Archaeological Assessment Corre Corre Bay 2 (SE 29)
St. Eustatius, Caribbean Netherlands

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Project Description

The Corre Corre Bay 2 (SE 29) site was first discovered during a survey by Haviser (Haviser 1985). During this survey, a flint scatter of approximately 35 m in diameter was found. In 2011, a subsequent survey by S.E.C.A.R. and Leiden University located the site again and additional finds were found. These finds included mainly shell, Cittarium pica and Strombus gigas. In late 2012, a reconnaissance survey in the same area by the project supervisor and Dirk Groeneboer, a S.E.C.A.R. volunteer, located numerous ceramic artifacts in close proximity to Corre Corre bay 2 site. This excavation project intended to test these finds and provide data to understand the prehistoric use of this area in comparison to other areas on the island.

The site is located in the southeast of the island and next to the only coral reef of the island. This coral reef is protecting the coast from the Atlantic Ocean. Because of prevailing trade winds that hit the island at exactly this location, the ocean is very rough and waves are high. There are few days in a year that people can land boats on this coast or when you can walk the shallow water between the reef and the coast line. Because of the prevailing winds and the Quill in the background, precipitation is relatively low and most ridges are characterized by grass pastures and low shrubbery, including acacia.

Despite these natural elements protecting the bay, a historic battery is located to the south of the site. Also, this area was used as sugar cane plantations in historic times, as can be seen for example on the 1781 Martin map. Historic artifacts are also found in the project area. The area is divided by a deep gut. In this gut, a 3-tiered cistern is located, of which the foundations are early historic (probably 17-18th century). Also, at the location where the gut meets the ocean, a well is found. This well was most likely used to supply water to animals, as a drinking basin surrounds the well. This data presented above suggests that the Corre Corre bay area was in use for an extended period of time.

Because of these earlier surveys and the potential significance of these sites in reference to the prehistoric exploitation of resources on St. Eustatius, it was decided to conduct further research at this particular site. The research was focused on understanding the site’s dimension and occupation history, including the economic practices at the site. In the following report, a description of the fieldwork is given.
Historical Background

Pre-Colonial Period

St. Eustatius has a rich and diverse historical background, with multiple episodes of habitation by different cultures. The first evidence for habitation on the island is from the so-called Archaic age. The sites from this period are often associated with scatters of shell and stone tools and people seem to have focused in the sea for their subsistence. Multiple locations have been recognized on the island, but very little research has been done on this period. This is partially due to the relative lack of large artifacts, as pottery is only rarely found in these archaeological sites. Radiocarbon dates are lacking from the island, but a site on Saba yielded dates of 1350 B.C. (Hofman, et al. 2006; Hofman and Hoogland 2003). The spatial proximity of Saba to St. Eustatius suggests that sites on both islands were contemporaneous and that finds from St. Eustatius can be dated to the same time period.

After approximately 500 B.C., probably even as early as 800 B.C., a new wave of colonists entered the Caribbean islands from South America. The colonists brought a new style of pottery with them, called Saladoid (after the Saladero site in Venezuela). The pottery is characterized by white on red and white on black painted and relatively thin pottery (Keegan 2000; Rouse 1992). This high quality pottery is also found in many different and complex forms, from platters in the shape of turtles and large storage vessels possibly used for manioc or corn beer. These colonists are associated with the Arawakan diaspora and culture from South America (Heckenberger 2002, 2005; Santos-Granero 2002). Arawak is one of the largest language families in the world and Arawakan speaking people live throughout South America, especially in the Amazon basin. But the language is not the only thing in common among these people and it includes a complex assemblage of cultural features, including settled village life, horticulture and institutionalized hierarchy. This complex set of features has been recognized in the archaeological record and has spread over an enormous area in the Amazon region as far as the Caribbean islands.

Although these colonists occupied the northern Lesser Antilles from the beginning of their efforts onward (Haviser 1997), they did not settle on St. Eustatius until the 7th century A.D. (Versteeg and Schinkel 1992; Versteeg, et al. 1992). It seems that St. Eustatius did not harbor the resources (economic or social) to establish a permanent village early on. On St. Eustatius, one large village has been recognized, named Golden Rock. The site is located on the eastern part of the airport, in the flat land called ‘Kultuurvlakte’ between the northern and southern ends of the islands. The site possibly extended throughout a larger area. This location is characterized as the only flat area of the island and is positioned far inland, relative to the island’s geography (Versteeg and Schinkel 1992). This suggests that people preferred to have access to the fertile volcanic soils of the Quill rather than that of the sea. This might hint at a predominantly agricultural economy of these people, which is a significant change of subsistence strategy from people living in Archaic times.

Golden Rock was researched following Dutch excavation principles, which focuses on the exposure of large areas of field using a backhoe or excavator. The more common American method in the field applies detailed small scale excavations by hand. Although the Dutch method loses specificity on the small scale, it gains tremendously on the general patterns on the large scale. The excavation of Golden Rock is a perfect example, as we will discuss below. Also, other locations on St. Eustatius were excavated in a similar way, and let Versteeg et al. (1993) to argue
that these large scale excavations were an absolute necessity to conduct research and assess archaeological remains on this island. It is, therefore, highly recommended to extend large-scale excavations when habitation sites are encountered.

Golden Rock’s excavation yielded a plethora of information about how people lived on St. Eustatius. First, the large scale excavations yielded house patterns, consisting of postholes situated in a circular fashion. The diameter of these houses is incredible, extending from 7 to 19 meters. Especially, the houses with a diameter of 14, 16 and 19 m, which are unique in the Caribbean. Only on Guadeloupe have houses of comparative size have been found (Morsink 2006). All other houses found in the Caribbean region have been under 12 m in diameter, but mostly range between 7 and 10 meters (Curet 1992; Hoogland and Hofman 1993; Jansen and Dorst 2007; Morsink 2006; Pendergast, et al. 2002; Righter 2002; Samson 2010; Van den Bel and Romon 2010). These house patterns suggest that people were living in larger social groups in Golden Rock than at these other sites.

This change in house patterns is significant, but an explanation requires some background knowledge of social organization, as kinship patterns might have changed over time. Early waves of long-distance colonization, like in the case of the Caribbean as well as the Pacific, often require a matrilocal social organization (Hage and Harary 1996; Keegan 2007, 2010; Morsink 2009; Morsink and Keegan 2010; Schneider and Gough 1961). In patrilocal groups, men are bound to their village and have to stay there for most of the year for labor requirements, like agriculture and more localized economic efforts. In long-distance colonization efforts, it is most likely men that do the initial exploration and were in charge of the voyages. In order to have the time and ability to explore these new regions, men are required to be away from the house for long periods of time.

This practice often leads to a change in social organization with kin-related females that stay behind in the village growing closer and closer. The long absence of men also makes females more dependent upon each other rather than on their husbands, brothers or fathers. Slowly, this process redefines kinship relations to a matrilocal (and matrilineal) situation. In matrilocally structured groups, men are relatively flexible in their mobility as women arrange most day-to-day activities in and around the village they live in. Cross-cultural patterns have also showed that house patterns of matrilocally structured groups are much larger than patrilocal groups (Divale 1974, 1977; Ember 1973; Ember and Ember 1971). It seems that kin-related females are more likely to cooperate in larger groups than kin-related men, who are more focused on their own social position within the complex network of kinship relations.

The change of patterns in houses can then possibly be explained by a change from matrilocal to patrilocal residency rules. Houses at Golden Rock, then, would have been occupied by large groups of women that were related through strong blood lines while later villages were structured around smaller social units of males with their families. Within this change, the Caribbean might have also been one of the few locations in the world where people organized through avunculocal residency patterns. Avunculocality is defined by young males living together with their maternal uncle. By staying with their maternal uncle, they can maintain their matrilineal organization and define themselves through female bloodlines, while bringing together males that are socially connected through kinship ties. The father-son relation in matrilineal societies is relatively weak compared to a young male’s relation to his maternal uncle, even in matrilocally structured societies. Although these patterns are sometimes difficult to assess, the Caribbean prehistoric record does show material evidence of these sorts of relations and changes.
in kinship patterns (Keegan and MacLachlan 1989; Morsink 2009, 2011; Morsink and Keegan 2010).

In addition to the significance of these houses to the reconstruction of kinship practices, some of the houses display a very specific pattern. One house has a line of multiple postholes trailing to the back and two others on each side of the main structure. When these postholes are connected, a drawing of a stingray appears. A similar situation is noticed in one of the larger houses. When these postholes are connected, the pattern resembles a turtle, including its flipper shaped front legs. Although it is difficult to assess if the people that made these structures meant for these structures to appear in the shape of a sea animal, or if this is just an imagination of the archaeologist, but there are other hints that support Versteeg and Schinkel’s (1992) interpretation. First, sea animals, stingrays and turtles in particular, were very important in native world views. Also, during the excavations of the Golden Rock site, a burial of a complete Hawksbill turtle was found. The turtle was intentionally buried and all bones were found in anatomically correct position and not used for consumption. In a pre-colonial site, located near Golden Rock, another burial of a turtle was also found (Versteeg, et al. 1993). These finds must be seen as strong materializations of the intrinsic relationship people living on St. Eustatius had with sea turtles.

The habitation of Golden Rock ended around the 10th century, and few dates have been found on the island that postdate this site until the Europeans arrive in the Caribbean. Although this might be interpreted as a short period of people abandoning the island, the lack of dates from sites that could be considered post-Saladoid is more likely the reason of this void. It is expected that with more detailed studies on the island later occupations will be found. The pottery found on the Godet site, on the Caribbean side of the island, has strong indications of post-Saladoid occupation but exact dates are lacking.

Artifacts at Corre Corre Bay suggested that the site was used in post-Saladoid times. People living at Corre Corre, therefore, postdated the Golden Rock site. Although cultural affiliation is difficult to assess, as stylistic components of pottery are quite different except for the use of red paint, people inhabiting Golden Rock must have introduced some sort of social and economic standard that affected people in post-Saladoid times. Most likely, some cultural practices continued. For example, people might have continued the production of cultigens introduced by Golden Rock people. Also, post-Saladoid people used cleared land and agricultural plots started in Saladoid times. Other aspects of life, such as social organization, political organization and worldview, were likely based on earlier structures as well. Although they might have differed in many facets, the structure introduced by people living at the Golden Rock site must have introduced some standard that influenced later social structures.
Research Methodology

This research was aimed at understanding how people used the Corre Corre Bay region in prehistoric times. The Corre Corre Bay 2 site was selected as this was the one with more significant artifact finds of the whole area. To investigate the archaeological remains two field methods were used, namely field survey and small-scale test excavations. The methods will be described below in more detail.

Survey

The fieldwork was started with a land survey, north of the historic cistern, in an attempt to relocate a Long Island flint scatter originally discovered by Haviser (1985). Only four pieces of flint were located, of which two were in close proximity (in the area close to Test Unit 2, see figure 1). The survey also included the area where pottery was previously found. This survey did not yield any new finds and no artifacts were collected.

Figure 1: Location of Test Unit 2.
Excavation

To test the subsurface density of the artifact scatters, three test units were placed across the landscape. One 2 x 1 m (Test Unit 1, figure 2) was placed south of the historic cistern and one meter north from the observed artifact scatter of pottery. One 1 x 1 m (Test Unit 2) was placed in close proximity to two flint surface finds, north of the gut and historic cistern. One 1 x 1 m (Test Unit 3) was located 1 m south of Test Unit 1, to test the change in material density toward the artifact scatter.

Excavations of the test units were conducted in increments of 10 cm levels and the excavated dirt was screened through 1 cm mesh. It was decided to use this size of screening mesh because all finds were expected to be larger than this size. Furthermore, it was not expected that finer mesh would lead to a more complete species list. Fishbones are often small and could potentially be recovered through fine mesh screening, but there were no bone artifacts recovered throughout any of the units.

Closing levels in each unit were drawn, described and photographed. Soil profiles were constructed of unit 1 and unit 3; eastern profile on unit 1 and northern profile on unit 3. These profiles were perceived as typical for the local geology and in Test Unit 2 little stratigraphic differentiation was noticed.

After excavation, an attempt was made to backfill the test units with small igneous boulders (approximately 30-50+ cm in size). The strong trade winds had blown all screened dirt over a wide area, making it difficult to collect it all. Furthermore, collecting this dirt and then placing it back into the units would have resulted in an even bigger distribution of backfill dirt over the area due to the strong winds, rather than backfilling the units.

Figure 2: Start of excavation Test Unit 1.
Results

Survey
During the survey, only four pieces of flints (total of 4.8 g) were collected. Two of these pieces had cortex. No other finds were found north of the gut and no artifacts were collected further south of the gut.

Test Unit
Test Unit 1 (figure 3) was 2 x 1m and consisted of four levels. All levels were 10 cm, except for level 4 which was 20 cm due to a lack of artifacts and features. No features were encountered. A change in soil color and texture was present at the bottom of level 1, at approximately 10 cmbs. From level 2 onwards there was darker, more fine-grained silty soil compared to the lighter-colored, rocky topsoil. A small concentration of charcoal was uncovered in both level 1 and 2.

These samples were not collected as it was deemed too small for dating purposes. There were black colored, irregular feature in the soil observed in level 4, at approximately 40 cmbs. Due to the irregular shape in the floor of this feature, in combination with the heterogeneity of the soil texture and color, this feature was interpreted as a crab burrowing path. Level 1 contained one piece of shell (6.1 g) and one ceramic fragment (2.5 g). Level 2 contained three pieces of shell (total of 102.3 g). Level 3 contained five pieces of shell (18.4 g). Level 4 contained six pieces of shell (36.2 g) (figure 4). Most of the shell was Cittarium pica. Due to the low density of finds, the unit was not further excavated.
**Test Unit 2**

Test Unit 2 (figure 5) was 1 x 1m and consisted of two levels. No features were encountered and no soil formation was observed in the profiles. Level 1 contained three finds, flint (N=2, 3.9 g) and shell (N=1, 6.4 g *Cittarium pica*). Level 2, at 20 cmbs, did not yield any finds and it was decided to continue this level to 30 cmbs. At 30 cmbs, the soil seemed to be sterile and excavation was halted (figure 6).
Figure 6: End of excavation Test Unit 2.

Figure 7: Location of Test Unit 3.
**Test Unit 3**

Test Unit 3 (figure 7) was 1 x 1m and consisted of four levels, all 10 cm. This test unit is in close proximity of Test Unit 1 (figure 8). No features were encountered. A change in soil color and texture was present at the bottom of level 1. This darker, more fine-grained soil, continued from level 2 onwards, and contained less stones compared to level 1. A small concentration of charcoal was uncovered in level 2. These samples were not collected as they were deemed too small for dating purposes. Level 1 contained twelve pieces of shell (52.3 g) and eight pieces of ceramic (56.1 g). Level 2 contained fourteen pieces of shell (120.9 g *Strombus gigas* and *Cittarium pica*), two crab (0.4 g) and two pieces of ceramic (11.6 g). Level 3 only contained shell (N=4, 4.6 g *Cittarium pica*). As not much finds were made, particularly in level 3 and no finds in level 4, the unit was not further excavated (figure 9).

![Figure 8: Location of Test Unit 3 in relation to Test Unit 1.](image)

![Figure 9: Closing level of Test Unit 3 on the left. Dark area was a result from drying out of the sun. On the right, the two stratigraphic levels can be seen.](image)
Conclusion

The Corre Corre Bay site is a short-term prehistoric site. The shallow deposits and relative low density of artifacts suggest that people visited the region for short periods of time. It is, therefore, expected that people came to this place for a very specific reason. As this is the only part of the island where a coral reef protects the island, this resource was most likely the incentive to visit Corre Corre Bay area. These shallow waters in between the reef and the shore are abundant with shell species, especially *Cittarium pica*. As these shells were also found during the excavations and are the major component of other sites in the Corre Corre Bay area, it is concluded that this was indeed the resource that people were targeting.

The presence of pottery also suggests that people came to this location and prepared their foods locally. Small amounts of charcoal were found (but not collected due to the minimal amounts), but the low frequency hints at small fires of short duration. This, in combination with the other finds, illustrates a very particular pattern for the site. Most likely, people visited the Corre Corre bay area during days when the ocean was relatively calm and one could maneuver easily through the shallow waters. The economic practices in these shallow water mainly focused on the collection of *Cittarium pica*, but other species could be collected as well. After collection, some of the food was prepared locally and likely consumed as well. No permanent location was inhabited here and these remains of these short-term visits are likely located throughout the area.

The flint artifacts are more difficult to interpret. Most of the material is very small and Gilmore III, et al. (2011) identified the materials as Long Island flint. The flint must have gotten to the island through exchange, indicating that these people were well-connected in inter-island social networks. The pieces of flint might have been used to cut the mollusks out of their shells. Another possibility is that these were used to cut grass and other fibers. Grasses and fibers grow well in dry areas, and if the climate was comparable to nowadays, these could have grown on this part of the island. Using the flint, the grasses were cut and then fibers were separated. These could have been used to weave basketry and other products made of grass/fibers. Although more information is necessary to make this interpretation viable, this could explain the presence of this flint in these specific locations. Also, basketry was widely used throughout the Caribbean and was an important part of the material culture (Berman and Hutcheson 2000; Hutcheson 1999, in press; Morsink 2012). Archaeologists have often overlooked the importance of these items in the archaeological record due to their perishable nature, but these products must be incorporated in our discussion on economic practices in prehistoric times.

In conclusion, the complete Corre Corre Bay area was likely used as an area to exploit shells and mollusks in the shallow waters behind the reef. Corre Corre Bay 2 site is a short-term site where people prepared and ate foods collected that day in the water. The area was visited on days that the ocean was quiet, which happens relatively infrequently at this side of the island. When possible, people opportunistically collected these resources and returned to their villages elsewhere later that day. This pattern is likely repeated at locations in the site’s vicinity. Corre Corre Bay 2 reflects a negotiation of human efforts to purposefully exploit the economic resources in the site’s vicinity when possible, but remain in more stable environments with direct access to more sustainable and stable resources elsewhere. It is, therefore, possible, that more similar sites are found throughout the region and archaeological investigations are necessary before construction occurs in the future.
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Appendix A
Drawings of all excavated Test Units.

Figure 1: Test Unit 1
Figure 2: Test Unit 2

- No features
- 3 artifacts (2 flint, 1 Gitterinum Pica)

Figure 3: Test Unit 3

- No features
- No finds
- After 20 cm nothing found, decided to go to 30 cm immediately without changing levels

In south, earth is a bit darker. This might be moisture content.
## Appendix B
Artifact list.

<table>
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