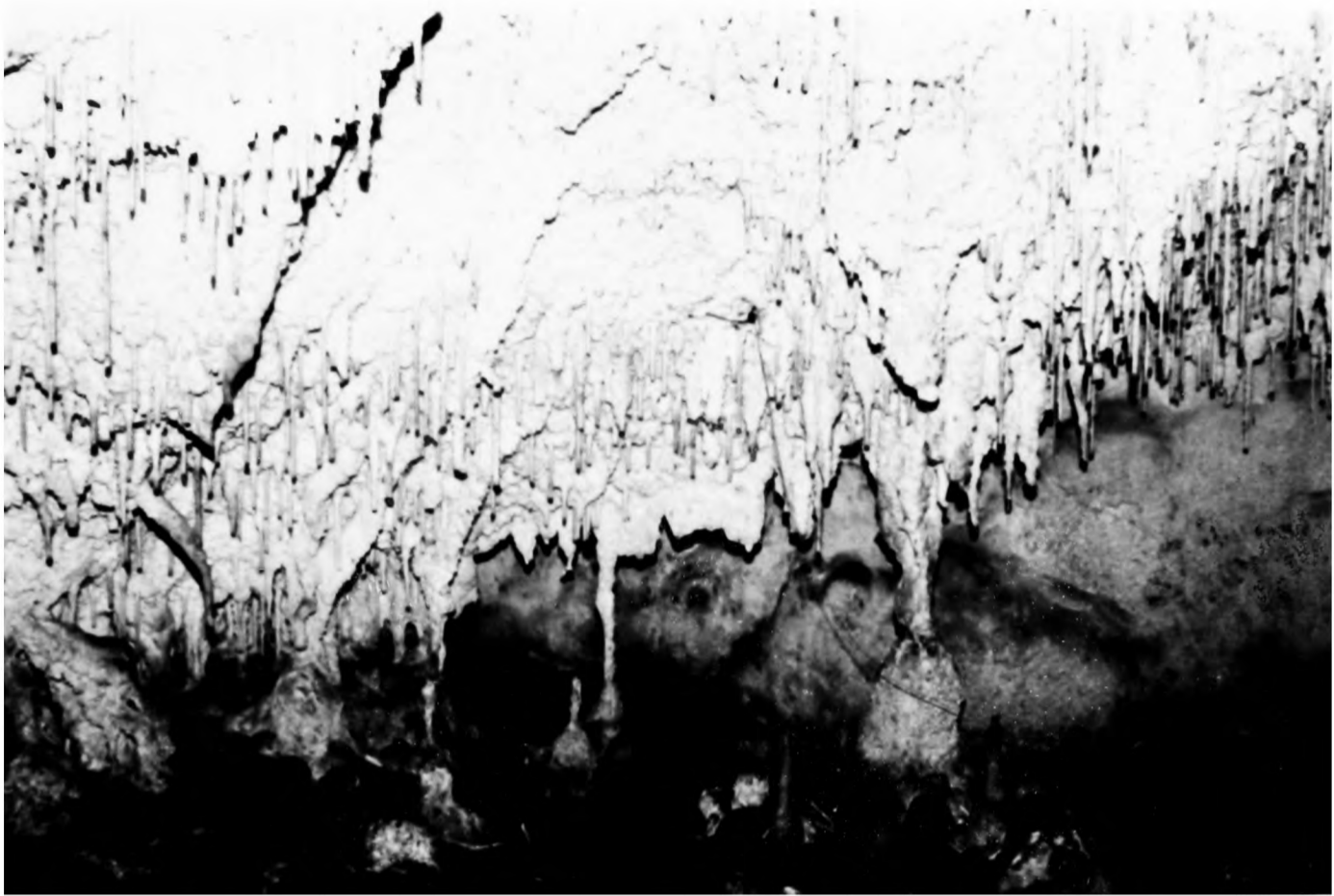


Plate 12. Stalagmites in Grotta Continenza [AQ].



Plate 13. Grotta S. Nicola (in the centre of the photo),
and the floor of the Fucino lake basin [AQ].



Plate 14. Colle S. Stefano in the course of excavation (in the foreground), and the Rio di Lecce valley (in the background) [AQ].



Plate 15. Cellitto (in the foreground), and the Tre Monti [AQ].



Plate 16. Capo d'Acqua lake, and Monte Scarafano [AQ].



Plate 17. Capo d'Acqua (in the centre of the photo), the Capestrano intermontane basin, and Monte Scarafano [AQ].



Plate 18. Settefonti (in the centre of the photo), and the Castelnuovo-Navelli intermontane basin [AQ].



Plate 19. The Imele valley viewed from Grotta Beatrice Cenci [AQ].



Plate 20. Grotta Cola II (in the centre of the photo),
Monte Arunzo, and the Liri valley [AQ].



Plate 21. Camerata (in the centre-left of the photo), and
the Fioio valley through the Simbruini mountains
(in the background) [AQ].



Plate 22. Campo di Giove, viewed from Lago Tescino [AQ].



Plate 23. Upper section of the Salinello valley, and Montagna di Campoli [TE].



Plate 24. Grotta S. Angelo [TE].



Plate 25. Upper section of the Salinello river valley,
viewed from Grotta S. Angelo [TE].



Plate 26. View from Villa Ripa, over the lowland hills and along the Salinello valley towards the coastal lowlands [TE].



Plate 27. Ripoli (in the centre of the photo), the Vibrata valley, and the Colonnella hills [TE].



Plate 28. Pianaccio (on the hillslope in the centre of the photo), and the Salinello valley (in the foreground) [TE].



Plate 29. La Maddalena [MC].



Plate 30. Berbentina [AN] (in the centre of the photo).