



SHIPWRECKS, SURVEYS, AND TURKISH SPONGE DIVERS

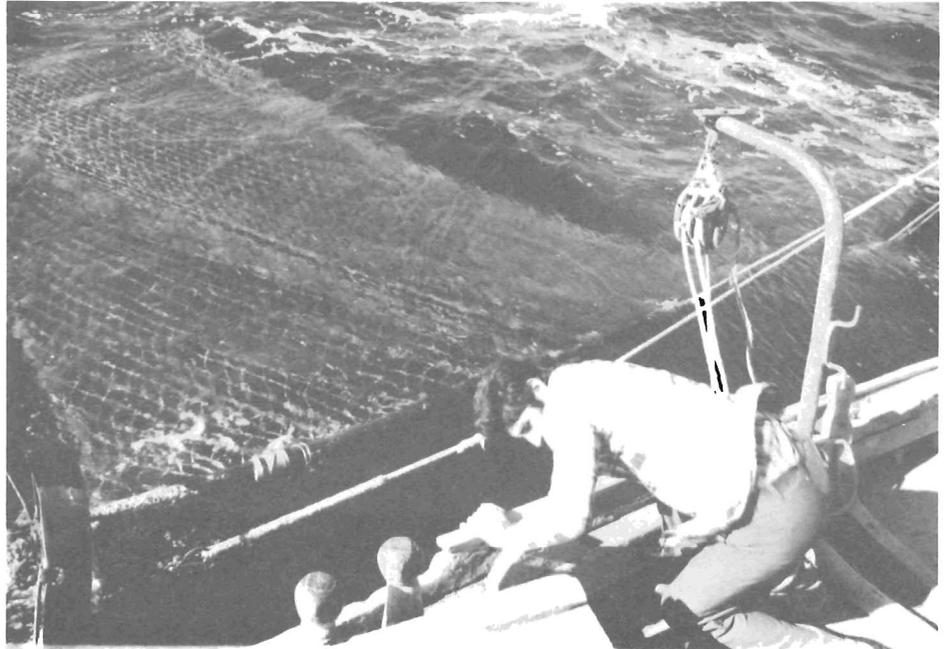
Spring 1982

"You won't believe it," Tufan enthusiastically exclaimed. "You simply won't believe it. There's a mound of amphoras down there like you've never seen, and they're almost all unbroken. It's a perfect wreck!"

It did take a few minutes to decide that Tufan wasn't pulling my leg again. We had had many discouraging days of diving on our survey, and had often returned to our research vessel, *Virazon*, jokingly waving our arms in excitement over some fragment of pottery which we knew was nothing more than a modern cooking pot or water jug. But Tufan and Ali both stuck to their story and I gradually allowed myself to share their excitement as I prepared to dive and see for myself what they had found. This time the wreck was everything they had promised: hundreds of amphoras in a single mound, the most beautiful wreck I had ever seen.

Wreck hunting is more often built around a chain of broken promises. The reason for surveying an area off a particular point is almost invariably the tale of "a mountain of amphoras" a Turkish sponge diver saw on the seabed, perhaps last year, perhaps 20 years ago. Generally, whatever the time span, he is confident that if we take him with us he can drop us "right on top of it!" Often, from the description of the amphoras, we begin to feel it may be a very important wreck. "*Çok değişik testi,*" they say, *uzun boyunlu ve sivri dipli*" ("very different amphora type... a very long neck and slender body").

Sometimes, cautiously, we allow ourselves to share the diver's enthusiasm. It is a strange emotion. We want to feel excitement, we go after the site with all the determination we can muster, yet we don't want to be disappointed still another time: the sponge diver may at the last minute be too busy to get away and show us the site, or, once there, it is just not as clear as he remembered it and we divers are lost, moving without precise directions from one location to another. When we eventually



A Turkish sponge dragger lowers his kangava into the sea off the stern of his boat. Two nets stream from the towed vehicle's axle, and one of its wheels is visible at lower left.

Photos: D. A. Frey and other INA staff members.

produce nothing more than a pair of amphora handles or a neck sherd, the diver can't understand what went wrong, and together we all feel a bit helpless and sorry, for in general the Turkish sponge divers are a sincere, hard-working people who give us information out of a genuine desire to be helpful. We have let it be known that we pay for directions to wrecks which we feel are important, but the money we can afford to give is little more than they can earn in a few good days of diving.

Sponge divers often have good reason not to help us. Until recently there was little or no enforcement of laws prohibiting looting of wreck sites along the Turkish coast. Many divers with whom we talk have sold the odd amphora to a passing foreign yacht, or, in the words of one of our sponge-diving friends, "raised 30 amphoras in a single day and sent them off in a truck to Izmir." But in the last ten years Turkey has taken strong measures to pro-

tect its underwater heritage. In most areas sport diving is forbidden and the sponge boats themselves are constantly watched by the gendarme gunboats which patrol the coast. Harsh penalties are imposed if even a single amphora is discovered on board. So it is no wonder that when we first speak to a group of divers none of them has seen anything, or if he has, he has not paid any attention to it.

In fact, since it is too risky to deal in the amphora trade, the Turkish sponge diver really does not have the time while on the seabed to do anything but search for sponges. Five or six divers will typically live together for up to four months on one 25-foot-long sponge boat, diving three or four times a day to depths and exposures which the rest of the diving world would never consider. Commercial divers, for instance, are not permitted to dive deeper than 50 meters (165 feet) without a diving bell and special gas mixtures to avoid ni-

trogen narcosis. But the shallower sponge beds have been picked nearly clean, and the Turkish diver must go deeper, often to 60 and even 70 meters (200 to 230 feet), to find enough sponges to make his work worthwhile. These deeper dives lead to a greater possibility of the bends and, to be safe, he can stay only 15 to 20 minutes on the bottom. Afterwards, he has almost no time for decompression, since another member of his team is waiting to take over his equipment (a sponge boat usually has only one regulator) and go into the water.

I recently spent an afternoon on a sponge boat, watching the crew doing repetitive dives to 65 meters approximately once every three and a half hours. Back on the *Virazon*, I checked the Navy tables and found that for this exposure a U.S. Navy diver would decompress a half hour on his first dive and 45 minutes on his second. Because the excavation of a shipwreck involves many thousand hours of bottom time, INA dives even more conservatively than the Navy, reading the tables for deeper depths and longer exposures than those actually experienced. The result is that for such a dive we would decompress two hours, and would certainly be "grounded" by project director George Bass for exceeding the 50-meter limit in the first place.



A sponge diver surfaces and hands his catch bag aboard.

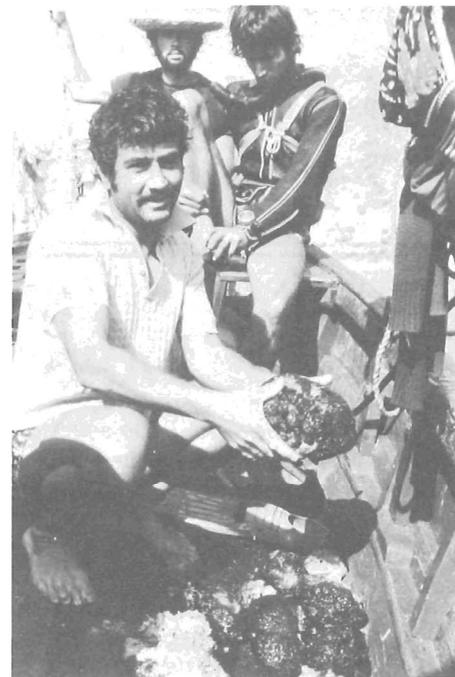
We unfortunately see the results of the calculated risks taken by the sponge divers. INA has the only recompression chamber operating along the western Turkish coast, and indeed the only other chamber in Turkey is located in Istanbul, at

the military diving school in Çubuklu. We have told the sponge divers that we are always ready to treat them, within the limitations of our two-man chamber and whatever medical care is available. But they often come to us tragically late. Last year we treated a diver who had made two dives to 60 meters about two hours apart, with no decompression. Shortly after coming to the surface on his second dive he was paralyzed from the waist down. Following their best empirical knowledge, his companions attempted to treat him by taking him back down to 40 meters and bringing him up again slowly, but this only aggravated his symptoms. Almost a full day passed before they reached Bodrum and found us. In this case we could only alleviate some of the diver's discomfort before sending him on to Istanbul, where he spent two and a half days in the Çubuklu chamber. Hospitalization and repetitions of shorter chamber recompressions eventually gave him back partial use of his limbs, but he never fully recovered.

The bends are still not completely understood. Many Turkish divers will work at 60 to 70 meters three times a day, with only a few minutes of decompression, if any, and not get hit; but then, under what appear to be identical circumstances, they come up one day racked with pain or partially paralyzed. They often get away with it, for one season, years, or even a lifetime of sponge diving, and a tragedy like the bends is considered as something simply beyond their control. If *Allah* wills it, it's going to happen anyway, one way or another. When you say goodbye to a Turk, "See you tomorrow," the automatic reply is "*İnşallah*," "God willing."

So the Turkish sponge diver dives and dives and dives, and it is hard to believe that there remains much of the underwater coastline he hasn't seen in his quest for sponges. This year there were approximately 200 sponge-diving permits issued, and no sponge diver can make a living without diving over an hour a day for at least a three-month season. One hundred hours each for 200 divers adds up to 20,000 man-hours on the seabed. Surely each year these divers must walk by enough wrecks to provide decades of underwater archaeological excavations. Our biggest problem seems to be tapping this resource effectively.

We are doing this primarily through continuous association and the establishment of close relationships with certain of the sponge divers. Now that INA has a fully equipped research vessel and is actively surveying the Turkish coast, our visits and



Diver examines his harvest of sponges while another crew member prepares to enter the water.

queries are becoming more familiar. We are even occasionally sought out because a diver has found something which he feels may interest us. We are learning where to place our confidence, how to recognize the diver who is merely bragging in front of his companions or gambling that a few pieces of broken pottery will be worth his while. And, more and more, we are concentrating on those wrecks which stand a good chance of being rediscovered. I, for one, have had enough "*erişte*" dives. *Erişte* is the Turkish word for the long-bladed grass which covers many of the Mediterranean's shallow slopes. The places where it grows are both difficult and boring to survey because there are no landmarks, no natural formations to follow, nothing but *erişte* and more of it as far as the eye can see, perhaps growing right over the few exposed traces of a spectacular wreck buried in the sand.

Shipwrecks do appear on open sandy or grassy slopes. Usually such ships had struck a nearby promontory or reef and survived only a few hundred meters before sinking. Some wrecks, like that of the Kyrenia Ship (see INA Newsletter Vol. 7, No. 1, and Vol. 8, No. 2), have been found farther from shore, having taken on too much water during storms, perhaps, or been scuttled following attack. Such wrecks are usually not found by sponge divers who prefer to work the rocky slopes and reefs where sponges proliferate. These wreck sites are, however, of particular interest to

DORAN PUBLISHES OCEANIC CANOE MONOGRAPH

the *kangava* sponger. The *kangava* has been in use in Turkey for so many years that no one knows who first devised it. It consists of an axle, typically 10 meters long, supported by two or three wheels several feet in diameter, and is towed along the seabed by a boat. Behind the axle is a heavy chain which drags on the sand and breaks loose any sponges growing on the bottom. The sponges are collected in a net attached to and riding above the chain. The *kangavacı*, or *kangava* operator, can work depths down to 100 meters and, therefore, exploit virgin territory where even the bravest or most reckless divers have not been. But the reduced light levels of the deeper areas support a smaller sponge population, so the *kangavacı* and the diver often work in the same depths. They are not in competition, however, because the *kangavacı* must keep from getting caught up on rocks if he is to avoid endless back-tracking or requiring the assistance of a diver to free his vehicle. He instead works long open stretches where there may be patches of gravel to which sponges cling.

The *kangavacılar* know what to expect if they haul up their net and feel an unusually heavy load. Most often it is one or more

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Wangka: Austronesian Canoe Origins, by Texas A&M University professor emeritus of geography and INA adjunct professor Edwin Doran, Jr., has recently been published by Texas A&M University Press. "*Wangka*" may have been the earliest word for boat in the Austronesian language phylum; Doran's book is thus aptly titled, for it explores the evolution and characteristics of the sailing canoes employed by culturally related seafaring peoples who have inhabited a large area of the Pacific Ocean from Easter Island to Indonesia and west to Madagascar.

Although he acknowledges a substantial debt to the earlier scholars A. C. Haddon and James Hornell for their pioneering research on Austronesian canoes, Doran offers convincing alternative interpretations of the data collected by these early twentieth-century British authorities. *Wangka* includes an illuminating historical sketch of the various theories on the relative ages and origins of the recognized canoe types, and Doran supports his conclusions with a body of linguistic and archaeological evidence of cultural change which has become available since the writings of his

predecessors.

Wangka is a clearly-written treatise based on careful consideration of anthropological data and over 40 years of experimentation with different types of multi-hulled sailing craft. Its author's familiarity with his subject is perhaps most apparent in a chapter on the relative seaworthiness of the Oceanic canoe types. Doran here relies on both the physics of sailing and his own experience to demonstrate the particular characteristics of the double canoes and single- and double-outrigger canoes which carried Austronesian seafarers and culture traits on controlled voyages across wide stretches of the Pacific Ocean. His clear presentation of data and conclusions, with efficient use of graphic displays, has resulted in a fine volume which will be of great interest not only to Austronesian scholars, but to students of seamanship as well.

Wangka: Austronesian Canoe Origins is available in hardcover (128 pages, 51 figures) for \$15.00 (\$13.50 to INA members), plus \$1.00 for postage and handling, from Texas A&M University Press, Drawer C, College Station, Texas 77843.

PROFILE



Robyn P. Woodward. Photo: D. M. Rosencrantz.

A quick survey of photographs in recent INA publications might give the impression that Robyn Woodward spends all her waking hours piecing broken pots together. Robyn is indeed a skilled archaeological conservator, but she is by no means chained to a laboratory table. She is a recently appointed INA research associate and the administrative coordinator for the Institute's archaeological endeavors in Jamaica. In the latter role she serves as the liaison between INA and the Jamaican Government, working closely with the directors of various projects to ensure the efficient allocation of personnel, equipment, and funds.

Born in Vancouver, British Columbia,

Robyn attended Queen's University in Kingston, Ontario, where she worked as a research assistant to the curator of the Agnus Etherington Art Center, graduating with an honors degree in the history of art in 1977. She then traveled to Great Britain, enrolling in University College in Cardiff, South Wales. While earning an honors degree in the conservation of archaeological materials she assisted in the treatment of Roman statuary in Port Talbert, Wales and spent a summer as an intern with the Department of Ancient Monuments in the Guardianship Conservation Laboratory in London.

Robyn became involved with the Institute of Nautical Archaeology in 1979, when she arrived in Bodrum, Turkey for a year's volunteer work. She received her first archaeological field experience during the excavation of the Hellenistic Wreck at Serçe Liman, and was responsible for the conservation of many ceramic and metal finds from INA's Turkish excavations. These artifact treatments were administered in the Bodrum Museum, where Robyn also instructed a Turkish conservator in the employment of new preservative procedures.

Her work with the Institute prompted Robyn to enter the Texas A&M University nautical archaeology graduate program in the fall of 1980. The following summer she journeyed to Jamaica to attend the Texas A&M summer field school at Port Royal and initiate the conservation of artifacts recovered from the sunken city and Pedro Bank. Robyn's 1981 summer activities also included participation in the St. Ann's Bay survey, on which she reports in this issue.

Robyn's chief research interest lies in sixteenth-century Spanish trans-Atlantic trade and colonization, and her master's thesis will explore life in Sevilla la Nueva through the analysis of artifactual material recovered from the townsite by an amateur archaeologist during the 1950s and 1960s. Her thesis research has thus led her to Florida to study comparative material from St. Augustine and other early Spanish New World sites.

An avid skier, Robyn also enjoys a variety of water sports. She is equally comfortable in wilderness campsites and art museum galleries, and is fortunate indeed to have the opportunity to indulge her love of travel while conducting her research.

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amphoras picked up as the long axle passed over the cargo of yet another shipwreck. There are certain places where it is almost impossible to make a *kangava* pass (often a mile or more in length) without bringing up an amphora. In general we can only sigh in frustration at stories of the *kangavacilar*, for these men work so deep or cut such long paths that their wrecks are too difficult to locate. Luckily, this is not always the case. In 1963 a Turkish *kangavacı* was surprised to find most of a classical bronze statue in his net. When the statue came to the attention of Bodrum Museum authorities there was great excitement at the thought of a shipwreck full of statuary lying on the nearby seabed. In subsequent years George Bass carefully searched the area with a towed manned capsule, underwater closed-circuit television, and finally side-scanning sonar. It was a sonar team from the Scripps Institution of Oceanography which ultimately pinpointed a small mound on the otherwise flat seabed from which the statue had been raised. Positive identification of the mound as a wreck site was later made with the *Asherah*, a two-man submarine built for the University Museum of the University of Pennsylvania. But the depth was 88 meters, too deep for even the Turkish sponge divers. Whether this virgin wreck is indeed the source of the statue and whether other bronzes lie buried in the adjacent sand will be determined only when deep diving technology is cheap and safe enough for extensive exploration of the site by archaeologists.

In the meantime we have returned to the shallower depths to see what we can find. Estimates of shipping in ancient times, coupled with surviving accounts of maritime disasters, suggest that thou-

sands of ships came to their end along the Turkish coast. One has only to put on a mask and snorkel at most promontories to find traces of broken amphoras. At Yassi Ada, where the University of Pennsylvania Museum and INA have carried out the excavation of fourth-century Roman and seventh-century Byzantine shipwrecks, the remains of at least a dozen other wrecks are clearly visible on the nearby reef which they must have struck. The wrecks on the reef, like most of those we find, lie on rocky slopes, broken up by wave action over the centuries. Usually an occasional amphora handle, rim, or base provides the only clue to their identity.

Sometimes, though, wrecks have occurred in the vicinity of promontories or reefs which drop steeply underwater to a gently sloping sand bottom. Under these conditions the ships often have slid down the slopes or dropped directly to the seabed. The hull of an ancient freighter with a cargo of thousands of amphoras would have loosened and broken apart, with its heavy cargo pressing the wood against the sand and forming a trap for additional sand which would collect and eventually cover it. Marine organisms which decay wood would then not have been able to act on the hull, since the sand would have deprived the wood's immediate environment of oxygen. This, then, is the ideal wreck which we might hope to find, at the bottom of a steep rocky slope with a few whole or broken amphoras half-buried in the sand and perhaps other traces of wreckage concentered on the rocks above.

In September and October of 1981 we spent 40 days at sea tracing leads on sites from sponge divers and following our own intuition. In the first week a sponge diver, Abdullah, came with us to show where he knew there were perhaps 30 amphoras

visible on the seabed. We trusted him from the start because of his matter-of-fact description of the site and how he could locate it again. Indeed he did! On the very first dive *Virazon* captain Tufan Turanlı and Turkish archaeological commissioner Yaşar Yıldız went straight down the slope where Abdullah directed them and immediately found the cargo. The amphoras were of two well known types, one from the nearby Greek island of Kos and the other from Rome, and the wreck has been dated to the third century A.D. Two days later we found another site at the tip of a neighboring island. Much less remained here because this vessel had come to rest on a shallow pocket of sand on a rocky slope. Other clues yielded discouragingly little in the days that followed. Some sites we couldn't locate, and others consisted of nothing more than a broken amphora or two with no indication of anything else in the sand.

One lead, however, turned out to be quite rewarding. In 1971 I had spent a month looking for shipwrecks with side-scanning sonar. We were not diving then, because we had no chamber with us, so sonar targets were inspected with a closed-circuit television camera suspended from the boat. The survey areas were primarily flat and sandy, since our sonar couldn't distinguish between a mound of amphoras and a rock outcrop. We nonetheless talked with many friends and divers about possible wreck sites in other areas. Most of the information we obtained seemed to end up on scraps of paper or the backs of used envelopes, but I had saved this collection with some old papers I had in Denmark. On one of these scraps my friend Tosun Sezen had instructed me to "look for the last promontory you can see from the classical site of ancient



Tufan Turanlı solicits information on possible wreck sites from retired sponge divers in a small Turkish village.



The author meets sponge diver and part-time musician Abdullah at a wedding to learn location of a shipwreck.



Diver raises fifth-century B.C. amphora.

Knidos. It is very steep and drops almost straight to the bottom at a depth of about 35 meters." My notes didn't indicate what I'd find there, but we located the steep cliffs and dived down them during the 1981 survey, ten years later. The site which we encountered dates from the fifth century B.C., the earliest I have found. Its amphoras are unique because of their bulbous necks; depictions of them appear on coins from the Greek island of Chios minted between 449 and 435 B.C., so there is little question of the date. An exceptionally well preserved lekythos was also found, half-buried under a rock in the adjacent sand. At this point, beyond the certainty that a fifth-century ship came to its end at the foot of the cliff, we are unsure as to how much of it may remain. Like the Hellenistic wreck at Serçe Liman, this site is strewn with large boulders; in its very center, where we would most like to look,



INA Director Jack Kelly recovers olive pits from fifth-century B.C. Chian amphora.

there is a boulder the size of a small truck, weighing 10 to 15 tons.

As the 1981 survey continued, we at first found nothing else exceptional. We are sure there is a wreck in the bay off the small fishing village of Yalıkavak because of similar reports from different sources. In one instance a *kangavacı* snagged his gear and sent down a sponge diver who hoped to find a virgin reef with many sponges. The diver surfaced instead with an excited report of a mountain of amphoras, enough to fill several trucks. But as the area was visible from the town it was too difficult to loot surreptitiously, and as there were no sponges there the location was gradually forgotten. We laid a 200-meter baseline in the vicinity to aid our search for the wreck, but found nothing. We next tried to get fishermen to find the mound with their echo sounders, and failed again. More recently we enlisted a *kangavacı* to drag around the bay, but the sea was rough and we had to abandon our efforts after a few passes. In spite of these failures we are determined to find the site, if only to know what is really there. In fact, at the time of this writing, our *kangavacı* friend is planning to go out when the sea is flat and he can easily maneuver his vehicle.

At some locations we dived down slopes and found no clear interface with a flatter bottom to follow, or dropped into the middle of the *eriste* beds with no indication of the best direction in which to look. We frantically tried to get a sponge diver from a far-away village to come show us a "huge mound of decorated plates" he had seen.

Later, joined by INA board member Jack Kelley, we left harbor yet another time to check out reports of sites in nearby Gokova Bay and along the Datça Peninsula. Typically, it was on our last day before turning homeward to Bodrum that Tufan came up with his report of the unbelievable mound of amphoras. No wonder we weren't willing to believe him and get excited.

This newly discovered shipwreck has been dated only approximately within the Byzantine period, from parallels to the wide variety of amphoras immediately visible on the site's surface. The concentrated cargo extends considerably downslope, suggesting the orientation of the ship's keel; the vessel seems to have listed to one side after it struck the bottom. Probing in this cargo has revealed a pile several amphoras deep. It is quite possible that a well preserved hull lies below the sand.



Jack Kelley examines large amphora mound on Byzantine wreck found at end of 1981 survey.

Will this be the site of a future INA excavation? Or are still more important and better preserved wrecks waiting to be found? Only time will tell, but tomorrow, if the rain stops, we are going to a site several hours north of Bodrum where a sponge diver has told us there are four huge jars standing in a row, half-buried at a depth of 65 feet. We will certainly check out the report, but as I write this article I wonder if I should allow myself to become a little excited, or if I should steel myself against another disappointment.

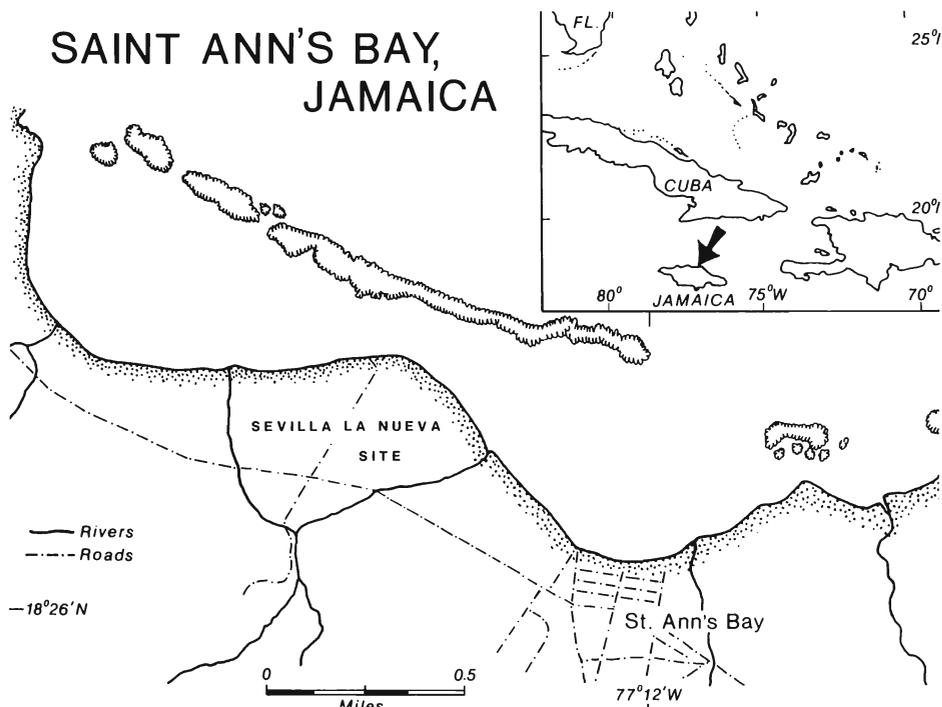
Donald A. Frey

ST. ANN'S BAY SURVEY

During the latter part of the 1981 Jamaica Project INA Research Associate Roger C. Smith assembled a team of five graduate students to conduct a land and marine survey of St. Ann's Bay, on the island's north coast west of Ocho Rios. Several of the potentially most important archaeological sites of the Spanish Caribbean are located in the environs of St. Ann's Bay: the ruins of Sevilla la Nueva, which was the earliest Spanish settlement on Jamaica, and the two caravels abandoned by Christopher Columbus in 1504.

The history of Jamaica, and of St. Ann's Bay in particular, is closely entwined with the Columbus dynasty. The island was

SAINT ANN'S BAY, JAMAICA



Project area. Drawing: J. J. Simmons.

discovered by Christopher Columbus during his second voyage to the New World. Entering present-day St. Ann's Bay, which he named "Santa Gloria", on May 5, 1494, he declared that the island was "the fairest that eyes had beheld." The discoverer returned to the bay in 1503 while on his fourth voyage. Unable to make sufficient headway on the return passage to Hispaniola due to the waterlogged condition of his ships, he beached the caravels at Santa Gloria and remained there with his crews until their rescue a year later. In 1509 Diego Colon, his eldest son and newly appointed Governor of the Spanish West Indies, laid personal claim to Jamaica by establishing the town of Sevilla la Nueva near the place where his father had been marooned. Although Jamaica lacked the lucrative mineral resources to attract large numbers of Spanish settlers, it did have fertile soil and an abundant supply of native labor. The island played an important role in early colonizing ventures into Central America by supplying foodstuffs and animals to the Spanish conquistadors and their troops. At the height of its prosperity Sevilla la Nueva had a population of 80 and contained a fort, a Governor's palace, a sugar mill, and a cathedral, the construction of which was never completed. Documentary sources state that the townsite was moved a short distance in 1519, but the relocation did not bring increased affluence.

Sevilla la Nueva was abandoned in 1534, when its few remaining inhabitants moved to the south coast of the island.

Historic accounts point to the unhealthy environment of the surrounding mangrove swamps as the cause of the town's demise; the actual reasons, however, may have been economic. By the third decade of the sixteenth century the main Spanish shipping routes were diverted to Jamaica's south coast, making it unprofitable to maintain a major port and center of administration in the north.

During the 1981 INA study of St. Ann's Bay Texas A&M University nautical archaeology graduate students Bruce

Thompson and I surveyed the overall Sevilla la Nueva site using equipment kindly loaned by the Jamaican Department of Surveys and the UCLA archaeological team working at nearby Drax Hall. The contour maps we produced enabled us for the first time to plot the three partially excavated Spanish structures in the area on existing topographic maps. Our work was greatly facilitated by the machete skills of National Trust wardens Percy White and Philip Robinson, for much of the townsite is now situated in an overgrown coconut plantation.

Tom Oertling and Denise Lakey prepared precise architectural drawings of a "castle/fort" and an associated brick structure. This task proved more difficult than originally planned, as Tom, armed only with a helmet, tape measure, and clipboard, was required to descend into the bowels of a vaulted cistern to record its dimensions.

Roger Smith and Sub. Lt. Guy Harvey of the Jamaican Defense Force conducted a thorough underwater reconnaissance of the outer reef, channel, and shallow waters of the bay. They also obtained core samples of sediment in the mangrove swamp bordering the beach, in an effort to discern any significant changes in the shoreline since the Spanish occupation of the region. Roger and sedimentologist Dr. John Gifford have recently completed more extensive core sampling and another underwater survey in preparation for the 1982 field season.

The INA team was visited early in the



Sevilla la Nueva's "castle/fort" ruins, with coconut plantation in background. Photos: project staff.

project by Father Francis Osborne, S.J., a noted historian and keen amateur archaeologist. His knowledge of Jamaican history and local folklore appeared boundless as he retraced the steps of earlier archaeological endeavors at St. Ann's Bay. Father Osborne returned to the site each day with an armful of maps, and guided us on tours of nearby Arawak middens and English and Spanish deposits close to the beach. His enthusiastic assistance proved invaluable throughout the project.

A report on the 1981 survey, including an outline of Sevilla la Nueva's history and recommendations for its protection and future development, has been submitted to the Jamaican Government, and this past summer's research has already generated considerable interest outside the Institute of Nautical Archaeology. In addition to the proposed 1982 INA survey for historic shipwrecks in St. Ann's Bay, the Texas A&M University Department of Anthropology is planning a three-year field school to investigate the cultural impact of Spaniards and Africans on native Arawak populations. The Sevilla la Nueva townsite is presently being re-excavated by la Universidad Complutense de Madrid under the direction of Professor Lorenzo López.



Father Osborne introduces INA research associates Woodward and Smith to local archaeological features.

These three projects are being coordinated in conjunction with the Museums and Archaeology Division of the Institute of Jamaica by Mr. Roderick Ebanks and Mr. Tony Aarons.

The Institute of Nautical Archaeology expresses its sincere appreciation to Mr. Aarons of the Port Royal Project, and to the Government of Jamaica, particularly Prime Minister the Rt. Hon. Edward Seaga, for fostering a spirit of international cooperation and an interdisciplinary approach to the Hispanic period of Jamaican history. The St. Ann's Bay projects promise to provide significant research opportunities and a wealth of knowledge which will advance all facets of Caribbean archaeology.

*Robyn P. Woodward
Coordinator, INA
Jamaica Projects*

The following publications will be of interest to readers seeking further information on the history of St. Ann's Bay and the town of Sevilla la Nueva:

Cotter, C. S., 1970, Sevilla Nueva, the story of an excavation. *Jamaica Journal*, 4(2): 15-22.

Cundall, F., and J. L. Pietersz, 1919, *Jamaica under the Spaniards: abstracted from the Archives of Seville*. Kingston, Institute of Jamaica.

Morales Padrón, F., 1952, *Jamaica Española*. Sevilla, Escuela de Estudios Hispano-Americanos de Sevilla.

Morison, S. E., 1942, *Admiral of the Ocean Sea: a life of Christopher Columbus*. Boston, Little, Brown.

Sauer, C. O., 1966, *The early Spanish Main*. Berkeley, University of California.



Partially excavated remains of brick structure; cistern in foreground.

The Institute of Nautical Archaeology is a nonprofit scientific/educational organization whose purpose is to gather knowledge of man's past as left in the physical remains of his maritime activities and to disseminate this knowledge through scientific and popular publications, seminars, and lectures. The INA Newsletter is published periodically by INA and is distributed to its members and Supporting Institutions to inform them of INA's activities. INA is an equal opportunity organization.



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