

SIZES OF SETTLEMENTS IN SOUTHERN ETRURIA

6th - 5th CENTURIES B. C.

*Introduction **

In the course of studies in Southern Etruria we have identified by name and location 88 settlements occupied in the 6th-5th Centuries B. C. We have determined the approximate area of 55 of these settlements, among which are included those known from historical and archaeological sources to have been the most important centers in the area. We have arranged these settlements in order of decreasing size. This arrangement, as well as the geographic locations, reveal some interesting relationships among the settlements of the area.

Southern Etruria covers an area of approximately 5,700 km². Of this about 70 percent is the result of geologically recent volcanic activity. (See *fig. 1*). The Tyrrhenian Sea and the Fiora River bound the area on the west. A low divide separates the drainage of the Fiora from that of the Paglia. The Paglia forms the northern and northeastern boundary of the area and flows past Orvieto to join the Tiber River. The Tiber flows southward, forming the eastern boundary of the region. It then turns westward and flows past Rome to the Tyrrhenian Sea to define the southern boundary of the region as shown in *fig. 1*.

The Data

We have chosen the time span of the 6th-5th Centuries B. C. for several reasons. First, the period marks the high point of Etruscan dominance in the area. Second, the beginning of the northward expansion of Roman power began in the

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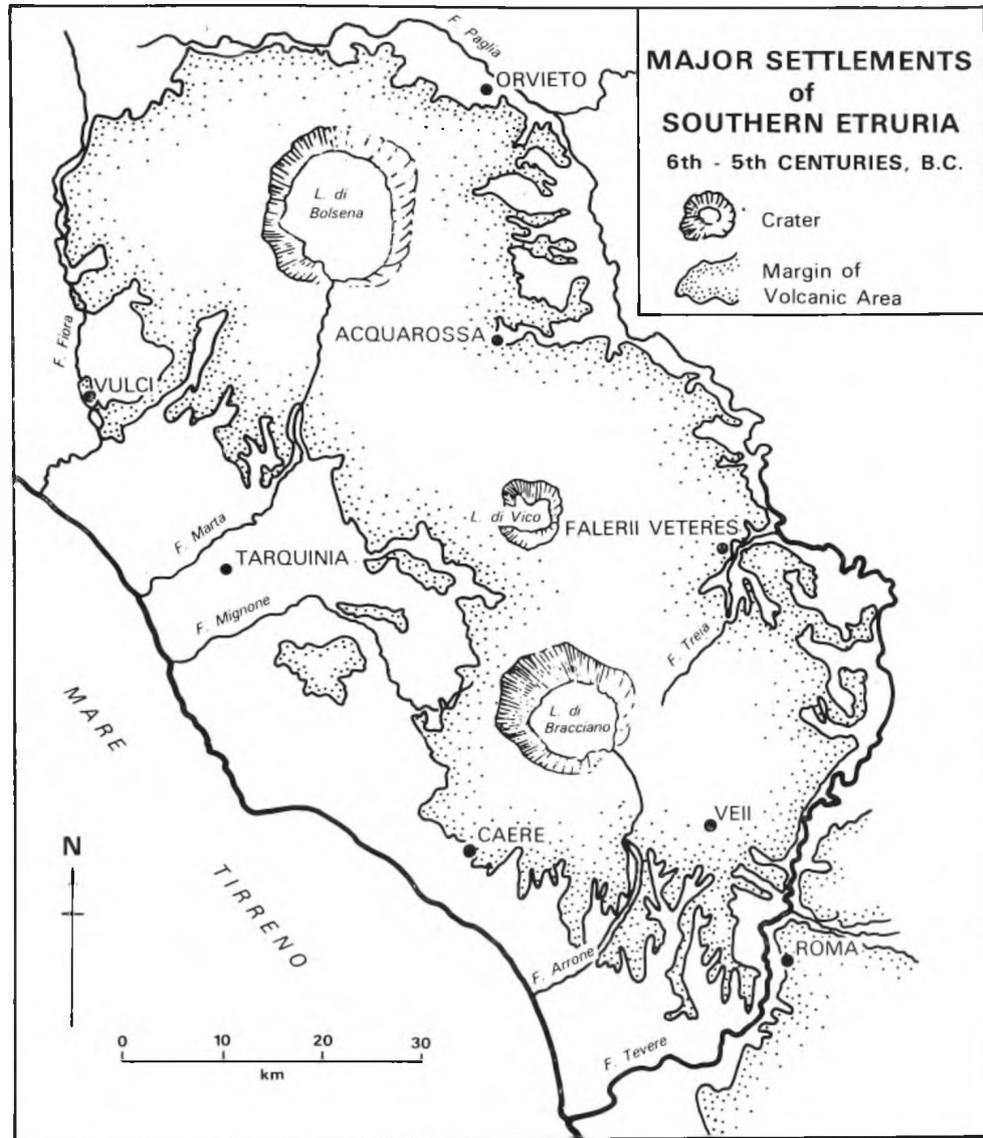


fig. 1 - Southern Etruria showing location of major settlements of 6th-5th centuries B. C. and extent of volcanic area.

4th Century. As a result, it was toward the end of this period that many of the settlements built defensive walls. These provide, for a number of localities, well-defined perimeters on which to base areal measurements.

We define a settlement showing evidence of multiple occupancy during the 6th and 5th centuries, B. C. Many sites are well-established, with extensive evidence in the historical and archaeological literature. Other sites have been found and

published as a result of the several archaeological surveys done during the last 30 years. We have been unable to measure the area of habitation for many sites. In some cases the precise location of the town or pagus is unknown, and in others it has been impossible for a variety of reasons, to measure their areal extent. Evidence for inclusion of these sites is historical and/or archaeological. We have assumed the existence of settlements on the basis of the presence of large numbers of tombs of the right period even where there is no other evidence of abitations. We have excluded from our lists localities with a few or scattered tombs, isolated farm sites, and single structures.

Our lists represent settlements for which published material is available and we present them recognizing that they will be modified as more data appear in the future.

Table 1 lists the 55 settlements for which we have some confidence in assigning, areal size. Table 2 lists 33 additional settlements known to us but for which we are unable to present measurements of size¹. All areas in Table 1, with the

TABLE 1 - Fifty five Settlements of the 6th - 5th Centuries B. C. in Southern Etruria arranged in order of decreasing size.

Rank	Settlement	Area (Hectares)	Map Scale	Reference
1	Veii	190.0	1:16,600	Ward-Perkins, 1961, Fig. 6, p. 28
2	Caere	130.0	1:10,000	Canina, 1851, v. 1 Tavola, Tav. XLVII
3	Tarquinia	121.0	1:12,000	Romanelli, 1948, Fig. 1, p. 198
4	Vulci	90.0	1:6,400	Bartoccini, 1961, Map ff. p. 281
5	Orvieto	82.0	1:11,900	Touring Club Italiano, 1966, Map ff. p. 384
6	Falerii Veteres	26.0		
	Civita	13.0	1:21,600	Fredericksen - Ward-Perkins, 1957, Fig. 23, p. 129
	Colle Vignale	13.0	1:25,000	Nepi, 143-I-SE
7	Acquarossa	24.5	1:2,000	Ostenberg, personal communication, unpublished map
8	Nepi	17.5	1:25,000	Nepi, 143-I-SE
9	Castel d'Asso	14.0	1:5,300	Colonna di Paolo - Colonna, 1970, v. 2, Pl. xxiii
10	Narce ³	12.5	1:25,000	Nepi, 143-I-SE
11	Castro	10.0	1:25,000	Ponte S. Pietro, 136-IV-SE
12	Norchia	10.0	1:25,000	La Rocca, 136-II-SE

(continued)

¹ Names used for each settlement are those which occur most commonly in the literature. The authors have in preparation a gazetteer of all the settlements listed in Tables 1 and 2, along with a brief statement of our knowledge about each, and the major bibliographic references to each.

(suite TAB. 1)

Rank	Settlement	Area (Hectares)	Map Scale	Reference
13	Monterano	9.5	1:25,000	Bracciano, 143-III-NE
14	San Giuliano	8.4	1:10,000	Villa d'Amelio, 1963, pl. 1
15	Tuscania	8.4	1:25,000	Quilici Gigli, 1970, End map
16	Orte	8.0	1:25,000	Orte, 137-II-NE
17	Sutri	7.5	1:9,600	Duncan, 1958, Fig. 3, p. 67
18	Sovana	7.0	—	Area from Bianchi Bandinelli, 1929, p. 25
19	Vitorchiano	7.0	1:25,000	Viterbo, 137-III-NE
20	Pitigliano	6.8	1:25,000	Pitigliano, 136-IV-NE
21	Blera	6.7	1:23,500	Quilici-Gigli, 1976, pl. 9
22	La Civita	6.3	1:20,500	Bloch, 1972, Plan C
23	Casale Grotte	6.0	1:12,300	de Rossi, 1968, Fig. 278, p. 125
24	Luni	5.3	1:2,100	Ostenberg, 1962, Fig. 296, p. 320-1
25	Capena	4.6	1:6,800	Jones, 1962, Fig. 3, p. 136
26	Ancarano	4.4	1:25,000	Monte Romano, 142-I-NE
27	Castel Giuliano	4.4	1:25,000	Castel Giuliano, 143-III-SE
28	Roccaccia	4.4	1:25,000	Pitigliano, 136-IV-NO
29	Badia	4.4	1:25,000	Stimigliano, 144-IV-NO
30	Ischia di Castro	4.0	1:25,000	Valentano, 136-I-SO
31	Farnese	4.0	1:25,000	Valentano, 136-I-SO
32	Poggio Buco	3.8	1:25,000	Pitigliano, 136-IV-NE
33	Castellina	3.6	1:2,800	Bastianelli, 1936, Fig. 2, p. 452
34	Montalto di Castro	3.6	1:25,000	Montalto di Castro, 136-III-SE
35	Canino	3.4	1:25,000	Canino, 136-II-NO
36	San Giovenale	3.4	1:2,100	Hannell, 1962, Map ff. p. 292
37	Piansano	3.3	1:25,000	Capodimonte, 136-I-SE
38	Quarticcio	3.1	1:25,000	Quilici-Gigli, 1970
39	Bomarzo	3.1	1:25,000	Soriano nel Cimino, 137-II-NO
40	Musarna	3.1	1:25,000	Castello d'Asso, 137-III-SO
41	Grotta Porciosa	2.9	1:25,000	Fredericksen - Ward-Perkins, 1957, Fig. 28, p. 125
42	Nazzano	2.8	1:25,000	Montopoli di Sabina, 144-IV-SE
43	Sorano	2.8	1:25,000	Sorano, 129-II-SO
44	Corchiano	2.5	1:25,000	Gallese, 137-II-SE
45	Vignanello	2.5	1:25,000	Vignanello, 137-II-SO
46	Monterado	2.3	1:25,000	Bolsena, 137-IV-NO
47	Civita di Bagnoregio	2.2	1:25,000	Bagnoregio, 137-IV-NE
48	Cerrachio	2.1	1:2,660	Quilici-Gigli, 1976, Fig. 154, p. 93
49	Torre dell'Isola	2.0	1:3,500	Fredericksen - Ward-Perkins, 1957, Fig. 8, p. 94
50	Celleno	1.9	1:25,000	Celleno, 137-IV-SE
51	Rota	1.9	1:25,000	Bagni di Stigliano, 143-III-NO
52	Morranaccio	1.0	1:25,000	Pitigliano, 136-IV-NE
53	Fle. di Vacchereccia	0.7	1:5,000	Jones, 1962, Fig. 11, p. 152
54	Grotta Colonna	0.7	1:5,000	Jones, 1962, Fig. 11, p. 152
55	Ponte del Ponte	0.4	1:4,160	Fredericksen - Ward-Perkins, 1957, Fig. 20, p. 122

TABLE 2 - Alphabetical list of settlements in southern Etruria of the 6th-5th Centuries, B.C., for which no measurements of areal size are available.

Bagnolo	Montetosto
Bisenzio	Papala
Castel Campanile	Pescia Romana
Castel Franco	Pian Sultano
Castel Sant'Elia	Pisciarelli
Cava di Scaglia	Poggio Montano
Cipollara	Pyrgi
Colle di Mezzo	Respampani
Colle Pantano	Rignano Flaminio
Cornossa	Santa Marinella
Fregenae	Stigliano
Graviscae	Tolfa
Grotta Porcina	Tragliatella
Grotte di Castro	Trevignano
Grotte S. Stefano	Vaccina
Monte Leano	Viterbo
Monteroni (Palo)	

exception of Sovana, were derived by the authors from planimetric measurements of maps².

Wherever possible we have used plans and maps resulting from actual field

² The instrument used, a Keuffel and Esser compensating polar planimeter model 62-0015, has a mechanical error of less than 1% for map areas of 50 cm², the error increasing with decreasing size. The major errors in measurement lie elsewhere. We have attempted to reduce human error by demanding the reproducibility of reading for any given map. More significant sources of errors most probably lie in the maps themselves. For example, an incorrect scale or an inaccurately surveyed city wall can introduce errors of varying magnitudes. These can be eliminated only by laborious field examination of the site in question.

The short references in Table 1 are listed in full and in alphabetical order by author below. The designations such as «Nepi, 143-I-SE», etc., refers to the 1:25,000 topographic maps of the Istituto Geografico Militare d'Italia. R. BARTOCCINI, *Tre anni di scavi a Vulci 1956-8*, in *Atti di Cong. Int. Arch. Cl.* II, Roma, 1961, pp. 257-281; S. BASTIANELLI, *Castronovani*, in *St. Etr.* X, 1936, pp. 450-475; R. BIANCHI BANDINELLI, *Sovana*, Firenze, 1929; R. BLOCH, *Récherches Archéologiques en Territoire Volsinien de la Protohistoire à la Civilization Etrusque*, Paris, 1972; L. CANINA, *L'Antica Etruria Marittima*, I, Tavola, Rome 1851; E. COLONNA DI PAOLO - G. COLONNA, *Castel d'Asso*, Rome, 1970; G. C. DUNCAN, *Sutri (Sutrium): Notes on Southern Etruria*, in *PBSR XXVI*, 1958, pp. 63-134; M. W. FREDERICKSEN - J. B. WARD-PERKINS, *The Ancient Road Systems of the Central and Northern Ager Faliscus*, in *PBSR XXV*, 1957, pp. 67-208; K. HANNELL, *The Acropolis*, pp. 289-312, in A. BOETHIUS, *Culture, Land, and People*, New York-Malmö, 1962; G. D. B. JONES, *Capena and the Ager Capenas*, in *PBSR XXX*, 1962, pp. 116-207; C. E. ÖSTENBERG, *Luni and Villa Sambuco*, pp. 313-328, in BOETHIUS, *op. cit.*; S. QUILICI-GIGLI, *Blera: Topografia antica della città e del territorio (Forma Italiae, Regio VII)*, Mainz, 1976, and *Tuscania (Forma Italiae, Regio VII)*, Rome, 1970; *Guida d'Italia: Umbria (T.C.I.)*, XIV, Milano, 1966; P. VILLA D'AMELIO, *San Giuliano*, in *NS*, XVII, 1963, pp. 1-76; D. ROMANELLI, *Tarquini*, in *NS*, 1948, pp. 193-270; G. DE ROSSI, *La via Aurelia dal Marta al Fiore*, in *QITR*, IV, 1968, pp. 121-155; J. B. WARD-PERKINS, *Veii: The Historical Topography of the Ancient City*, in *PBSR XXIX*, 1961.

investigations. In some instances long stretches of the ancient walls define the boundaries of the site as, for instance, at Veii⁴. In other instances only a few fragments of walls remain and in many none at all. In such situations field surveys defining the extent of habitation are very valuable, as at Quarticciolo⁵. In general, however, very few site maps are available in the literature. Therefore in those situations in which site maps are unavailable we have resorted to the local topography as an indication of the extent of a settlement. We have used both aerial photographs and the 1:25,000 maps of the Istituto Geografico Militare d'Italia to decide on a reasonable extent of a settlement. In all cases of this sort we have used what appears to be a defensible perimeter to define the settlement boundary. We have made our measurements on the 1:25,000 maps as referenced in *Table 1*. *Table 2* lists those 33 settlements for which we have located no site maps which could give us an area, and those for which the topographic map data are too ambiguous to define a defensible perimeter.

We present data on settlement size because we believe they reflect the relative importance of the settlements, one to another. Of course the population would give us a more reliable estimate of the importance of individual settlements, but that we do not have nor do we see ways in which it might be derived⁶. We recognize the limitation of our measurements in another way. We have measured only the area contained within settlement walls, or within the topographic constraints which would define a defensible area. It is clear from the archaeological record that habitation occurred outside the perimeter walls beyond the natural defenses of a settlement as for example at Narce⁷. Furthermore, we have no information as to the proportion of land within a settlement that was given over to open space.

Given all of the difficulties and imprecisions involved in the areal measurements we nevertheless believe they add to our understanding of the 6th-5th B.C. settlements of Southern Etruria as discussed below.

Discussion

In *Table 1* we have arranged, from largest to smallest, the several settlements for which we have areal size determinations. The five largest in size can be

³ The area given for Narce includes the heights of Monte li Santi and Pizzo Piede. The height formally called Narce, which gives the settlement its name, appears to have been abandoned in the 7th century B.C. POTTER, *op. cit.*

⁴ WARD-PERKINS, *op. cit.*

⁵ QUILICI-GIGLI, *op. cit.*

⁶ An interesting discussion of population in part of the area covered by this report is to be found in T. W. POTTER, *The Changing Landscapes of South Etruria*, New York, 1979. Potter traces changes in population from Neolithic to medieval times, but is unable to produce quantitative estimates of population numbers. His analysis relies primarily on archaeological evidence such as density and location of sites and burials.

⁷ T. W. POTTER, *A Faliscan Town in South Etruria: Excavations at Narce 1966-71*, London, 1976.

designated as cities. They form a cluster of primary settlements which are set off in the hierarchy of size from the remaining 50 settlements of secondary size. Figure 2 shows this discontinuity in the rank-size hierarchy even more dramatically. Orvieto, the smallest in area of the primary group, is over 3 times the areal size of Falerii Veteres, the largest of the secondary settlements. The five primary cities decrease fairly regularly in size one to the next from Veii through Orvieto. Then there is a large break between them and the 50 secondary towns.

The five primary cities are, of course, known from other sources to have been the major centers of Southern Etruria and the measurements of areas serve to emphasize this. It would be pushing the data too far, however, to see an exact correspondence between their importance and their size. It is likely, in fact, that relative importance of individual cities shifted through time. Furthermore, importance may be defined in many ways. Certainly Veii occupied the largest site in Southern Etruria. From the perspective of Rome this size marked Veii as a most important threat. But such an evaluation is explicable not only by size but also by Veii's geographic position in relation to Rome. Any large city located in such a strategic position so close to Rome would have been viewed as a major threat by Rome.

What is very real, however, is the distinct break between the five primary cities and the next largest settlement, Falerii Veteres. The list of known settlements in Southern Etruria has grown through the years and we believe that we now know enough about the area to be safe in asserting that no yet-to-be discovered settlements will fill the gap between the primary and secondary groups. *Table 2* lists alphabetically those additional settlements of Southern Etruria known to us but for which we have no size determinations. There is no evidence that any of these was larger than Falerii Veteres. In fact there is every reason to believe that all were much smaller.

It is interesting to ask if Veii's rival, Rome, which lay just south of the Tiber and therefore outside of the area discussed might have fallen within the gap between the primary and secondary towns. We have no firm data on Rome's perimeter in the 6th and 5th centuries. We do know that the Servian wall, which probably dates from the 4th century, enclosed an area of 344 ectares, 1.8 times the size of Veii of the late 5th century⁸. Our guess is that at the time of conflict between Rome and Veii, Rome was comparable in size to Veii and very probably larger.

We have already noted that the data on sizes of settlements emphasize the primary importance of Veii, Caere, Tarquinia, Vulci and Orvieto in Southern Etruria of the 6th-5th Centuries B. C. It seems to us, also, that these data give added credence to the presumed status of these localities as the central places of city states. We deal with a few large settlements (cities) and a large number of smaller settlements (towns, villages, hamlets).

Both size and location suggest the prime importance of each major center.

⁸ G. SÄFLUND, *La Mura di Roma Repubblicana*, 1932.

It is clear that Veii, Caere, Tarquinia, Vulci and Orvieto are so spaced around southern Etruria as to give each of them a primacy over a considerable portion of the area.

The positions of Acquarossa and Falerii Veteres as numbers 6 and 7 in the hierarchy of settlement size suggest that they may have been regional centers as well. Their geographic locations, as shown in *fig. 1*, provide added support for this suggestion. Each is far enough away from the other and from the five largest cities to suggest that their positions allowed them a certain autonomy from the larger settlements and from each other. They are 22 km apart. The average distance between the five primary cities is about 27 km. Falerii is 28 km from Veii, the nearest of the primary group, and Acquarossa is 22 km from Orvieto, its nearest large neighbor⁹.

Sweeping generalizations about the geographical relationships among the five primary settlements – seven if we include Falerii Veteres and Acquarossa – and the settlements of smaller size are not possible. There are many differences. We find, for instance that habitation in the Ager Veientanus beyond the walls of Veii was represented by single-structure settlement rather than by hamlets, villages, or towns¹⁰. In contrast Falerii Veteres and Acquarossa was each the center of clusters of other, but smaller, centers of settlement. Caere, too was surrounded by a group of smaller settlements within a radius of 10 to 12 km. Northward Tarquinia and Vulci were associated with a few smaller settlements. No known towns or villages were close to Orvieto, which may have been similar to Veii in this respect. There are groups of settlements located in the volcanic terrain inland from Caere, Tarquinia, and Vulci, 15 to 30 km distant from these major centers. In short, the geographic pattern of secondary to primary settlements does not provide an immediately obvious basis for drawing geographical boundaries of areas of influence for the major settlements.

One of the surprises to us in the rank-size distribution of *Table 1* and *fig. 2* is the size of Capena, number 26 in the hierarchy of size. The role ascribed to it by historical accounts as an ally of Veii in its struggles against Rome suggests a community of considerable size. Our figures show that Capena was really a very small settlement, with an enclosed area of only 4.6 hectares. Veii, with an enclosure of 190 hectares, was thus over 40 times the size of Capena. The smallness of Capena certainly contrasts with its importance in the historical tradition. This

⁹ G. COLONNA, *Ricerche sull'Etruria interna volsiniense*, in *St. Etr.* XLI, 1973, pp. 45-72, identifies Acquarossa, on the basis of cultural evidence, as a city of major regional importance. Beyond this the article provides an interesting analysis of the inter-regional relationships of Etruscan communities from southern Etruria northward.

¹⁰ For the pertinent detailed field surveys see P. HEMPHILL, *The Cassia-Clodia Survey*, in *PBSR* XLIII, 1975, pp. 118-172; A. KAHANE-L. MURRAY-THREIPLAND-J. B. WARD-PERKINS, *The Ager Veientanus, north and east of Veii*, in *PBSR* XXXVI, 1968, pp. 1-218; A. KAHANE, *Field Survey of an Area South and West of La Storta*, in *PBSR* XLV, 1997, pp. 138-190.

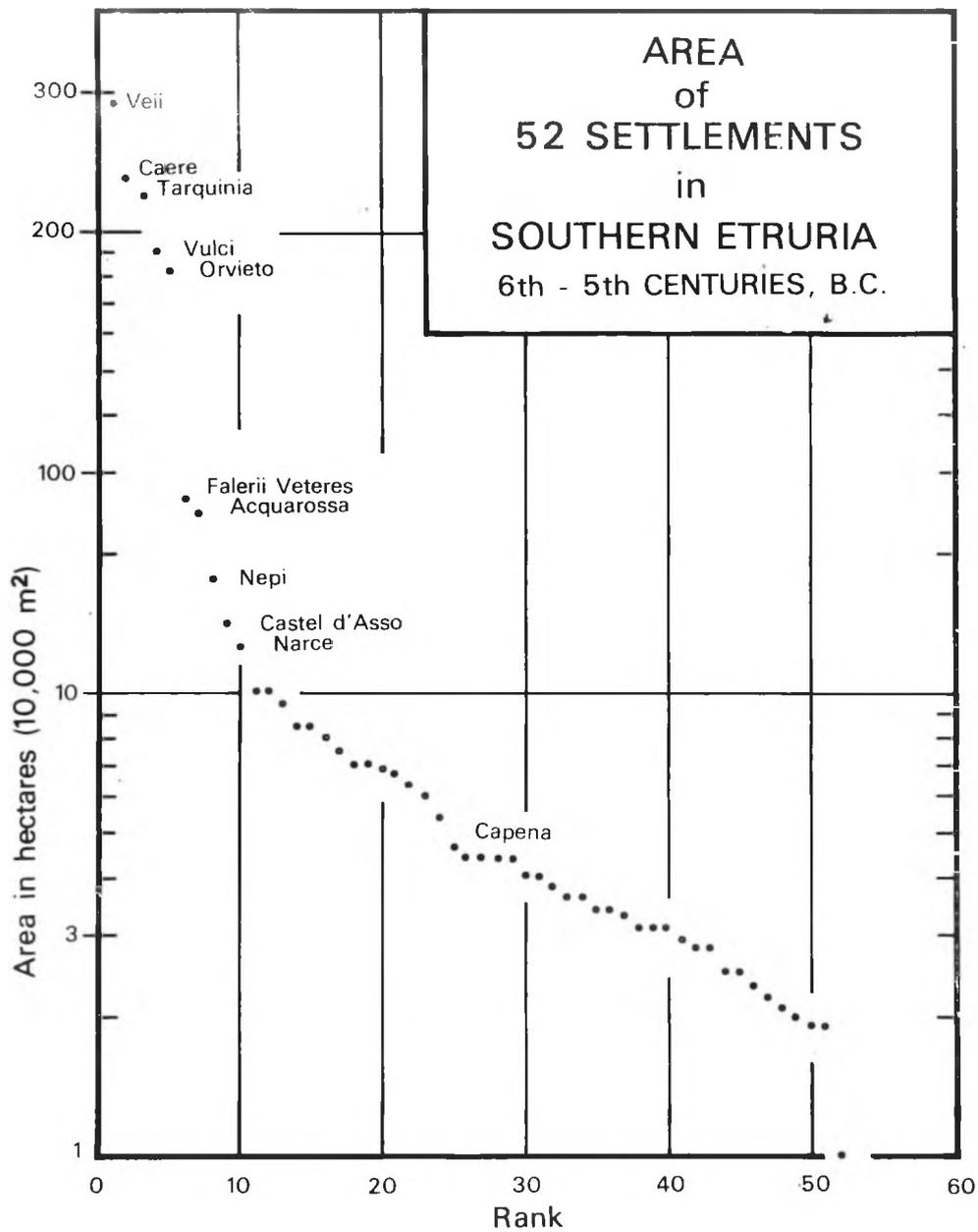


fig. 2 - Area by rank of 52 settlements on Southern Etruria, 6th-5th centuries B.C. Settlements of less than 10,000 m² are not included in this diagram but are listed in Table 2.

appears to substantiate an explanation that Capena turned to Veii for protection against Rome's northward push, a push which Capena was in no way able to resist on its own.

Conclusions

The list of settlements of known areal size in Southern Etruria of the 6th-5th Centuries, B. C., lead us to the following conclusions:

1. Areal measurements re-emphasize the primacy of Veii, Caere, Tarquinia, Vulci, and Orvieto in the area.

2. The sizes and locations of Acquarossa and Falerii Veteres suggest that they enjoyed a regional importance greater than that usually assigned to them.

3. Although not discussed in any detail the distribution of satellite communities differs from one major center to another.

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