

AINA NEWSLETTER

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Discovery 73

The American Institute of Nautical Archaeology's first field project, funded mostly by the National Geographic Society, was a survey for ancient shipwrecks off the southwest coast of Turkey. Conducted between August and October, 1973, the survey used equipment largely provided by the University Museum of the University of Pennsylvania.

Members of AINA's staff, while working for the University Museum, previously had excavated five ships in the Mediterranean, ranging from the thirteenth century B.C. to the seventh century A.D. It was hoped that the survey might locate at least one new wreck, well enough preserved to warrant excavation, which would help fill chronological gaps between those already excavated. The survey exceeded all expectations by locating seventeen ancient ships, of which more than half a dozen are worthy of excavation; these represent almost every period of antiquity—preclassical, Classical, Hellenistic, Roman, Byzantine, and later—giving the Institute years of work to do in its study of ancient seafaring.

For our first newsletter, AINA President, Dr. George F. Bass, has provided us with some of the highlights of the survey, which he directed.

Sonar and Television

The survey did not go well at first. Throughout August and most of September we searched the Turkish coast between Bodrum and Antalya, towing a sonar "fish" behind the 35-foot fishing boat *Günyel*. Targets indicated by purple smudges on the damp sonar paper fed out of our recorder on board were bracketed with buoys and inspected by lowering a television camera. This monotonous routine often took half a day for a single target, and all but one proved to be rock outcrops on the sea-bed. We had no



John Broadwater studies the sonar record as it emerges from the sonar recorder.

complaints about the performance of our Klein sonar system. We were just not fortunate enough to pass over shipwrecks.

The exception, near lassos, northeast of Bodrum, was in such murky water that we could scarcely make it out. With our television system we were able to videotape a few possible fragments of pottery while dangling the TV camera just inches above the bottom. We played the tapes over and over, but even using "stop action" we could not be sure what we had found.

Dr. Donald Frey, physicist; Yüksel Egdemir, Turkish archaeological commissioner; and Joseph Alexander went down to examine the site. They could see nothing below the surface and found the bottom 70 feet beneath them only after sinking into brown mud up to their shoulders during their head-first descent.

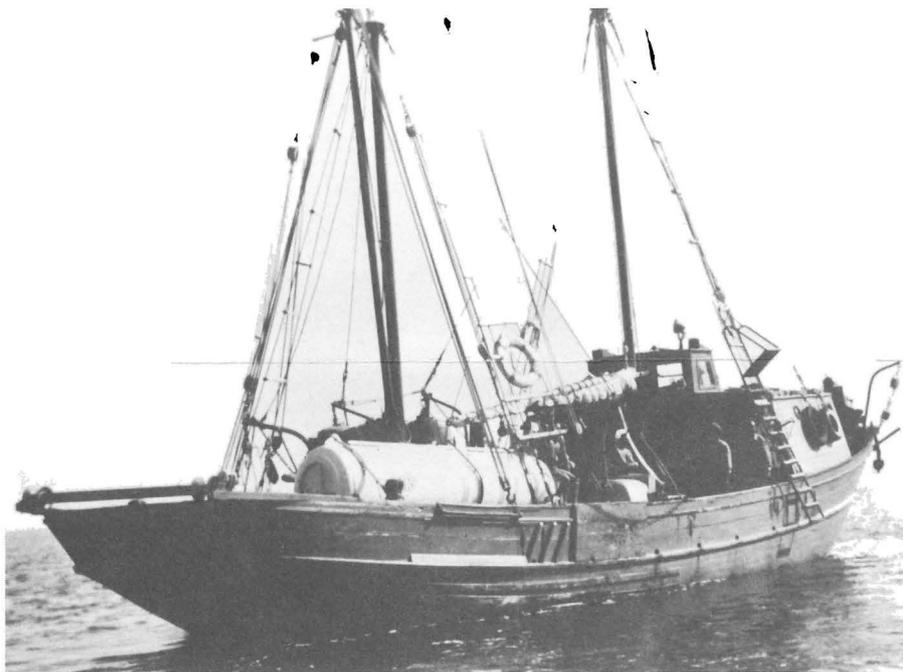
We still don't know exactly what is there. On a later dive our electrical

engineer, John Broadwater, blindly grappled a handful of sherds, probably Late Roman or Byzantine. If there is a wreck, it should be marvelously preserved under the mud, well protected against the worms which do most of the damage to wooden ships' hulls. Its excavation in darkness, however, would require new techniques. It might be done in sections, from within a portable box with artificial lights, open at the bottom and one end; a hydraulic pump and filter at the closed end could provide a constant flow of clear water inside. It is an untried method, but one I consider feasible.

These were almost our only dives before the arrival of AINA's new double-lock recompression chamber which we needed to treat possible cases of the "bends". The chamber, purchased with a generous grant from Mr. F. Alex Nason, was too large for the *Günyel*, on which ten of us had lived for six weeks, but perfectly suited for the 65-foot trawler *Kardesler* which we had used often in the past. When the new chamber arrived from America, *Kardesler's* owner, Mehmet Turgutekin, ordered her stripped of nets and other fishing gear, and in their place we mounted the chamber, compressors, air bank, and other diving equipment on her deck.

By this time, Joseph Alexander, Donald Frey, and Donald Rosencrantz (another engineer) had returned to the United States. To replace them in our small staff, I hired local divers Merih Karabag and Cumhuri Ilik. Cumhuri (pronounced Jumhur) had been a ship's boy on our excavation of a Bronze Age shipwreck at Cape Gelidonya thirteen years before, but I had not worked with him since. He had in the meantime become a sponge diver, retired from that, and now operated a tourist boat out of Bodrum. He was free to join us only because the tourist season was over. We did not know it at the time, but his

Photo by John Broadwater
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The Kardesler with AINA's new white recompression chamber on the after-deck.

addition was a great stroke of luck for us.

We sailed for Bozburun, a tiny village far down the coast. Captain Mehmet rowed ashore with his crew, looking like a pirate landing party in their wool knit caps, to establish contacts. He returned to say he had found a diver who knew of wrecks to show us.

Fishermen Provide Clues

I came ashore with Yüksel and, joined by *Kardesler's* crew, sat outside the harbor coffeehouse, slowly sipping cups of thick, sweet Turkish coffee. The diver, Mehmet Askin, played cards at a neighboring table. He wore a brown suit with no tie, and a brown cloth cap. He never glanced at us. After half an hour I asked our Mehmet when something would happen. He told me to be patient.

Mehmet Askin finished his game and approached, flanked by his companions at cards. With neither friendliness nor hostility on his wide, dark face he affirmed that he knew of several wrecks which he would show us the following week, after he had got his business in order so that he could sail with us for a

few days. For good will he then took us a few hours away to a wreck Yüksel dived on and identified as Byzantine; I had a cold and couldn't dive on it.

Meeting Mehmet Askin was our second stroke of luck. We left him near his boat, promising to return for him in a few days, and sailed on to Marmaris, where we had learned of another potential guide. We found the elderly diver, so crippled by the bends that we had to carry him onto the *Kardesler*. He claimed knowledge of good wrecks, but his memory was failing.

"It's just over there," he would say, pointing—and then change his mind: "No, it's on the other side of the cove."

We sailed in circles as the old man became more confused, trying to recall a familiar landmark. None of our dives produced more than a broken amphora neck. We returned the diver to Marmaris, thanking him for his trouble.

By now we were grasping for straws. Time and money were dwindling. We had seen a number of wrecks, but none was well enough preserved for AINA's first major excavation except the Byzantine wreck Yüksel had dived on, and I had already excavated one Byzantine ship. We sailed from Marmaris directly past Cape Gelidonya to see two wrecks Don Frey and Yüksel had visited in 1971. The trip

took 22 hours; we were tired when we arrived.

From one of the wrecks a carpet of Roman cups, bowls, and huge tray-like plates tumbled down a slope of sand and rock. We moved to an undated cargo of roof tiles about a hundred yards away, and anchored to make a videotape. Results were excellent. Cumhur commented on the site while watching himself on television after his dive:

"I didn't know you were looking for things like that. I know a much better tile wreck near Knidos."

I asked him if he knew of any other wrecks. After thinking about it he mentioned two huge jars he had seen on the sea-bed seven years before, while diving for sponges.

"There's no wreck there," he added. "Just two large jars."

The jars were far away, and I thought no more about them.

The next three wrecks we sought, diving and using sonar in areas described to us by sponge divers, eluded us. Looking for one, I ran out of air at a depth of 150 feet in the open sea. It was only my third dive in over four years, and when my reserve proved empty, I felt panic for the first time in many hundreds of dives. Yüksel responded magnificently, sharing his air with me as we ascended, holding me down forcibly at the same time to prevent me from rising so rapidly that I might rupture a lung from the sudden drop in pressure.

The survey reached an all-time low when we sailed to a site described as "very old" and "probably Bronze Age in date" by several sponge divers, who had seen great pieces of copper on it. Yüksel, Merih, and Cumhur dived to find it, and we on the surface realized they had some on something when we saw their separate streams of bubbles converge and rise together from the same place for about ten minutes. John Gifford and John Broadwater eagerly donned their diving suits, ready to follow with cameras and television equipment.

"Don't waste your time," Yüksel said, handing up a fragment of copper hull sheathing as he surfaced. "It's a steamboat."

Luck Improves

That was probably the last bad mo-

Photo by John Broadwater
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ment for the survey. On the same day, Mehmet Askin led us to an incredible cargo of glass. Purple and green glass ingots and fragments of vases lie so thick that it is impossible to probe even gently into the sand without cutting your fingers. A mound of amphoras marks one end of the site. The sand is deep, suggesting a well-preserved hull, and the 100-foot depth makes it almost ideal for excavation. The wreck is late, no earlier than Late Byzantine, but its unique cargo makes it an important site for further study.

Mehmet Askin mentioned another cargo, of amphoras, near by, but we could not find it during a brief attempt. We sailed back to Bozburun to let him off and to look for still another sponge diver who had promised to show us a wreck. It rained for the first time that night, driving those who slept on *Kardesler's* deck scurrying for shelter wherever they could curl up and find a place to nap. It also turned cold, and we were greeted in the morning by, "Winter has arrived," from the sailors. Even with two heavy shirts and a ski jacket on, I was freezing in the biting wind. It was not diving weather, but we pushed on.

We tried to sail to the village near Bozburun where the new guide lived, but once out in the open sea I saw that work was impossible. Four tons of equipment lashed to our deck made the *Kardesler* roll wildly in the huge waves. I was afraid that if any of the high-pressure oxygen and air tanks should break loose, we would be in serious trouble. For the first time, I called off the operation and we returned to Bozburun to sit out the storm.

The storm was our third stroke of luck. If we had not been closed in by bad weather, we would not have returned to the Glass Wreck. Now it was the only place we could reach, running before the wind, and the staff voted unanimously that they did not want to waste a day sitting in Bozburun.

"We just might find that other wreck Mehmet told us about," suggested John Gifford.

We sailed back to the south, not knowing when or how we would be able to return against the wind, which grew in intensity. Yüksel and Cumhuriyet dived near the Glass Wreck and searched for the new site while I waited in our rowboat. While

they were decompressing, I passed a clipboard down and Yüksel drew the picture of a Classical or Hellenistic amphora on it and wrote, "Found at 110 feet."

The wreck, although partially looted by divers in the past few years, is a good one. It lies so close to the Glass Wreck that the two can be excavated simultaneously by two teams of divers sharing a camp and diving barge.

A booming thunderstorm of hail cleared the air that night, leaving the sea glassy calm. We were able to return to the village near Bozburun where the new guide lived, but he had changed his mind and decided not to come with us; it was good that we had not waited the extra day for him. Instead we returned to the Byzantine wreck Mehmet Askin had showed us on the day we met him. I dived on it for the first time, and found it a textbook site. It lies on a slope between 90 and 115 feet deep, a mound of amphoras in thick sand. Its hull should help us to learn more about the critical transition from ancient to modern shipbuilding techniques we are already studying in the remains of fourth- and seventh-century A.D. ships I had excavated earlier at Yassi Ada.

We sailed next to a point in the vicinity of the Knidian Peninsula, to see the tile wreck Cumhuriyet had mentioned. It lies on rock, with no possibility of its hull being preserved, but the cargo and other items are clearly visible and worth investigating. The wreck is probably of the first century B.C., and it luckily lies near a better preserved wreck of the same date we had been told about earlier by a Bodrum sponge diver. As in the case of the two sites we saw before, both of these could be excavated at the same time.



Two bowls and a lamp from the 1st century B.C. wreck near the Knidian Peninsula.

I dived on the neighboring wreck and saw its cargo of plates, bowls and lamps. After so many weeks of frustration, I had now dived on four good wrecks in just two days. The best was yet to come.

An Unusual Site

After a brief trip back to Bodrum, we sailed toward a wreck of "long, slim amphoras" described some weeks earlier to Captain Mehmet of the *Kardesler*. On the way we passed the spot where Cumhuriyet had seen the two huge jars seven years before. I assumed they were simply jetsam from a passing ship, probably Roman, and did not plan to stop.

The sun was low in the sky, however, and the amphora wreck was still an hour away. Yüksel pointed out that it would be nearly dark by the time we got there. At the last moment, mostly to avoid a cold, dreary dive at sunset, I made the decision to turn back to see Cumhuriyet's jars while we were so near. We could dive on the amphora wreck next morning. This was our last stroke of luck.

Yüksel and I dived with Cumhuriyet, doubtful that he could find the spot again, in the open sea, after seven years. We followed him for ten minutes as he zig-zagged across a flat field of eel grass, with no landmark to guide him. Suddenly, with an uncanny sense of direction, he headed straight down a rocky slope. At the bottom of the slope 100 feet deep, I saw two enormous jars half buried in the sand.

I swam to one, ran my hands around its rim, and moved to the other. Just as I was about to touch it, Yüksel caught my leg and pulled me back. I had not seen the open mouth of a great moray eel inside, its needle-sharp teeth threatening. Yüksel pointed to other fragments lying around the jars, and wrote on the palm of one hand with the forefinger of the other: W-R-E-C-K. I nodded vigorously in agreement.

We spend the next day raising the jars and other samples of pottery for dating—once Yüksel had expertly speared the moray without touching the jar in which he lived. Cumhuriyet had brought us to the oldest wreck we found, but we did not know exactly how old before returning to our books and libraries.

After comparing photographs of the pottery from the wreck with photographs

of pottery from sites excavated on land we have since learned that the ship probably sank in the seventh century B.C. Its potential importance cannot be overestimated, for this is the period before the rise of Classical Greek civilization when Greece borrowed many concepts from the Near East. The ideas were transmitted by Greek, Phoenician and Cypriot seafaring merchants, and our wreck surely belonged to one of them.

From this Iron Age, or Archaic site, we sailed on to the amphora wreck. With only vague directions, I dived with Yüksel; he spotted the mound of amphoras, at a depth of 100 feet, within minutes. The ship, from the first or second century A.D., is well preserved, although some of its upper layer of cargo had been looted by other divers. Had it been the only wreck we had located, we would have felt the survey a success. Now it was simply the last discovered in the most successful survey for shipwrecks ever conducted in the Mediterranean.

— George F. Bass

Photo by John Broadwater
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A diver examines the two large jars on the newly-discovered Iron Age wreck.



George F. Bass and Cumhur Ilik study the jars from the Iron Age wreck. Behind them is AINA's recompression chamber with the Institute symbol painted on its side.

Photo by John Gifford
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Magazine Offer to AINA Members

The National Geographic Society has made available to AINA back issues of five National Geographic Magazines which contain stories of ten years of work of AINA staff members.

Now you can read about

I. **The Oldest Shipwreck Ever Found**, by Peter Throckmorton: The exciting story of the discovery of the Cape Gelidonya shipwreck and the graveyard of ships at Yassi Ada. (1960).

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III. **Underwater Archaeology: Key to History's Warehouse**, by George F. Bass. AINA's President tells of the first seasons of work on the shipwrecks at Yassi Ada, where a Byzantine wreck was uncovered by systematic excavation. (1963).

IV. **New Tools for Undersea Archaeology**, by George F. Bass. An impressive array of devices and techniques are employed to begin the excavation of the Roman wreck at Yassi Ada. (1968).

V. **Resurrecting the Oldest Known Greek Ship**, by Michael L. Katzev. Having been trained at Yassi Ada by George Bass, Michael Katzev, AINA Vice President, tells how he went to Cyprus to discover and excavate his own shipwreck, a Greek amphora carrier of the 4th century B.C. (1970).

These five articles, illustrated with color photographs, maps, paintings and diagrams which have made the National Geographic famous, provide first-hand accounts of the pioneering work in underwater archaeology of AINA staff members. Add them to your own library. Give them to friends as gifts. There is a limited supply, so order now. This offer is available only to AINA members.

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AINA Adds New Staff Member

J. RICHARD STEFFY was born in Lancaster, Pennsylvania, in 1924. Following war-time service in the U.S. Navy, he was educated at Pennsylvania State University and Milwaukee School of Engineering. Until 1971 he made a living as an electrical contractor, but pursued his interest in shipbuilding customs and history by travelling widely to study most of the major museums and private collections. In 1964 he became a consultant to George F. Bass and Frederick H. van Doorninck, Jr., on the shipwrecks discovered at Yassi Ada. In 1971 he gave up his business as electrical contractor to work for the Kyrenia ship project. He has developed the lines and construction plans for that ship as well as the procedures for its reconstruction in Kyrenia Castle. As a staff member of AINA Mr. Steffy will continue to assist in the publication of the Kyrenia ship, the two Yassi Ada ships, and the Porticello wreck. Through his work, he has developed theories of new methods of excavation, recording, and recovery of ancient hulls which will be tested during AINA's 1974 excavation project.



He lives in Denver, Pennsylvania, with his wife Lucille and two sons.

Kyrenia Ship Project

Michael L. Katzev, Vice-President of AINA and Director of the Kyrenia Ship Project, reports that reconstruction of the 4th century B.C. Greek merchantman recovered off Kyrenia, Cyprus, is nearing completion. Over 75% of the 45-foot hull has been preserved. Work on the museum displays in three galleries of Kyrenia's Crusader Castle is now in hand. Pending installation of air-conditioning by the Cyprus government, it is hoped that this museum complex, focusing on the ship, will be opened early in October, 1974.

The Kyrenia shipwreck was excavated in 1968 and 1969, under the direction of Michael Katzev. The final excavation report is being prepared by Mr. Katzev under the auspices of AINA.

Summer Field School

One of the main purposes of AINA is to train advanced undergraduate and graduate students of archaeology, anthropology, and occasionally marine engineering in the methods and techniques of underwater archaeology and in the history of seafaring in the Mediterranean. To this end AINA operates a field school in the summers. Students participate in the excavation of a shipwreck and receive classroom instruction as well. The location of the field school varies from year to year, as does the nature of the shipwreck, depending on where AINA happens to be working. Currently we are working along the southern coast of Turkey.

The program lasts approximately three months. Tuition is \$200 for students at Supporting Institutions and \$500 for all others. This fee includes room and board and all diving equipment, but not transportation. Participants in the field school are advised to obtain their own medical insurance prior to joining the group. They are also required to sign two releases: a physical release which discharges AINA from responsibility for injury or death occurring during the excavation, and a literary release in which the student promises not to publish any information or photographs of the expedition without prior written permission from the excavation director.

Students who wish to obtain academic credit for the summer session must work out the details with their own college or university, as AINA is not a credit-granting institution. The faculty and staff of AINA will do everything we can to aid students in obtaining credit, by writing letters and providing course descriptions.

The deadline for receiving completed applications is February 15. Applications may be obtained from our Admissions Chairman:

Dr. G. Kenneth Sams
103 Murphey Hall
Department of Classics
University of North Carolina
Chapel Hill, N.C. 27510



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The American Institute of Nautical Archaeology is a non-profit 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.

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