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EPIGENETIC CRANIAL TRAITS IN ETRUSCAN SKULLS

Preliminary results

ABSTRACT: The preliminary observations of nine epigenetic traits of 40 Etruscan skulls of both sexes analysed by a detailed categorization of these minor skeletal variants, are demonstrated. Attention is drawn to the usefulness of such categorized trait combinations as indicators for familial relationship.

KEY WORDS: Etruscan skulls – Epigenetic traits – Methodology.

The geographical structure of Central Italy that influenced the movements of earlier inhabitants has probably changed little since Etruscan times. The pattern of overland North-South communications inland was channelled along an internal route-way connecting the valley of Chiana in the North with that of the Tevere in the South. A second route-way followed the coast. Most Etruscan settlements (cities) may be grouped into those connected by either the internal or the coastal route-way (*Figure 1*). Applying this geographical grouping to the original burial places of the skeletons included in this study, two samples may be distinguished. Thus one group consists of skulls from Chiusi, Cittá di Pieve, Orvieto, Capena and Faleria, and the second group incorporates Caere and Tarquinia (*Table 1*).

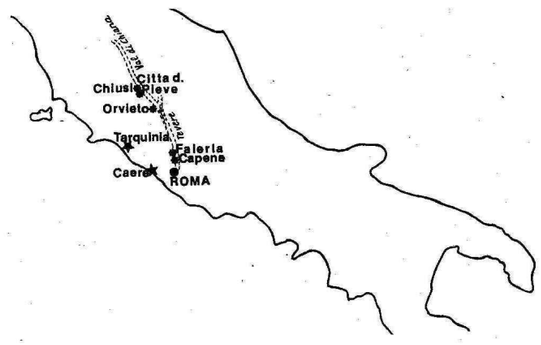

Figure 1. Schematic representation of the geographic position of the Etruscan settlements, the original burial places of the skulls included in the study.

Table 1. Number of Etruscan skulls available for the study of epigenetic traits in the seven inland and the two coastal (Tarquinia, Caere) settlements.

	ORVIETO	CHIUSI	CAPENA	CITTA di PIEVE	FALERIA	TARQUINIA	CAERE
♂	1	6	1	2	–	12	1
♀	4	3	2	1	1	8	–

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The skulls are stored in the „Museo Antropologico" of the University La Sapienza of Rome and most of them were published by Sergi (1933, 1943) but mainly with respect to metrical data and morphology of cranial shape. Estimation of sex and age was done according to standard procedures (Ferembach et al. 1979) and coincided with Sergi's results. The sample includes forty adult and mature skulls of both sexes. Documentation is predominantly limited to general indications regarding the burial place – this relates especially to the donated skulls. Some of the skulls are badly conserved and do not permit complete scoring of traits. However in view of the limited amount of biological data available on the Etruscans they may provide some information of interest. The further subdivision into two geographical series enhances the difficulty of dealing with small samples. Nevertheless they provide an opportunity to demonstrate the usefulness of the methodology of epigenetic traits of the human skull set out by Hauser and De Stefano (1989). The categorization used in the method applied here is far from being casual, but is based on consideration of the biology and in particular the growth and development of the features.

The classical approach simply scoring the presence or absence of the characters does not distinguish between the two regional groups. However when the more detailed categorization of the minor skeletal variants is applied a different picture of heterogeneity rather than homogeneity is suggested. This is evident from the example shown in *Figure 2* where the relation of absence to presence of lambdoid ossicles is about the same in the two groups (10:9; 8:10), while the more detailed differentiation of this trait, taking into consideration both number and location, reveals a differing pattern for location of multiple ossicles in the two groups.

The suggestion of heterogeneity between settlements is what would be expected were each settlement to be based on kinship groupings. Consequently, larger settlements would include larger kinship groups. This would lead to the expectation of greater heterogeneity in the larger settlements. This cannot be tested from the present data but there is the possibility to get some indication of familial relationship within individuals of one settlement. Altogether various expressions of nine cranial traits (*Figures 2 – 9*) were considered in this preliminary study, five of which showed strikingly similar expressions in one male and one female skull from Orvieto (*Figure 10*). They differ only with respect to an unilaterally expressed epipteric bone in the female and a small aperture of a basilar canal in the male skull. A third trait shows limited similarity in that there is complete absence of a parietal foramen in the one and a small unilateral not patent foramen in the other skull. The maximal number of similar expressions in the other skulls of all the series amounted to only three. Assuming the independence of these several traits it would be unlikely that two skulls would be identical in their detailed categorization in five different characters by chance unless they were related.

Interesting though these findings are, the limitations of the material have to be born in mind. Exact documentation is lacking and particularly there are no exact dates. Variations that seem to be spatial may in fact be temporal.

These preliminary results however suggest how valuable may be the application of such more detailed categorization of traits to a larger series of Etruscan skulls.

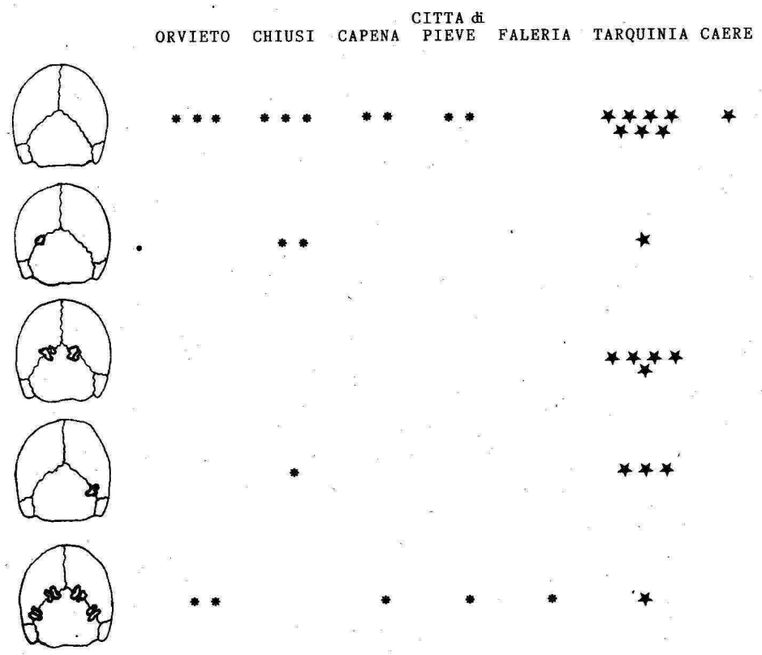

Figure 2. Number of skulls (• inland, ✶ coastal) in the five categories regarding lambdoid ossicles (number: none, single, multiple; position: superior, inferior).

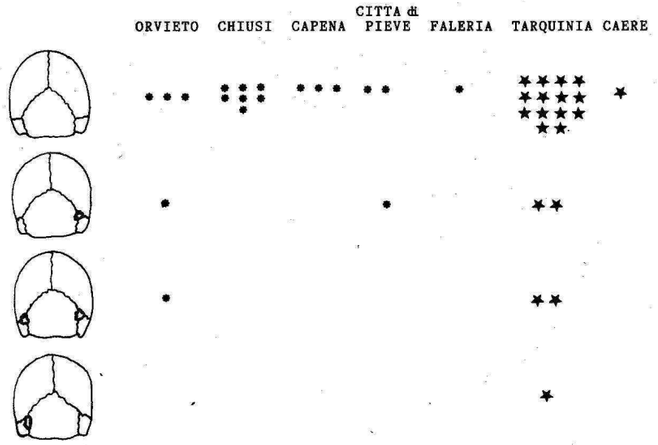

Figure 3. Number of skulls (• inland, ✶ coastal) in the four categories for ossicle at asterion (number: none, one – unilateral, bilateral; position: at the asterion proper, extending predominantly into the occipitomastoid suture).

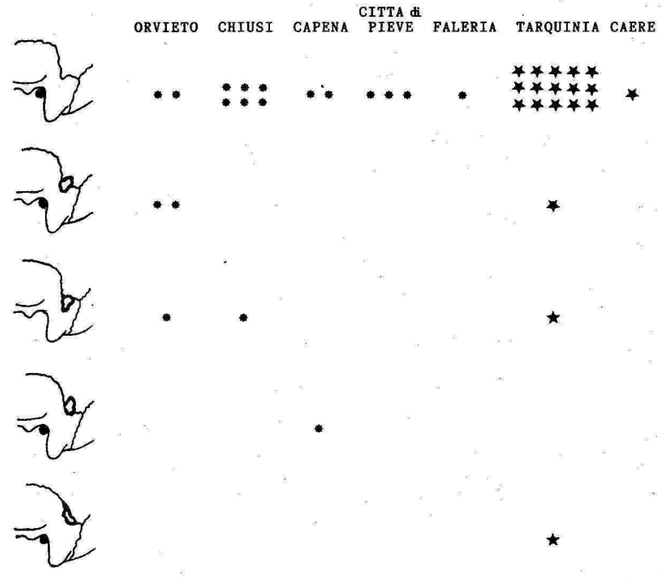

Figure 4. Number of skulls (• inland, ✶ coastal) in the five categories regarding the parietal notch bone (number: none, one, position: in the parietal notch proper, extending towards the mastoid process, extending into the parietal bone, extending along the temporal squama).

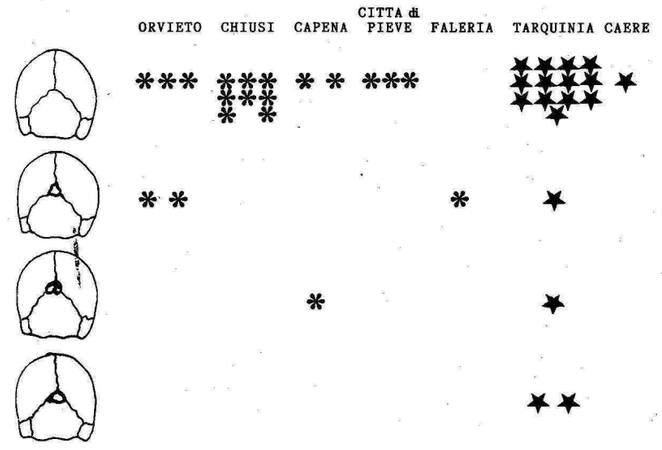

Figure 5. Number of skulls (• inland, ✶ coastal) in the four categories for ossicle at lambda (number: none, one, multiple; position: in the lambda proper, extending into the occipital squama).

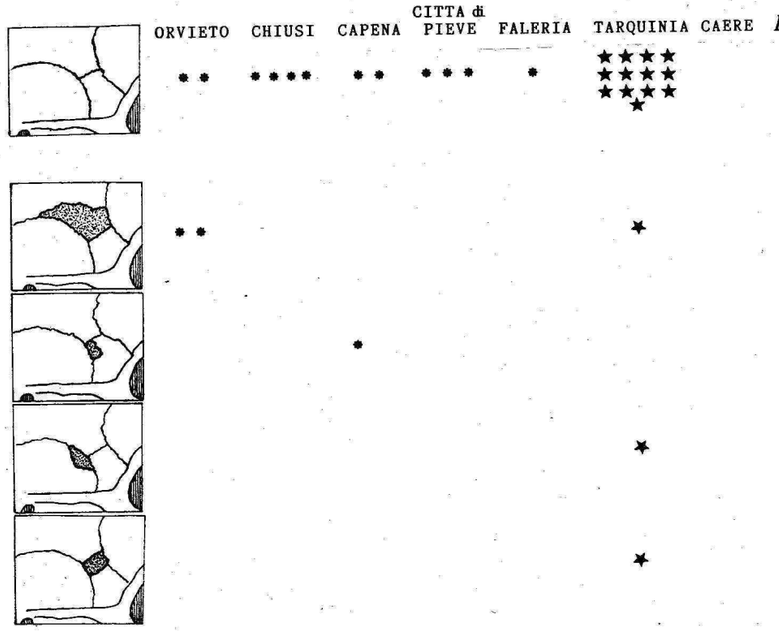

Figure 6. Number of skulls (• inland, ✶ coastal) in the five categories for true and „false" epipteric bones (number: none, one, position: extend-ing into the parietal bone along the superior margin of the temporal squama, extending along the anterior squamous margin inferiorly from the sphenoparietal suture into the sphenoid bone, extending into the temporal squama symmetrically above and below the spenoparietal suture, epipteric bone in the epipteric region proper).

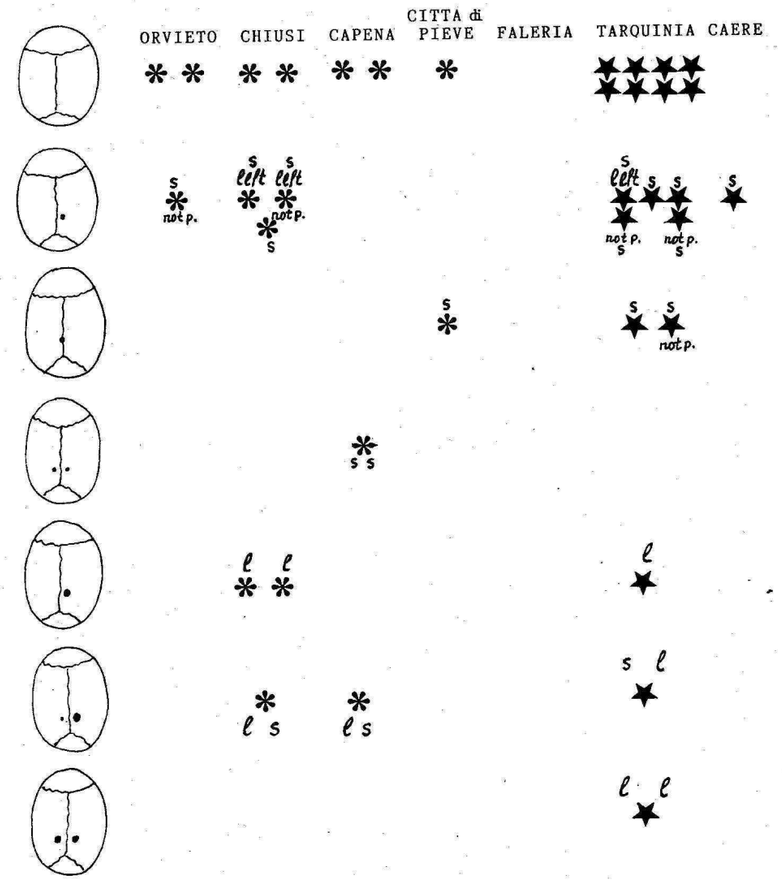

Figure 7. Number of skulls (• inland, ✶ coastal) in the seven categories for parietal foramen. Number: none, one, two; position: unilateral (only right, only left - left), bilateral; size: s - small - not patent (not p.), large (l).

Figure 8. Number of skulls (• inland, ✶ coastal) in the three categories: alignment of persistent infraorbital suture (running medial to the zygomaxillary suture, touching it at the infraorbital margin, blending with the zygomaxillary suture for some distance.)

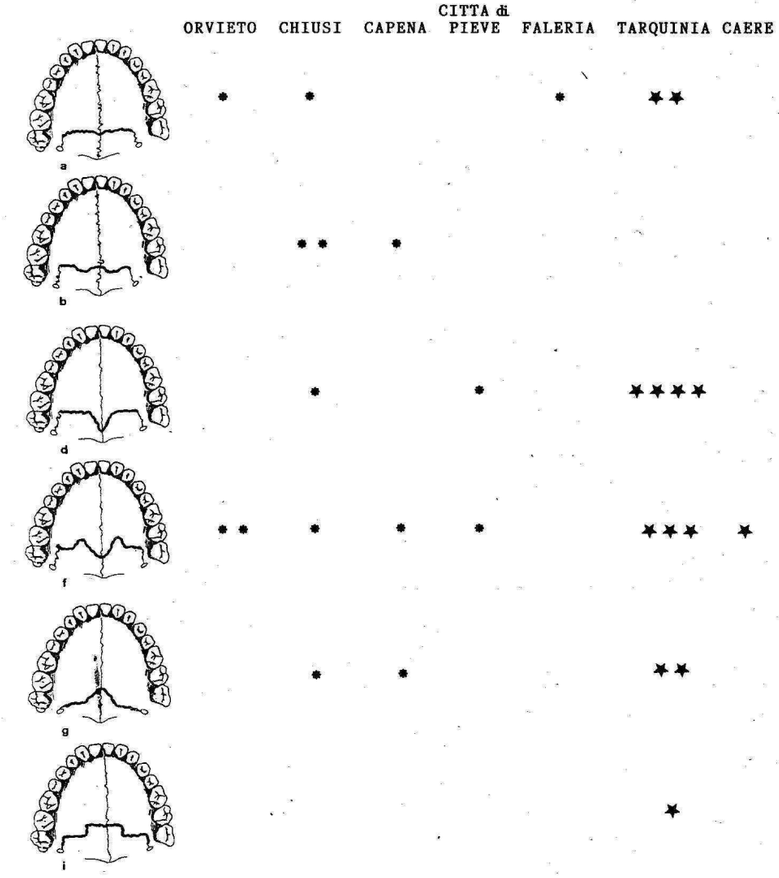

Figure 9. Number of skulls (• inland, ✶ coastal) in the six categories for alignment of transverse palatine suture.

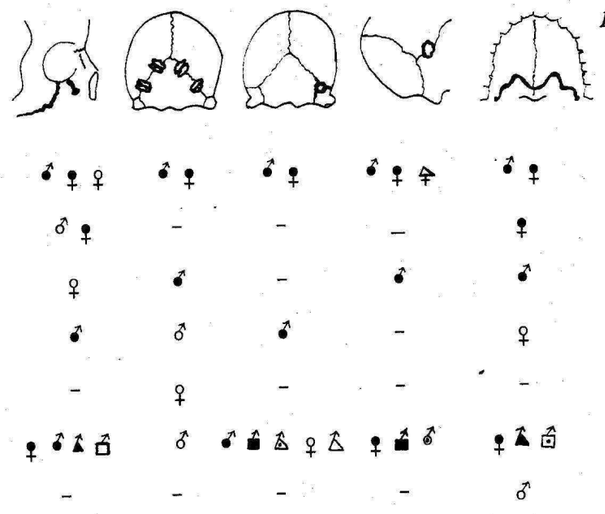

Figure 10. An example of individual trait combination in the seven series. In each of the series one symbol always refers to the same skull.

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