10. Human Osteology, Pathology, and Demography as Represented in the Burials of Caracol, Belize

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The sample of skeletal remains thus far recovered from Caracol consists of over 340 individuals from 171 interments.[1] These remains were uncovered during all 10 field seasons undertaken by the Caracol Project and were found in a variety of contexts throughout the site. Interments derive from simple burials, cists, crypts, and tombs; human remains were also recovered from other contexts, however, including debris associated with living areas. The Caracol interments range in date from A.D. 0 to 1050.

Analysis of the Caracol skeletal remains is still ongoing. At this point, however, it is clear that there are certain phenomena that were characteristic of Classic era Caracol: the large number of multiple-individual interments, the high frequency of tombs, the large proportion of individuals with dental modification/decoration, and the focus on interments in eastern constructions within each residential group. These and other aspects of the skeletal/burial analysis have substantial implications for any interpretation of the archaeology of Caracol, but also are critical in any consideration of variation in Lowland Maya burial practices.

The Caracol Skeletal Sample

Over the last decade, Caracol Archaeological Project investigations have been undertaken in a large number of widely dispersed locations at the site. Interments have been recovered in all programs of excavation with the exception of the terrace subprograms. Work in the epicenter of Caracol has encountered interments in most major "public" architectural complexes (A Group; B Group; and Caana) as well in presumably residential areas (Central Acropolis; South Acropolis). Many, but not all, of the epicentral interments were in tombs; some of these chambers actually contained painted hieroglyphic texts on walls or capstones that provide additional information relevant to their dating and the status of individuals inside the chambers.

Settlement studies undertaken in the Caracol core also produced skeletal remains in large numbers. This sample was derived from trenches and test-pits as well as from opportunistic samples drawn from collapsed and open, but untouched, tombs. The majority of interments in the settlement areas were found in association with eastern constructions within residential plaza groups. This sample also includes a full spectrum of graves–from simple burials to elaborate chambers.

In addition to those interments excavated by the project, substantial effort was made to recover information from looted contexts throughout Caracol; however, given their disturbed nature, these samples are substantially less complete in terms of the data yielded. Skeletal material recovered from looted areas is presented with the other remains from Caracol in Table 10.1; they can be distinguished by a single asterisk following the lot number.

Preservation of skeletal material from Caracol is, on the whole, extremely poor. In many cases the only remains that are identifiable are the teeth; and even these

may be eroded to the point that nothing remains except portions of the tooth enamel. Thus, certain analyses and identifications are difficult. It is very rare, for example, that whole long bones are present for use in stature estimates; aging cannot be undertaken on pubic symphyses as these are virtually never preserved. Nevertheless, there is a substantial body of information that can be garnered from these osteological remains, particularly with regard to the delineation of Caracol-specific interment practices.

Grave Typology

The typology for intentional human interments utilized at Caracol is based on and modified from previously established Lowland Maya typologies (Smith 1950; Satterthwaite 1954; Coe 1959; Smith 1971; Andrews IV and Andrews V 1980). It was first presented in an earlier Caracol report (Chase and Chase 1987a:56-67) and includes simple interments (those with no distinct grave outlines), cists (interments with clear grave outlines, but no formally constructed walls; see Figures 10.1 and 10.2), crypts (usually with upright or layered stone walls and capstones, but forming a "container" not much larger than necessary to hold the body), and tombs (formally walled and roofed constructions larger than necessary to hold their contents; see Figures 10.3 and 10.4). To these interment types, chultuns must also be added, for while it is unclear whether such chambers were initially constructed and used for other purposes, 7 chultuns (of 12 excavated) from Caracol yielded burials (cf. Hunter-Tate, this volume). In general, excavated buildings and platforms that contained more than one interment exhibited a combination of burial types (such as tombs and cists). The most frequent interment type in the Caracol excavations were cists (Figures 10.1 and 10.2); these were followed in numbers by tombs (Figures 10.3 and 10.4). Archaeological information exists for 80 tombs at Caracol and another dozen unexcavated chambers are known from site reconnaissance; of the 69 chambers that have been planned and excavated, osteological material exists for 62 tombs. Of all the interment types, tombs are the most variable; tombs are of different sizes (cf. Chase 1992:38) and their construction is not of equal quality. They may also contain a series of distinct features such as benches, entrances, beam holes, niches, and painted texts. Tombs are not restricted to the epicenter of the site, but rather have been found in all areas of Caracol with equal frequency. While the primary occupants of tombs were generally adults (both male and female), Caracol tombs have also been used to inter sub-adults (such as in Structure A4 and the "Cuchara" Group).

Human skeletal remains have been encountered at Caracol in contexts other than in simple interments, cists, crypts, chultuns, and tombs. Certain of the epicentral palaces had extensive Terminal Classic Period debris on their floors; in a number of instances (Caana, Structure B64, Barrio), this debris has included isolated pieces of human bone that have not formally been defined as "burials." Human remains also have been encountered in caches at Caracol. Various scholars (Coe 1959, 1990:930; Becker 1992) have noted that caches and burials sometimes appear difficult to differentiate. Human skeletal remains included within caches at Caracol most generally consist of (articulated) finger bones placed inside small cache vessels. The context of these "finger bowls" (Fig. 13.7) indicates that they were offerings and were not equivalent either to intentional interments or to the isolated human remains found in

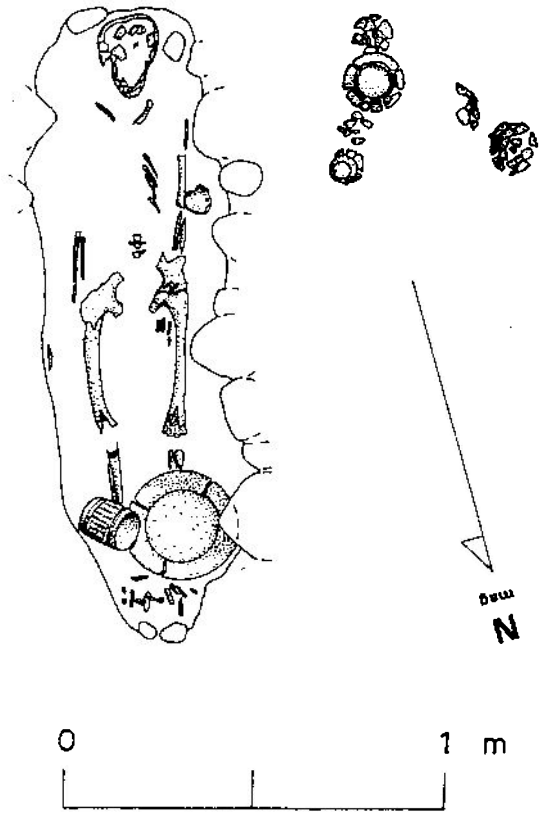

Figure 10.1. Plan of a single individual interment from the Bayal group (Operation C85C) with cache vessels to the west of the grave also illustrated.

floor debris. Because of their more complete nature, this discussion of osteological remains is focused on those materials found in intentional interments (as indicated in the typology outlined above) and not on osteological remains from caches or floor debris.

Interment Practices

It has been suggested (Welsh 1988:216) that primary, single interment was the predominant Maya burial practice. While there are examples of single individual burials at Caracol (Figures 10.1 and 10.3), a large number of interments (n=72) contained the remains of more than one individual (Figures 10.2 and 10.4); single chambers infrequently have housed the remains of over 20 individuals. The state of body articulation also varies within and among interments at Caracol. It is evident that some individuals were buried directly in their final resting places within a short time after death; others were not. Some interments contained one completely articulated individual with other (complete and incomplete) non-articulated individuals. Some people were buried by themselves except that a few "spare parts" from another individual were also included in the grave or chamber. For example, the woman in the Structure B19-2nd tomb was accompanied by several extra teeth from another person.

Caracol tombs provide the best locations to view the timing of deposition of individuals. It is evident that tombs were not always either the first or final resting place for members of Caracol society (cf. Chase and Chase 1994b). Some chambers–such as the tomb at the base of Structure A34 (Figure 10.3)–were entered on more than one occasion to place new bodies and disturb the one(s) that were already there. Other chambers (such as the tomb at the summit of Structure A34) show evidence for the almost total removal of bone and other grave contents. Still other tombs (such as the Structure B19-2nd chamber) contain the remains of individuals who had clearly been processed (probably buried) somewhere else before being finally interred in their archaeologically recovered context. The deposition history for a single tomb may be extremely complicated and indicate multiple entries with the placement of new (articulated) bodies, movement of original tomb occupants (within the chamber or, to another locale), and placement (or re-placement) of non-

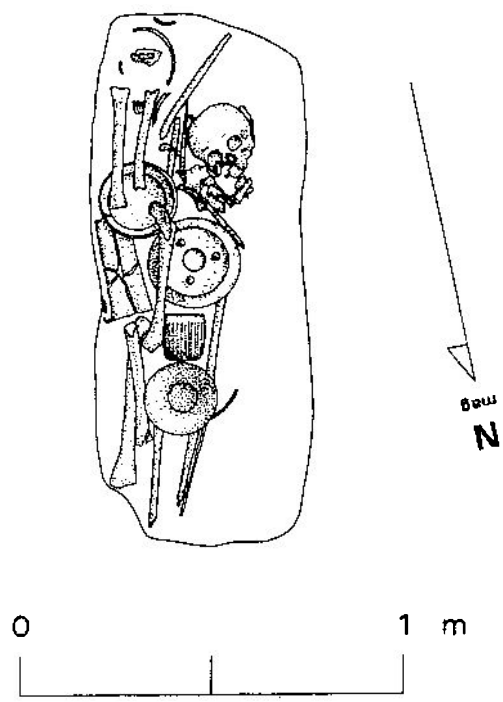

Figure 10.2. Plan of a multiple individual interment from the Toucan Group (Operation C54B).

primary (non-articulated) skeletal remains. In some cases (Structure L3, for example) tombs were re-entered, their contents were broken, scattered, and partially removed before the tomb was re-sealed.

Re-entry into chambers is indicated not only by analysis of skeletal remains, but is also confirmed in the artifactual offerings placed inside chambers as these may span a substantial period of time; as is the case with the bone, older items tend to be broken, scattered, and located beneath newer additions. In some cases (Structure D16, for example) partial vessels (cf. Figure 13.2) and extra skeletal material were found under the primary tomb occupant even though the archaeological record makes it clear that only a single burial episode is indicated. This could suggest the possibility of the ritual inclusion of part of an earlier interment (specifically the bones and burial offerings of ancestors) to aid in the transition of a deceased individual from the world of the living to the world of the dead. Thus, tombs and tomb contents at Caracol cannot always be assumed to correlate with a single event. Repeated chamber entries were facilitated by the formal entrances that exist for many of the Caracol tombs (ca. 60%). Re-entry of tombs, however, has also been documented for chambers devoid of entrances (such as in Structures L3 and A38).

Hieroglyphic material, when present on walls or capstones of chambers, not only provides clues to the status of individuals within but also may provide a to date the chamber or burial. From contextual analysis of texts in conjunction with stratigraphy, artifacts, and bone, it would appear that wall dates correlate with the death date for a primary occupant; however, capstone dates appear to reflect the time of completion or consecration of the chamber. In keeping with statements by Saxe (1970:6) concerning the participation of larger numbers of people in the death and burial rituals of individuals of high status, the closing of certain Caracol chambers is described on their capstones as being witnessed by the ruler of Caracol.

Repeated entry into tombs and the presence of multiple individuals within interments is not unknown in the Maya world (cf. Hammond 1975), but it is certainly not the most common burial practice (cf. Welsh 1988). Ancient Maya entry into chambers to retrieve ancestral relics may also be indicated in the hieroglyphic record (Grube, personal communication 1992). However, movement and removal of bodies as well as the placement of disarticulated bodies does not appear to be common in the Southern lowlands outside of the Caracol area. Not only are Caracol burials more likely to contain evidence for multiple individuals and secondary inter-

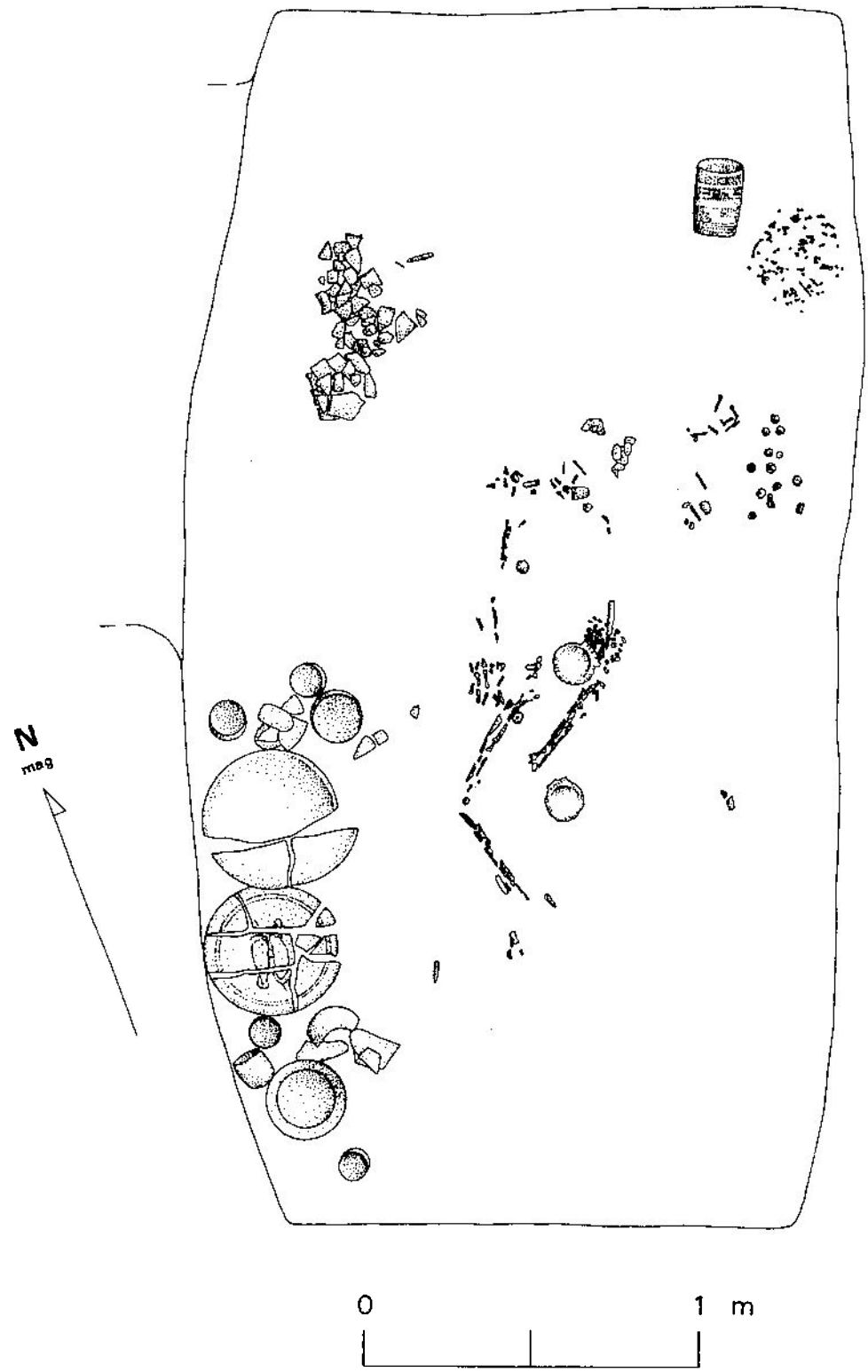

Figure 10.3. Plan of a single individual tomb located in Structure B20 (Operation C1H); the entrance to this tomb was located on the west.

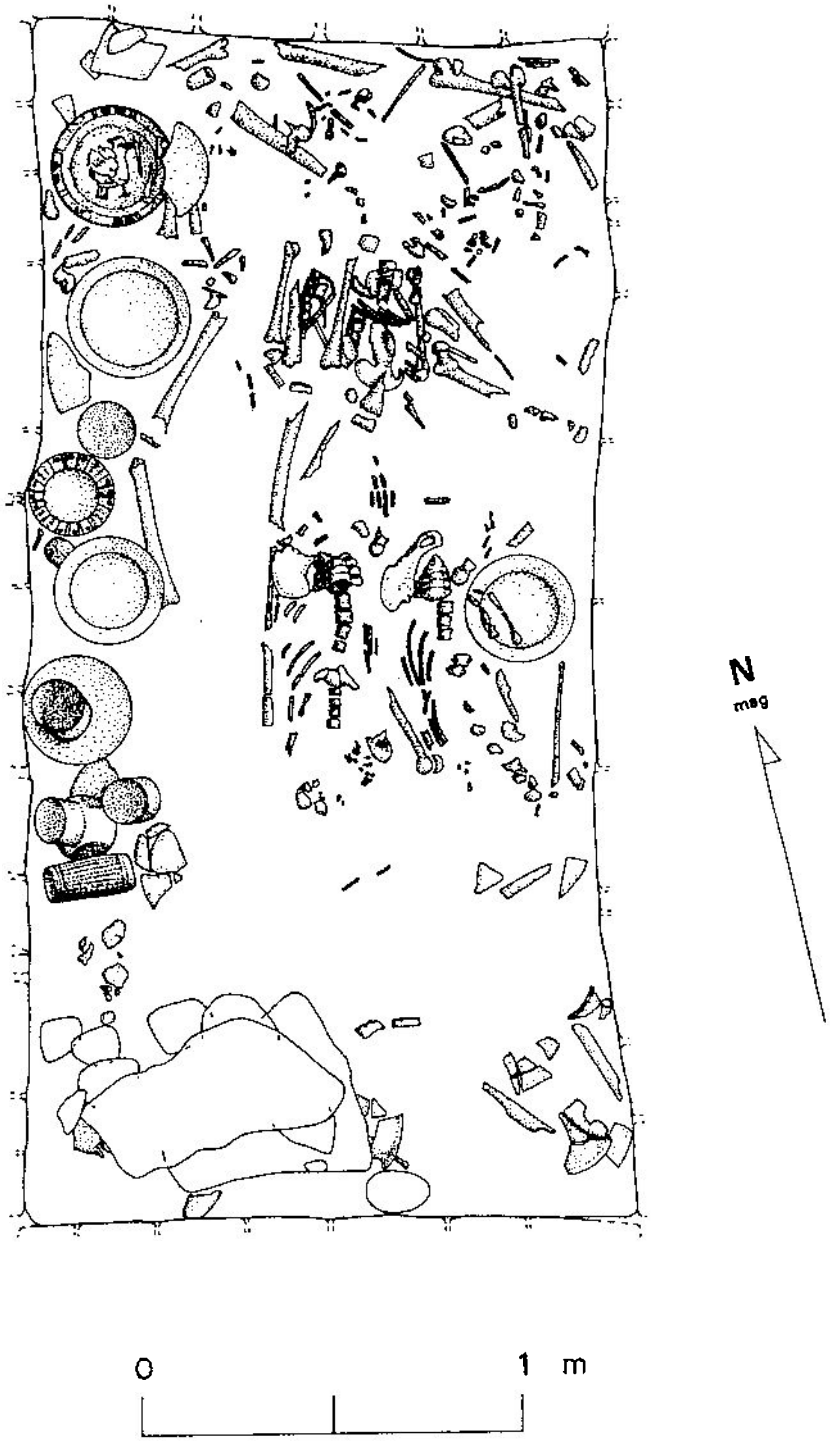

Figure 10.4. Plan of a multiple individual tomb from Structure A34 (Operation C87E); the entrance to this tomb was located on the south.

ments, but there are other aspects of the Caracol interments that suggest divergence from other sites in the Southern lowlands. For example, one relatively common feature in a number of Classic Period interments (cf. Haviland et al. 1985:149; Chase and Chase 1987b; Welsh 1988:216) is the placement of a ceramic vessel over or below the head of the individual; this pattern has not been found at Caracol.

Locations of Interments

Contemporary skeletal remains have been encountered in varying contexts at Caracol–in the epicenter and in the core of the site, in monumental architecture and in living areas, in tombs and in simple burials. There is also some evidence for changing burial locations over time. For example, during the Late Preclassic and Early Classic eras, chultuns appear to be a prominent burial location. However, by the Late Classic Period, individuals were generally interred in buildings or plaza areas and not in chultuns. The most common location for interments throughout the Classic Period was within the eastern building of residential compounds. This building appears to have served as an ancestral shrine or mausoleum in most of the residential groups tested. Nevertheless there were exceptions to this pattern. One epicentral group that was extensively excavated and that was clearly residential (Structures B21-B26 [Barrio]), produced no burials, leading to speculation that the people who once occupied the palaces in this group may have been interred in more public locations. In general, however, non-tomb burials were frequently located to the front of the eastern building and sometimes within its stairway; one or more tombs were usually located below the summit of the construction within the building's core. A distinctive temporal order appears to have been associated with these deposits: first the tomb was sealed; then a burial was placed under or adjacent to the lowest step of the stairway; finally other burials were placed within the stairway itself.

In addition to interments, eastern buildings at Caracol are also associated with a distinctive pattern of cache deposition. Typical residential caches are of two kinds: "finger bowls" containing the articulated remains of human fingers and lidded urns that depict a modeled human face. The association of these caches and burials with an eastern structure during the earlier part of the Late Classic Period forms part of a ritual complex related to the veneration of the dead that is particularly well developed at Caracol (Chase and Chase 1994b).

By the very end of the Classic Period, burial practices must have changed drastically for few interments have been located even though there appears to have been a substantial population at this time. One late burial was found in a trash deposit in a side room of Structure A6. Partial adult human skeletal remains have also been located in debris on the floors of palace compounds throughout the site's epicenter; the partial remains of children occur on the latest floor in the Structure B19 temple. Some of the variation in the recovery of skeletal remains from this era may reflect the turbulent social conditions of the end of the Classic Period; a complete, but unburied, child was found in an interior doorway of a palace room on the summit of Caana, suggesting that the final abandonment of Caracol may have been hurried.

Aging and Sexing

Given the poor state of preservation of skeletal remains at Caracol, aging and sexing of remains is sometimes problematic. Sexing of skeletal material was undertaken in-field whenever possible in an attempt to view intact diagnostics–most specifically the sciatic notch and the mastoid process. In the laboratory skeletal material was reviewed again for sex identification; other features on the skull, mandible, long bones, and teeth were used as secondary indicators of sex. Rarely has post-field analysis altered initial in-field assessments, although it has on occasion led to sex identifications that were not possible to make in the field. No sex has been assigned for sub-adults.

Aging of skeletal remains at Caracol is likewise often problematic due to the poor state of preservation of most bone. Aging in sub-adults has been based on tooth eruption and formation as well as closure of skeletal epiphyses; these methods generally result in relatively precise age determinations. Aging of adults is based primarily on dental wear and attrition in combination with degenerative changes in bone. As a complete internal scaling of dental wear has not yet been completed, the analysis of adults for age is less precise than is the aging for the Caracol sub-adults. If anything, the skeletal ages have been (intentionally) assessed as too young rather than too old. All these assessments will be checked during final analysis, but the factors related above should be taken into account when viewing the age determinations presented in Table 10.1.

Demography

The Caracol burial sample of 171 interments and over 340 individuals is relatively large for a Maya site. However, a comparison of numbers of skeletal individuals with the total number of people postulated to have been living at any one point in time suggests that the recovered portion of the population is actually quite small. For instance, some 115 burials representing over 240 individuals dating to the Late Classic Period have been recovered at Caracol. But the Late Classic Period, as presently understood at the site may be dated from at least A.D. 530 to A.D. 780, representing 250 years. Thus, the archaeological record has produced an average of approximately 1 burial every other year and approximately 1 individual per year for a total population that had well over 100,000 living people in A.D. 650 (see Chase and Chase, this volume).

The Maya have tended to be characterized by the practice of burying their dead beneath their housefloors (cf. Smith 1950, Haviland et al. 1985), largely based on ethnohistoric descriptions of such a practice from Landa (Tozzer 1941:130). But not enough people have been recovered from beneath residential floorings to account for all the Maya that are projected to have once resided in any given living group (cf. Culbert and Rice 1990). At Caracol, most burials are found on axis to or within a residential group's east building. Rarely are burials encountered in other excavations or buildings within a group. At most, perhaps half a dozen burials representing up to a dozen individuals are found associated with any one group. This contrasts with archaeological data indicating that many of these residential groups have great time depth and were occupied in some instances for hundreds of years and by an average of 15 to 30 people per group at any one point in time.

Sempowski (1992:29-30) has pointed out that similar difficulties and a similarly problematic sample exists for Teotihuacan apartment compounds: ". . . we are limited to an inherently biased sample of burials–those of individuals who were intentionally buried beneath the floors of their homes, and whose interments, for whatever reasons, have been sufficiently well preserved to be discovered in excavation." She suggests that sampling at Teotihuacan may be even more problematic than at Maya sites, "unlike the situation in other parts of Mesoamerica, most burial data from Teotihuacan relates to persons of intermediate status." In order to account for the missing dead of Teotihuacan, Sempowski (1992:30) provides three possibilities: first, that specialized practices of cremation and/or secondary deposition account for the missing residents; second, special crematory or cemetery areas exist outside of apartment compounds; and third, that some deceased (usually long-deceased) individuals were simply incorporated into refuse or building fill. The data from Caracol would indicate that one of Sempowski's first suggested possibilities–secondary deposition–was widespread at Caracol–and is a very likely problem in complete recovery of human skeletal remains. Cremation, on the other hand, does not appear to have been as common; only one cremation burial is known from Caracol's South Acropolis. That special crematory or cemetery areas might have existed outside Maya residential groups is certainly a possibility, however, none of these areas are currently known for Caracol. Semposki's third possibility–incorporation of individuals in refuse or construction fill–also occurred, but infrequently prior to the Terminal Classic Period.

Over-reliance on recovered burials to develop detailed demographic reconstructions at Caracol would appear to be unwise. However, comparison of population histories as derived from osteological vs. settlement studies are in order, if for no other reason than to assess the reliability of either data base. At least until the Terminal Classic Period there does appear to be rough correlation between numbers of individuals recovered in interments and peek periods of occupation as reconstructed from settlement studies. The greatest number of burials encountered thus far by the Caracol Archaeological Project correlate with the Late Classic building boom seen at the site (see Table 10.1). Times, such as the Terminal Classic Period when there is little correlation between numbers of human skeletons and other archaeological evidence for occupation clearly require additional study.

Dental Decoration

The two most common forms of dental filing at Caracol are flat-filing and side-notching (Romero 1970:51 [Types B1 and B4]). When inlays are present, there is most commonly a single circular jadeite or hematite inlay centrally placed on the tooth, however, up to three inlays have been found in a single tooth and examples of shell inlays have also been encountered. Inlays and filing were most frequently found in upper central incisors, but have been found on all upper incisors, canines, and premolars as well as on all lower incisors.

Dental Decoration was a frequent and widespread phenomena at Caracol.[2] Dental filing is present in 26.3% of the excavated interments at Caracol (n=45); of all the plaza groups in which burials have been found (n=64), 59% of the groups contained at least one individual with filed teeth. Dental inlays or inlay holes are present in 22.2% of the interments at Caracol (n=38); of all of the plaza groups in

which burials have been found, 45% of the groups contained at least one individual with inlaid teeth. Filing and inlays were found together in 21 burials, usually, but not always, in the same individual. Neither dental filing nor inlays were restricted to interments in the site epicenter; they have been encountered in the site core at a distance of 5 kilometers from the epicenter. Filing and inlays are likewise not restricted in distribution to those individuals buried in tombs; dental decoration is frequently encountered in skeletal remains uncovered in other interment types. Furthermore, filing and inlays were not restricted to areas with tall mounded construction; these decorative modifications have been found in individuals interred in low-lying "non-elite" residential groups. Even though filing and inlays may be found in interments that are clearly not of high status, the majority of "royal" interments (those with painted hieroglyphic wall or capstone texts) have individuals with inlaid teeth. Thus, inlays and filing appear to have been a favored Caracol mode of adornment or decoration rather than an indication of high status (see also Becker 1973). The percentage of interments with inlaid teeth at Caracol is far higher than at other neighboring Southern lowland sites. It has been suggested (Chase and Chase 1993) that the frequency of dental inlays is one feature incorporated into a distinctive Caracol identity following Caracol's periods of successful warfare in the 6th and 7th centuries.

Health Status

Evidence of poor health and/or hygiene among the Caracol Population include dental hypoplasia, caries, abscesses, porotic hyperostosis, arthritis, and healed fractures. By far the most common indicator of health problems is dental hypoplasia. Hypoplasia is present in just under 16% of the burial sample.[3] In most cases the hypoplasia is slight; however, there are several cases with severe grooving. Analysis has not yet been completed on the timing of the hypoplasia episodes. Caries are also relatively well-represented in the Caracol collection and there are a number of instances of severe tartar build-up on teeth–generally, but not always, associated with older individuals. Anti-mortem tooth loss is also present in much of the older population and contributes to the difficulty in assessing age using dental wear.

There are a number of individuals of advanced age that exhibit arthritis. This ranges from moderate arthritis visible only in one area of the skeleton to severe arthritis affecting a majority of the bones in the body. One example of fused vertebrae has also been recovered (in the Structure F4 tomb) at Caracol. Porotic hyperostosis is relatively uncommon at the site as compared with certain other Maya populations (cf. Saul 1972). Thus far porotic hyperostosis is present in only 8 individuals at Caracol. Given its rarity at the site, it is indeed interesting that this trait has sometimes been found in more than one adult individual buried in the same locus (such as in Structure L3), suggesting the possibility of a genetic link or predisposition for this condition even if it has a dietary component. There does not appear to be any significant health status difference between tomb and non-tomb or between epicenter and core populations at Caracol; however, chemical studies of the Caracol bone currently being undertaken to determine dietary variation may permit correlations that are not otherwise visible.

Grave Offerings

There is tremendous variation in the artifactual remains associated with interments at Caracol. Certain individuals were buried with no artifacts while others were interred with numerous artifacts of pottery, jadeite, and shell. Jadeite was not as abundant in Caracol interments as might be expected given the site's political prominence and seems to have been purposefully de-emphasized in tombs. However, shell artifacts (usually of *strombus*) were abundant at Caracol (see Cobos this volume), particularly in what are interpreted as middle social level interments. The quantity of grave items does not appear to be an absolute indicator of past social status at Caracol although it may be used to some degree as a supporting factor. Tombs with hieroglyphic texts–presumed to be associated with the ruling elite–have been found that contained relatively small numbers of artifacts (such as in Structures A3 and L3); on the other hand, certain tombs with no indication of a royal relationship have been found to contain relatively high numbers of artifacts (such as in the Monstera and Toucan Groups). Although literacy is presumed to be among the prerogatives of the Mesoamerican elite (cf. Marcus 1992), the presence of objects containing hieroglyphic writing or texts does not correlate solely with tombs or with interments that are judged to be of the highest status. While painted texts on tomb walls have thus far only been encountered in tombs believed to be associated with the Caracol ruling elite, portable hieroglyphic texts have been found in simple burials thought to correlate with specialists rather than rulers as well as in "middle level" interments located in housing areas at some distance from either the Caracol epicenter or its causeway termini. One other interesting feature of grave offerings at Caracol is the apparent greater correlation of polychrome pottery with non-epicentral and non-tomb interments; this is different from what one might predict and, when considered in conjunction with the widespread occurrence of shell artifacts, runs counter to assertions (Sempowski 1992:47, 52) that the Maya did not have "broad, cross-societal accessibility to luxury goods." One factor that appears to provide interesting data with regard to status differences is a calculation of tomb volume per occupant; this correlation shows variation within Caracol but also confirms the existence of a social hierarchy among Caracol and its neighboring sites (Chase 1992).

Conclusions

The Caracol skeletal collection is extremely interesting in that it offers general similarities to remains encountered at other Maya sites, but at the same time indicates specific regional variations for the area of Caracol. The association of interments with an eastern residential group building is noted for other Southern lowland sites (Becker 1982; Chase 1985; Welsh 1988:215); however, the predominance of this pattern and the number of interments that may be found within a single eastern building at Caracol is unusual especially when compared with the situation at the site of Tikal (ca. 80 km distant). Likewise the emphasis on tombs, dental inlays, and multiple-individual interments suggests a distinctive Caracol situation.

On a more general level, there has been some discussion concerning the nature of Maya burials and particularly their role as potential "dedicatory offerings" to structures (Coe 1959:77-79; Becker 1992:188-189). Analysis of burials and caches at

Santa Rita Corozal (Chase 1982:555-556) led to the conclusion that dedicatory burials (and caches) were an extremely unusual phenomena. The tombs at Caracol and the specific evidence for multiple past entries into pre-existing chambers is consistent with a non-dedicatory function for these interments. Rather than seeing the burials and caches as ritual parts of building efforts, it would seem more likely–at least for Caracol–that certain buildings were constructed with the intent that they would be used to carry out elaborate death rituals involving burial, re-burial, and caches. Similarly complicated situations are also noted for Tikal where Coe (1990:930) notes that "no legitimate understanding arises via customary usage of terms like 'votive' and 'dedicatory,' nor does 'offering' have objectivity." Although talking about caches, the situation with regard to Tikal's burials is similar as well (Coe 1990:916).

Complicating the picture is the realization that, whatever the skeletal sample size, we are dealing with a small percentage of the total ancient population. Based upon projected populations only a limited number of Maya dead were recovered in any Classic Period residential compound. The varying composition of Caracol tombs with regard to number of individuals, articulation, and degree of completeness, makes it evident that the Maya of Caracol dealt extensively with burial staging (Huntington and Metcalf 1979:13-17). Thus, Maya burial practices in and of themselves make the full recovery of osteological remains difficult if not impossible.

Nevertheless, the changing nature of Caracol interments over time may be correlated with changing social conditions at the site. The heightened emphasis on interment in tombs during the Late Classic likely reflects both the prosperity of the Caracol population at large and a decreased gap between uppermost and middle social levels during this time (Chase 1992). Several conjoined factors–the large number of tombs located throughout Caracol, the burial focus on eastern buildings in residential groups, the widely distributed eastern structure cache pattern, and the high frequency of dental inlays found throughout Caracol–indicate that distinctive aspects related to burial ritual in the Caracol region may be used to mark a specific identity that can be associated with the site and its surrounding region.

By the Terminal Classic Period, Caracol's population was apparently still large; however, formal interments are no longer common in the Caracol sample. The interments that have been discovered suggest substantial changes in burial activities. The unique Caracol ritual patterns that were so widespread earlier are no longer evident. Instead, the Terminal Classic dead that have been recovered were buried in trash deposits or found in whole or partial condition on building floors. Dismembered human bones have been found at other Southern Lowland sites during the Terminal Classic Period (Chase and Chase 1982:599; Coe 1990:931; Tourtellot 1990:91, 109). And certain of the finds of human bone from this time have been seen as possibly reflecting cannibalism (Smith 1950:44; Chase 1982:100, 550; Coe 1990:93; Tourtellot 1990:122). Terminal Classic changes in treatment of the dead at Caracol also seem to correlate with certain artifact changes such as the appearance of stemmed lithic points and distinctive ceramic forms and types (A. Chase, this volume), but evidence is not substantial enough at Caracol to suggest the existence of a replacement population, as has been postulated for Seibal (cf. Tourtellot 1990:139). Events during the Terminal Classic Period at Caracol are, however, probably similar to occurrences at other Southern lowland sites where Classic Period lifeways were disrupted. Yet, it is important to note that these late activities did

not cease at Caracol with the termination of the carved stone monument texts in the middle of the 9th century; rather, some semblance of a viable population continued to live at Caracol into the 11th century.

Notes

1. A total of 183 interments and/or chambers are included in Table 10.1; this table contains information on chambers that were unexcavated, included no bone, or were uncovered by other researchers. Seven other interments are known from Caracol, but are not included here because of a lack of osteological and other data: 2 looted graves (1 tomb; 1 crypt) from Tulakatuhebe for which no information other than the existence of the chamber exists; 4 looted tombs from the Retiro terminus for which measurements and ceramics were collected; and 1 tomb excavated at Caracol by Paul Healy (Healy et al. 1983).

2. The percentage of burials with dental inlays and filing would be higher if it were corrected to exclude interments with no remaining teeth.

3. It is conceivable that the number of individuals with hypoplasia will be higher following final analysis.

Table 10.1: Caracol Burials

LOT #	T/NT	STR #	INLAID	FILED	INDV	SEX	AGE	OTHER	DATE
C1B/2,3*	T	B20: CAANA			1	?	25-30	HYP,TAR	A.D. 577
C1B/5,6*	T	B20: CAANA			1	?	<30	HYP	L CL
C1B/4,9*	T	B20: CAANA	+		1	?	25-35	TAR	L CL
C1C/29	NT	B20: CAANA			1	?	A		L CL
C1H/5	NT	B20: CAANA			>1	?	?		L CL
C1H/27	T	B20: CAANA	+		1	?	>35		A.D. 537
C3B/2,3*	T	A37: C. ACROP.	+		3	?	2:25-3,1Sa	SH,HY,CAR	L CL
C3C/5	NT	A37: C. ACROP.			3?	1M,1F,1?	3:A	HY	L CL
C4C/10	NT	B19: CAANA			1	?	?	PARTIAL	T CL
C4C/21	T	B19: CAANA	+		1	F	35-45	E EXT,TAR	A.D. 634
C4E/15	NT	B19: CAANA			2	?	2-3		T CL
C4E/25	NT	B19: CAANA			1	?	<1		L CL
C4F/6	NT	B19: CAANA			1	?	?	FRAGS ONLY	L - T CL
C5B/1	T	A63: ZOOM		+	2-3	1M,1F	2A	TAR	L CL
C6B/16	T	B108: RAG		+	5	2M	>35,>25,A,2Sa	CAR,TAR,HY,3POR,E EXT	L CL
C6B/27	NT	B108: RAG			1	?	3-4		L CL
C6B/30	NT	B108: RAG			1	F	OA	HY,CAR,TAR	L CL
C7B/10	NT	F2: FROG			1	?	30-35+	HY,CAR,TAR,SK ONLY	L CL
C7B/11	NT	F2: FROG			1	?	7-8	E EXT	L CL
C7B/12	T	F2: FROG	+		24	?	?	FUSED VERT.	L CL
C7B/15,16	NT	F2: FROG		+	1	?	20	SH,E EXT,HY	L CL
C8E**	T	A6: WOODEN L.			1				E CL
C8E**	T	A6: WOODEN L.			>1				E CL
C8S/4	NT	A6: WOODEN L.		+	1	?	15	POR	T CL
C9A/1 to 4*	T	F17: CANELA		+	1	?	A	HY	L CL
C10A/1 to 4*	T	A4			2	?	A,<4		E - L CL
C10A/5*	T	A4			1?	?	<2		E CL
C12A/72	T	A3			1	?	25-35	HY	A.D. 696
C14A/4,5*	T	4L6: CONCHITA	+(3)	+(2)	6	?	?		L CL
C14A/6*	T	4L6: CONCHITA	+		1	?	?		L CL
C14A/11*	T	4L6: CONCHITA			1	?	?		L CL
C14B/2	T	6G27: ROYAL			?	?	?	BONE NOT COLLECTED	L CL
C14C/2*	T	8F9: TULAKATU.			1?	?	?	1 TOOTH ONLY	L CL
C14C/5,13*	T	8F9: TULAKATU.			1	?	25-35	SH,HY,TAR	L CL
C14C/9*	T	8F8: TULAKATU.			(1?)	?	?		L CL
C14C/10	T	8F8: TULAKATU.			7-10	?	2Sa,2A		L CL
C14C/14*	T	8F7: TULAKATU.			(1?)	?	?		?
C14C/15*	T	8F7: TULAKATU.			?	?	?	BONE NOT COLLECTED	?
C14D/1*	T	6F7		+	4	?	3A,2Sa		L CL
C14D/3*	T	6F7			1	?	?		L CL
C14E/1*	NT	4P10: PAJARO	+	+	2	?	A,Sa	TAR,HY	L CL
C14E/2*	NT	4911: PAJARO			1	?	?		L CL
C15A/4 to 6	T	K4: CASTLE			1	F?	A		L CL
C18U/12,13	NT	B5		+	1?	?	25-35		L - T CL
C18U/23	NT	B5			1	?	A	HY	L - T CL
C19A/14	NT	L3: MACHETE			1	M	35+	AM LOSS	L CL
C19A/28	T	L3: MACHETE			1	M	A	TAR,CAR	A.D. 613
C19A/32	NT	L3: MACHETE	+(2)	+	3	?	2:35+,7-9	2 POR,TAR,SH,CAR	L CL
C19A/38	NT	L3: MACHETE		+	1	F	35+	POR	L CL
C19A/39	NT	L3: MACHETE	+	+	1	?	A	SH,CAR	L CL
C19A/52	NT	L3: MACHETE	+		1	?	35-45		L CL
C22A/28	NT	C11: TABANOS			5	?	1A,4Sa		L CL
C22A/32	NT	C11: TABANOS		+	1	F	A	SH	L CL
C22E/38	NT	C13: TABANOS	+	+(2)	4?	?	2A		L CL
C24B/2*	T	O4: MONSTERA	+	+	9	?	8A,1Sa		L CL
C24C/3	T	P14: SOUTH		+	3	?	2A,1Sa		E & L CL
C28A/4,6*	T	6G4: MUJER	+	+	3	?	?		L CL
C29A/6*	T	C97: ESTRELLAS			2	F?	A,3		L CL
C29A/7*	T	C97:ESTRELLAS			1	M	25-35	E EXT,CAR	L CL
C30B/2	T	N9: BACKWATER			?	?	?	NO BONE REMAINS	L CL
C31A/2 to 9	T	2E20: HILLTOP	+	+	2	?	25-35		L CL
C31B/7	NT	2E20: HILLTOP		+	3	?	2A,1Sa		L CL
C32A/4	T	M11: MOSQUITO			1?	?	?	REFUSE ALSO PRESENT	L CL
C32B/5	T	M12: MOSQUITO			2+	?	?		L CL
C32C/6	NT	M12: MOSQUITO			1	?	?		L CL
C32C/9	NT	M12: MOSQUITO			1	?	<5		L CL
C33A/2	T	(027): MUERTOS			1	?	CA 35		L CL
C33B/1 to 4	T	(027): MUERTOS			(1?)	?	?	1 BONE FRAG	L CL
C34B/8-1	NT	T TREES			1	?	A	CHULTUN	E CL?
C35A/9	NT	C63: J'S		+	1	?	35		L CL
C36A/2	T	ARANA			2	?	A		L CL
C36B/4	NT	ARANA			1	?	5-6		L CL
C37B**	T	D17: S. ACROP.			1	?	A		L CL
C37C**	T	D18; S. ACROP.			2	?	A		L CL

Table 10.1: Caracol Burials (continued)

LOT #	T/NT	STR #	INLAID	FILED	INDV	SEX	AGE	OTHER	DATE
C39B/5	NT	ROOSTER			1	?	?		L CL?
C39B/10	NT	ROOSTER	+(2)		3	2F,1M	3A		L CL
C39E/17	NT	ROOSTER			1	?	5-6		L CL
C39E/28	NT	ROOSTER			1	?	5		L CL
C39E/31,32	NT	ROOSTER			2	?	1A		L CL
C39E/33	NT	ROOSTER			1	?	Inf		L CL
C39E/34	T	ROOSTER		+	5	F,M,?	2A,?		E CL
C39E/36	NT	ROOSTER			1	?	5		L CL
C39E/40	NT	ROOSTER	+		2	?	?		E - L CL
C39C/5	NT	CHICK	+		3	?	2A,5		L CL
C39C/6	NT	CHICK			1	?	A		L CL
C39D/6	NT	HEN			2	?	?		L CL
C40A/3	T	CHACHALACA	+	+	4	?	3A,1Sa		L CL
C40C/5	NT	CHACHALACA			1	?	?		L CL
C41D/3	NT	M7: MIDWAY			1	?	?		?
C42B/4	NT	M81: LOST			1	?	?		?
C42B/6	NT	M81: LOST			3	?	2A,1Sa		?
C46C/1*	T(3)	2F15: DASH			(1?)	?	?	BONE FRAGS	?
C48A/3	NT	DOVE			2	?	?		L CL
C49A/3	NT	B88: ULTIMO			1	?	?		?
C49A/5	NT	B88: ULTIMO			1	?	35-45		L CL
C49A/6	NT	B88: ULTIMO	+		1	?	OA		L CL
C49A/8	NT	B88: ULTIMO			1	F	A		L CL
C49A/9	NT	B88: ULTIMO	+	+	2	?	25-35		L CL
C49A/12	NT	B88: ULTIMO			1	?	?		E CL
C50A/7	T	N43: TIGER			1	?	?		?
C50B/10	NT	N43: TIGER		+	1	?	?		?
C50C/4	NT	N46: TIGER			1	?	?	SKULL ONLY	L CL
C51A/4	T	M42: PECH			0			EMPTY CHAMBER	?
C51B/7	NT	M42: PECH			1	?	?		L CL
C52A/4 to 8	NT	BLANCA			3	?	35,5,?	CHULTUN	PreCL
C52B/7	NT	BLANCA	+		2	?	?		?
C52D/5	NT	BLANCA		+	3	?	2A,1Sa		L CL
C53A/5	T	RITA				0		EMPTY CHAMBER	?
C53B/11	NT	RITA			1	?	4		L CL
C53B/16	T	RITA	+		2	?	25-35,35-45		L CL
C54A/4,5	T	TOUCAN			2?	?	?		E - L CL
C54B/11	NT	TOUCAN			2	M,?	A,?		L CL
C56A/2	T	CERRITA			0	?	?	EMPTY CHAMBER	?
C56C/3	NT	CERRITA			(1)	?	?		?
C56C/7	NT	CERRITA			3	?	25-35,OA,Sa		L CL
C56C/10	NT	CERRITA		+	2	M,?	25-35,35	HY	L CL
C56C/11	NT	CERRITA			(1)	?	?		?
C58A/10	NT	ESCOBA		+	1	F?	25-35		L CL
C59A/30	T	2E28: HIGHRISE	+	+	5	M,F,?	35,35-45,?		?
C59A/40	NT	2E28: HIGHRISE			1	?	< 5		?
C59B/6	NT	2E30: HIGHRISE			1	?	5		?
C60A/9	NT	PATO			1+	F,?	A,?	CHULTUN	E CL?
C60B/8	NT	PATO			1+	?	?	CHULTUN	E - L CL
C60B/9	NT	PATO			5	?	?	CHULTUN	E CL
C63A/4	NT	NOWHERE			1	F	A		L CL
C65A/9	NT	ZERO			1	?	?		L CL
C66A/1 to 3	T	DWARF			2	F,M	2A		L CL
C66B/11	NT	DWARF		+	5	F,M,?	4A,1Sa		L CL
C67A/4	NT	CHUNTA			1	?	?		?
C67A/8	NT	CHUNTA			1	M	A	CHULTUN	E CL
C67A/9	NT	CHUNTA		+	4	?	3A,1Sa	CHULTUN	E - L CL
C71E/27	NT	A2			1	?	12-15		T CL
C72B/13	NT	D4: S. ACROP.			1	?	?	CREMATION	L - T CL
C73B/40	T	A7	+		2	?	35-45,25-35	HY	E - L CL
C74B/3	T	C69: CHIB	+	+	4	?	?		L - T CL?
C75B/10	NT	B64: C GROUP		+	1	M?	25-35	HY,TAR,SH,CAR,POR?	L - T CL
C75B/11	NT	B64: C GROUP		+	2	M,F	30-35,25-30	SH,CAR,HY	L CL
C79B/12	NT	F4: NW/FROG			1	M	OA	HY	?
C79B/18	NT	F4: NW/ FROG		+	2	?	A, < 19	HY	?
C79B/31	NT	F4: NW/ FROG			1	M	A	HY	?
C79B/35	NT	F4: NW/ FROG			1	F	A		?
C80A/4	T	RETIRO			(1?)	?		BONE FRAGS	L CL
C80A/9	T	RETIRO			(1?)	?	?	1 TOOTH	?
C81B/5	NT	CAANA			1	?	5	UNBURIED	T CL
C82A/1,B/1	T	BETWEEN			?	?	?	NOT COLLECTED	L CL
C84B/4	T	DOS TUMBAS			0			EMPTY CHAMBER	?
C85B/4	T	BAYAL			1	?	35-45		L CL
C85C/8	NT	BAYAL		+	1	F	A	HY	L CL

Table 10.1: Caracol Burials (continued)

LOT #	T/NT	STR #	INLAID	FILED	INDV	SEX	AGE	OTHER	DATE
C85C/17	NT	BAYAL			1	?	2		L CL
C85C/18	NT	BAYAL			3	1M,2?	50+,6,<2		L CL
C85C/19	NT	BAYAL			1	?	?	HAND ONLY	?
C85C/21	T	BAYAL	+	+	7	?	?	HY	L CL
C85C/23	NT	BAYAL			1	?	2		?
C86C/15	NT	A38: C. ACROP.			2	?	4,4		L CL
C86C/19	T	A38: C. ACROP.			3+	2M,1F	3A	TAR,ARTH	L CL
C87B/9	T	A34: C. ACROP.			1	?	?	ONE BONE ONLY	L CL
C87E/12	T	A34: C. ACROP.	+	+	4+	F,2M,?	4A		A.D. 700?
C88C/14	T	D16: S. ACROP.	+		2	?	?		E CL
C92B/1	NT	NWCAVE			2+	?	?	CAVE NOT EXCAVATED	L - T CL
C95B/1,2	T	B118: WALLED	+		2	M,F	OA,A		E CL
C95C/1	NT	B118: WALLED		+	1+	?	?	DISTURBED?	L - T CL
C95C/10	NT	B118: WALLED			3	?	2,2A		L CL
C95C/20,21	NT	B118: WALLED			2	?	15,5		L CL
C98C/9,10	T	SAM			1	?	?	BONE FRAGS ONLY	?
C99B/10	NT	CEDRO		+	1	M?	35-45+	TAR,CAR,SH,E EXT,ERR	?
C101B/3	T	ALTA			0			EMPTY CHAMBER	?
C101D/4	NT	ALTA			1	?	A?	FRAGMENTARY	L CL
C102B/7	NT	WIND	+(2)	+(2)	5+	2M,3?	<21,21,25,35+,A	SH,4HY,2TAR	L CL
C103B/11	NT	EARTH	+	+	1	?	A	TEETH ONLY ;CREMA?	L CL
C104B/9	NT	FIRE	+(2)	+	2	?	35-45+,A	HY	L CL
C104C/3,4	T	FIRE	+		3	?	2A,35-45	SH,HY,CAR	L CL
C105C/2	T	CUCHARA	+	+	4+	M,F,??	15-21,35-45,2A	SH,TAR,CAR	L CL
C107B/2,3,4	NT	MIDGET			1?	?	?	DISTURBED CHULTUN	?
C107C/7	T	MIDGET			3	1F,2?	30,A	AM TOOTH LOSS	L CL
C107C/9	NT	MIDGET			1	?	A		L CL
C107C/14	NT	MIDGET			1?	?	?	TAR,HY,PARTIAL	L CL
C108B/4	NT	BLOOD	+	+	2	?	0A,?		L CL
C109B/5	NT	SWEAT			1?	?	?	PARTIAL, NO TEETH	L CL
C110B/3,4	T	TEARS			0			NO BONE, REFUSE	?
C111C/2,3	NT	TENEDOR			2	?	2OA	TOTAL AM TOOTH LOSS	?
C111D/4	NT	TENEDOR			1	M?	YA	SH,HY,TAR,E EXT	?

LOT# = lot number; T/NT = tomb vs.non-tomb interment; STR# = structure number and/or group nickname; INLAID = inlaid teeth; FILED = filed teeth; INDIV = total number of individuals; M = male; F = female; A = adult; OA = older adult; Sa = subadult; Inf = infant; SH = shoveel shaped incisors; HY = hypoplasia; TAR = tartar; CAR = caries; E EXT = enamel extension; POR = porotic hyperostosis; AM = antimortem; ARTH = arthritis; ERR = tooth erruption problem; FRAG = fragment; SK = skull; CREMA = cremation; E = early; L = late; T = terminal; CL = classic; * following lot number indicates skeletal remains discovered as a result of looting; ** following lot number indicates skeletal remains encountered by previous researchers.