EDUCATION

Navy Science Cruisers

Ninety-one science-minded high school boys study science afloat, sailing with the U. S. Navy for four days on Atlantic course.

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➤ THE DREAMS of millions of American youths came true for 91 science-minded high school boys selected as the first Navy Science Cruisers to sail with the Navy for four days, studying science afloat in Uncle Sam's fleet. The unique cruise that packed excitement with education was sponsored by the Office of Naval Research, aided by Science Clubs of America, administered by Science Service.

A group of the science cruisers is shown by the 16-inch guns of the USS Washington on the front cover of this SCIENCE NEWS LETTER.

Chosen by local scientific organizations for their interest and ability as young scientists, cruisers from New York, Pittsburgh, Providence and Philadelphia flew to Washington in Navy planes to join a group from Washington, Sunday, Sept. 29.

Traveling to Annapolis by bus, the boys took small boats out to the USS Randolph, historic aircraft carrier that served as Admiral Mitscher's flagship when he commanded the famed Task Force 58 in the Pacific during World War II.

Navy specialists took the boys on tours of the ship, explaining details of the multiple scientific applications that make a modern fighting ship, but the big thrill for the cruisers came Monday morning as the ship ploughed out 100 miles into the Atlantic off Cape Henry. As the giant floating air terminal steamed into the wind, eight of her aircraft took off to start a two-hour air show that included qualifying landings for some of the pilots and was climaxed by a mock attack on the ship by fighters and bombers.

After the USS Randolph docked at Yorktown, Va., the boys went ashore Tuesday morning to mix history with their science on tours of historic Yorktown and colonial Williamsburg. That afternoon it was "back to sea" aboard LCI's, Landing Craft Infantry, that took the cruisers out into Chesapeake Bay to board battleships. The party was divided; one group sailed on the USS Washington and the other on the USS North Carolina.

Cruising up the Atlantic Coast to New York, the young sailors got their first taste of gunfire as the big battleships fired some of their batteries. At night, signal pyrotechnics were mixed with tracer fire from the guns as searchlights played against the clouds.

Landing in New York Thursday morning, the boys went to Floyd Bennett Naval Air Station to board planes that took them to their home cities.

After nearly five days in the Navy, the cruisers admitted that they had been thrilled by the planes and guns, but most of them had found other interests too. Young engineers had learned about the giant turbines that power the Navy's capital ships. High in the superstructures, they had seen the electronic equipment that brought victory in battle and

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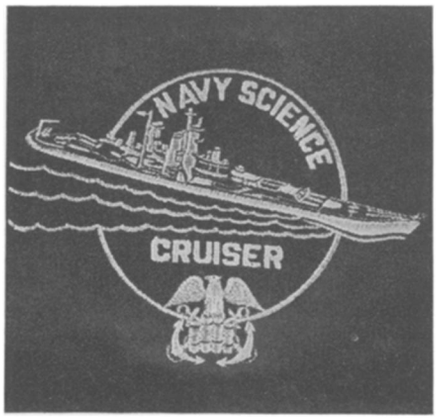
***SHIPBOARD SCIENCE**—Navy Science Cruisers inspecting steering equipment in the wheelhouse of the USS Washington at sea.*



***BADGE**—This brassard was worn by the high school students that sailed as Navy Science Cruisers*

MEDICINE

Iron-Binding Compound Is Found in Human Blood

➤ DISCOVERY of an iron-binding component in human blood may lead to new treatments for some kinds of anemias and to new attacks upon some diseases like dysentary.

Following up finding of a protein in white of egg that has an affinity for iron, Dr. Arthur L. Schade and Leona Caroline of the Overly Biochemical Research Foundation, New York City, report the presence in human plasma of a similar substance.

In a communication to *Science* (Oct. 11), they suggest that this substance regulates the absorption of iron from the food tract as well as the transport of iron by the blood throughout the body.

LEARNING HOW—Navy Science Cruiser Keith Seegmiller, (left) 16, a Washington, D. C. high school senior, learns the signals that bring airplanes down safely on the deck of the USS Randolph with the flight deck officer as his teacher.

opened new fields for peacetime advances. Behind the menacing barrels of giant guns lay intricate scientific instruments. On the flight deck of the aircraft carrier they saw the catapults and landing gear that may do important jobs ashore at future airports.

Newspapers cooperating with Science Clubs of America on the Navy Science Cruiser program included The Washington Daily News, Providence Journal, Pittsburgh Press and the New York World Telegram.

Science News Letter, October 19, 1946

PLANT PATHOLOGY

Disease Kills Citrus Trees

➤ AN ANNIHILATING disease of citrus fruit trees, that sweeps through orchards like fire and unsparingly kills every standard-grafted orange, grapefruit and tangerine tree it touches, was described by an eminent Brazilian plant pathologist, Dr. Agisilao Bitancourt of the Institute Bionomico of Sao Paulo, before an anxious audience of U. S. Department of Agriculture scientists.

"Tristeza" is the name of the disease; the word means "sadness" in both Portuguese and Spanish. It is highly appropriate, Dr. Bitancourt commented: the trees surely look sad as they stand wilting and dying, and the hearts of their owners are sadder still.

Already at least half of all citrus fruit trees in southern Brazil, northern Argentina, and the small countries of Uruguay and Paraguay have been attacked. Many are dead, and the rest doomed without reprieve. There are indications of its possible existence in this country, but the case is still not proved.

Tristeza is a unique plant disease: it will not attack any tree that stands on its own roots; its only victims are orange, grapefruit and tangerine trees grafted on sour-orange roots. Sour orange, an inedible citrus species, has long been used as standard grafting stock because of the hardiness of its roots and their resistance to diseases—until tristeza came along.

When tristeza hits a tree, nothing much may happen at first. Then it starts into a swift decline, its leaves wilting and dropping off, and its rootlets rotting away. Before long it is dead.

Chemical analysis of bark and wood near the place where the two grafted parts are joined shows plenty of protein and carbohydrate above the line, none below it. Something about the disease prevents the foods prepared in the tree's top from getting down to its roots. Victims of a physiological traffic jam, the roots starve to death. Then the top dies from lack of water and minerals. It is about the same thing that happens to a tree that has been ringed or girdled.

There is some reason to believe that tristeza is caused by a virus, one of those strange nearly-living proteins whose big, complex molecules can pass through fine porcelain filters. There is some evidence also that it is carried from tree to tree by an insect. But thus far the virus has not been isolated, nor has the vector-insect been identified. Those are two of the problems on which American scientists, who have gone to Brazil to establish our first line of defense there, are now working side by side with their Brazilian colleagues.

It is highly important that the cause of tristeza be identified soon, Dr. Bitancourt declared in closing, because no known method of plant quarantine will avail to keep it from spreading to a new country.

Science News Letter, October 19, 1946

BOTANY

"Lost" Species of Rubber Tree Is Rediscovered

➤ A "LOST" SPECIES of Brazilian rubber tree, small, stiff of leaf, scanty of sap but hardy and tough, has been rediscovered on the thin soils of half-barren granitic hills in the upper Amazon valley by botanists of the U. S. Department of Agriculture.

The species was first studied and described by Richard Spruce, a British botanist, about 100 years ago. He named it *Hevea rigidifolia,* for its stiff leaves. The widely cultivated plantation rubber tree is *Hevea brasiliensis.* After its first discovery, no one saw it again until the American scientists pushed into its remote habitat recently.

This stiff-leaved Hevea appears at first glance to be not much better than a poor relation of the cultivated species, for it has not enough rubber to pay for extraction. However, the qualities of toughness and resistance to both drought and disease that enable it to survive on its hard-bitten hills may prove to be just the touch of plebian blood needed to add strength to the family stock of the rich but not-too-robust *Hevea brasiliensis.*

Science News Letter, October 19, 1946