

RANGER

Ranger Wins Four Straight

British Yacht Never Had a Chance at the America's Cup
New Records Made

By WILLIAM F. CROSBY

Photos by Rosenfeld

FOUR straight wins by the new class J yacht Ranger would seem to indicate pretty conclusively that there must be something unusual somewhere, yet try as we might, we can find no one particular thing that is responsible. It is a combination of men, materials, and design that is the basis of the extraordinary win. Endeavour II was a worthy foe and contrary to some opinions, she was well sailed throughout the series. If she had been pitted against any other class J yacht she undoubtedly would have won and it appears, in retrospect, that the designers, builders, and all others connected with the Ranger realized this situation and as a result they extended themselves to produce an American yacht the like of which has never before been seen. Endeavour II was said to be Britain's ultimate in the production of a class J yacht and America's only salvation lay in producing something better and faster. This is exactly what happened.

Probably Ranger's exceptional performance in winning four straight races was a surprise to everyone including her designers, her skipper, and her crew. She was expected to win, but not quite so conclusively.

To her designers, her builders, her skipper, and her crew we can only offer our sincerest congratulations but

we must not forget the many others who helped to produce this great yacht. The sailmakers had an important part to play and it is on their shoulders that much of the responsibility fell. It was their ingenuity in producing unusual headsails that had so much to do with the retaining of the America's Cup, as the entire series was more of a battle of headsails than anything else.

Before the series, Ranger experimented with an unusual rayon quadrilateral Genoa jib. It was tried out quietly on the far reaches of Narragansett Bay and without too much ostentation in two or three of the races against Yankee and Rainbow. Few knew of the existence of this sail. In at least one of the Cup Races, Ranger carried this sail all the way around the course and it was carried at some time during all four races. It was designed and made by Prescott Wilson who had so much to do with the new sails used this year. Out of twenty-three sails built in 1937 for class J yachts, Wilson made sixteen.

Another interesting angle is that Ranger's mainsail was made by Ratsey & Lapthorn originally for Enterprise in 1930, used again on Rainbow in 1934 and in all but the last of the 1937 races. This sail was actually used about seventy-eight times and is even now pronounced

to be in perfect condition. Those who saw it during the races remarked on its excellence.

In the first race of the series, Ranger used Yankee's parachute spinnaker, loaned by Gerard Lambert, who kindly opened up his entire sail locker for the defender. The new 18,000 square footer was only used in the third race.

Probably one of the chief contributing causes for Ranger's performance lay in the exhaustive model towing experiments conducted at Stevens Institute of Technology. Model towing tests for sailing yachts have been in more or less disrepute in the past but the newer and more scientific methods developed at Stevens are of quite a different character and prove definitely the performance.

Taking everything into consideration, Ranger and her performance are most remarkable and she is going to continue for a long time to be an exceedingly hard yacht to beat. Should there come another challenge for the Cup, the designers and others are going to be hard put to produce something better and faster.

THE FIRST RACE

On Saturday, July 31, the first race for the America's Cup scheduled to start at 12:30 p.m., D. S. T., finally got under way at 1:25 p.m., after several postponements due chiefly to the crowding of the spectator fleet at the starting line. With the arrival, however, of the full Coast Guard patrol force, the space was quickly cleared and the course signals hoisted. The race was to be a windward and leeward affair with the windward buoy 15 miles south by east from the starting point. The breeze was from the same direction with a velocity of about five miles an hour. The sea was smooth. The spectator fleet was one of the smallest recorded in recent years with a notable absence of large excursion steamers and yachts.

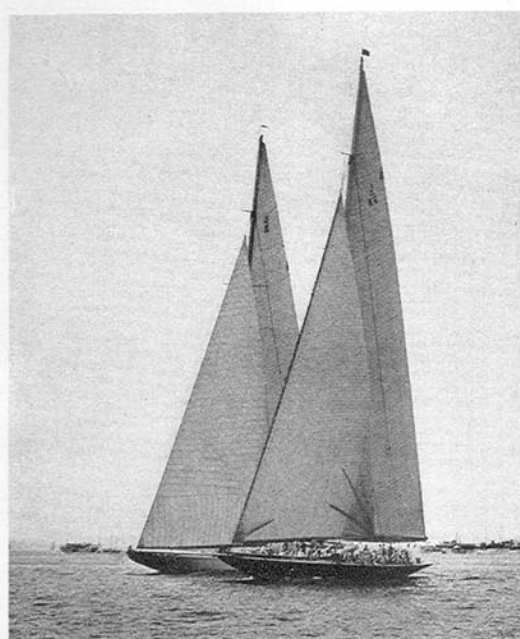
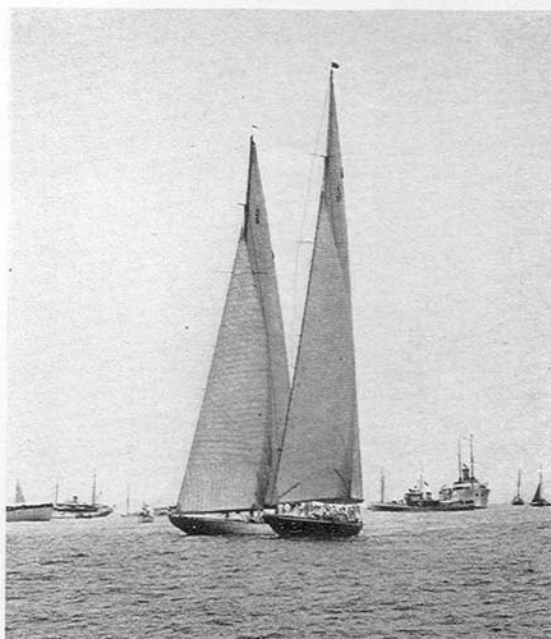
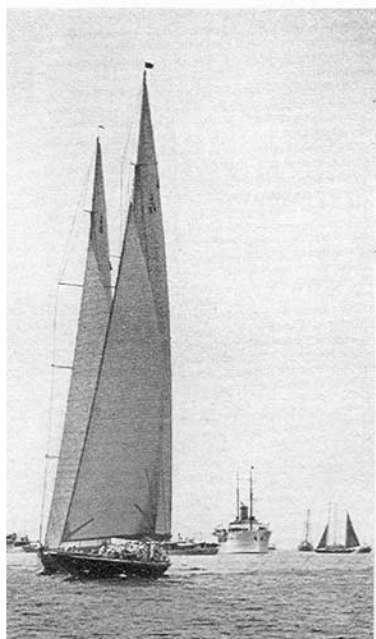
Both yachts dropped their tows just before the five minute warning signals from the New York Yacht Club committee boat *Wilhelmina* and both proceeded to the western end of the starting line with Ranger a little ahead. Ranger gybed around and headed for the line with Endeavour II doing the same thing. Both yachts were on the starboard tack with Ranger to weather but with Endeavour II about half a length ahead. They were quite close together and crossed the line within a very few seconds of the starting whistle. Endeavour II was carrying a Genoa jib while Ranger had a double clewed jib with staysail set under it.

About a half mile from the starting line, Ranger tacked and Endeavour went around almost immediately after. The American yacht seemed to make a quicker and better job of it. Ranger seemed to be footing much faster and opened up the distance at once and at two o'clock she was at least a quarter mile ahead of the challenger and doing close to eight knots in the breeze which was freshening. At this point she was practically directly ahead of Endeavour II. At 2:30 Endeavour II's skipper finally discovered that the Genoa jib was knocking him off to leeward at a rather alarming rate, and the big sail was doused to be quickly replaced by a head rig similar to that of Ranger. Five minutes later Ranger was at least one-half mile directly ahead of the challenger.

At 2:38 p.m. Endeavour went about on the starboard tack and shortly after Ranger followed suit to keep her covered. At 3:07 Endeavour II tacked again with Ranger following about two minutes later. One minute later Endeavour tacked again and once more Ranger followed, always keeping between her adversary and the mark. Then began a series of short, quick tacks on the part of the challenger with Ranger keeping her constantly covered and "making money" on every tack. Finally Ranger, tiring of this play, went on about her business, tacking slowly to the windward mark, but every time she tacked, Endeavour II went about on the opposite board. However, at no time was Ranger's lead endangered nor did she let Endeavour II get too far away in the somewhat spotty breeze. At 3:30, Ranger was nearly a full mile in the lead with about four miles to go to the mark. The short tacks continued until finally at 4:14 Ranger tacked for the last time and laid the mark. At about 4:15 she rounded and within three minutes had her head sails in and a beautifully setting balloon on with a smaller reaching staysail under it. Endeavour II found she could not make the mark and had to take one extra hitch to get there with the result that she was about six minutes and thirty seconds behind when she finally made it. Endeavour II immediately set a small balloon. Both yachts stood a little high of the course to the finish line.

At approximately half way to the finish line, Ranger, well in the lead, dropped her balloon and staysail and set a small parachute spinnaker. She then bore off for the finish, moving fast and drawing rapidly away from the British yacht. Endeavour II continued to carry on, 'way high of the mark, until she was lost sight of in the

START OF THE FIRST RACE. RANGER TO WEATHER BUT ENDEAVOUR II



increasing fog bank which had rolled in. Ranger had set a small staysail under her spinnaker and was the center of all eyes as she approached the finish line for Endeavour II had gone completely out of sight. For some time it was thought that either her navigator had become confused or that her owner-skipper had decided to run on back to Newport and not finish the race.

At 5:06:15 Ranger finally crossed the line in a ten and a half knot breeze. Endeavour II finally emerged from her fog blanket and crossed the line at 5:23:20, 17 minutes and 5 seconds behind the American yacht.

When she finally crossed she was carrying a spinnaker. She traveled a considerably greater distance through the water and put on an exceedingly disappointing performance throughout the race.

THE SECOND RACE

An even worse showing was made by Endeavour II in the second race of the series which was started at 12:40 p.m., on Monday, August 2. Twenty minutes before the start the course signals were hoisted on the committee boat Wilhelmina indicating a triangular course with the first leg southwest, the second east by south and the third north by west one-half west. This gave the necessary thirty-mile triangle. The first leg was almost directly to windward and the wind velocity did not exceed three knots at the time of the start.

Endeavour II stole the start and came about directly in front of Ranger, backwinding her so badly that just before the actual start Ranger was forced to go about and crossed the starting line on the port tack. Endeavour II did not cover. After a few minutes Ranger came about again on the starboard tack. She was to weather but astern of Endeavour II. Ranger had a large double clewed jib and Endeavour II had a somewhat smaller similar sail with a staysail set under it. Endeavour II seemed to be opening up the lead continually and it was not long before she was definitely in a position where she could have come about and crossed Ranger's bow. Even though Ranger was on the starboard tack, Endeavour II would have had plenty of room to clear. At 1:18 Endeavour went around on the port tack to do this very thing, but Mr. Vanderbilt on Ranger realized the situation and went about also in order to prevent Endeavour II from camping directly on his wind.

Ranger seemed to be working up wind better, her skipper letting her drive off a little until she had full

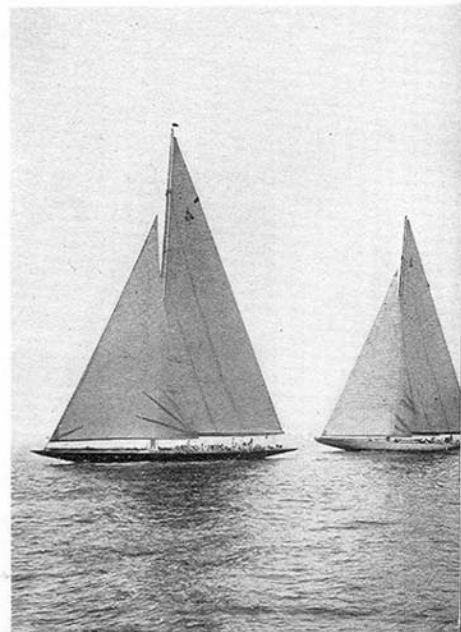
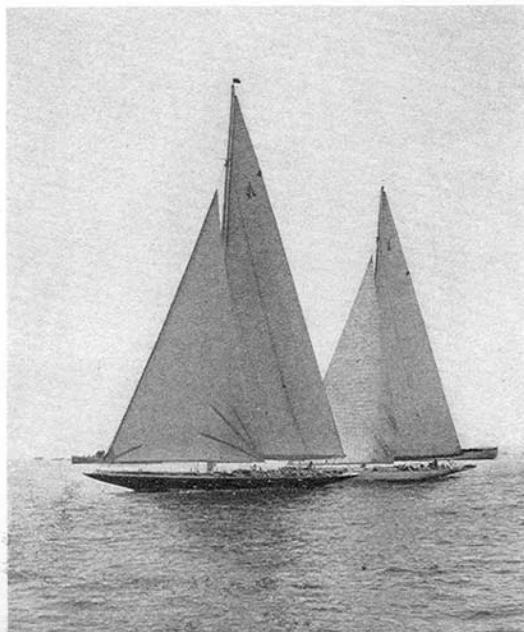
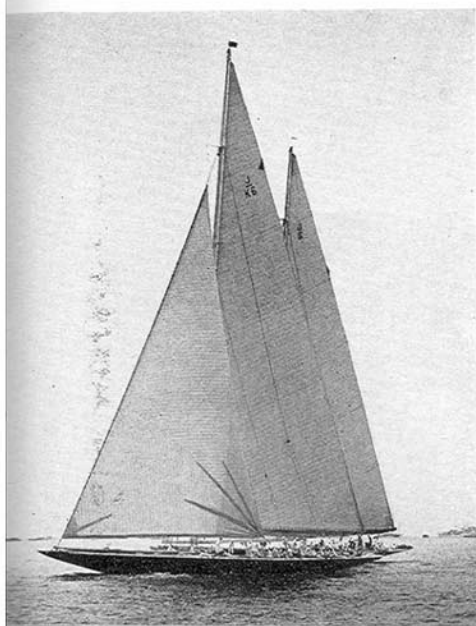
way, then swinging his wheel to work her bow a little up wind. This procedure was kept up continually and each time Ranger gained a little on the weather boat, getting closer and closer until she reached the point where the backdraft off her mainsail started to affect Endeavour II. The British yacht now had the choice of going about to get away clear or stay where she was in which case she would very shortly have been forced to sag off to leeward. Therefore at 1:36 she went about on the starboard tack again and four minutes later she came back to the port tack, to weather of Ranger, but already defeated, as Ranger had by this time sailed into a freshening breeze and there was almost a mile between the two yachts. For a while the wind let them up and even Ranger, the leeward yacht, was apparently laying the mark. She was, though, forced to take another tack upwind in order to gain the necessary position as there was another slight shift in wind. The velocity had increased to about eight miles an hour and Ranger was going places, gaining every second on Endeavour II which was being badly pinched. At 2:27:04 Ranger turned the mark and started on the reach to the second mark. Endeavour did not turn until 2:37:28, nearly ten minutes later. Bearings on Ranger and Endeavour II at this point indicated that Ranger was 1.7 miles ahead and gaining rapidly.

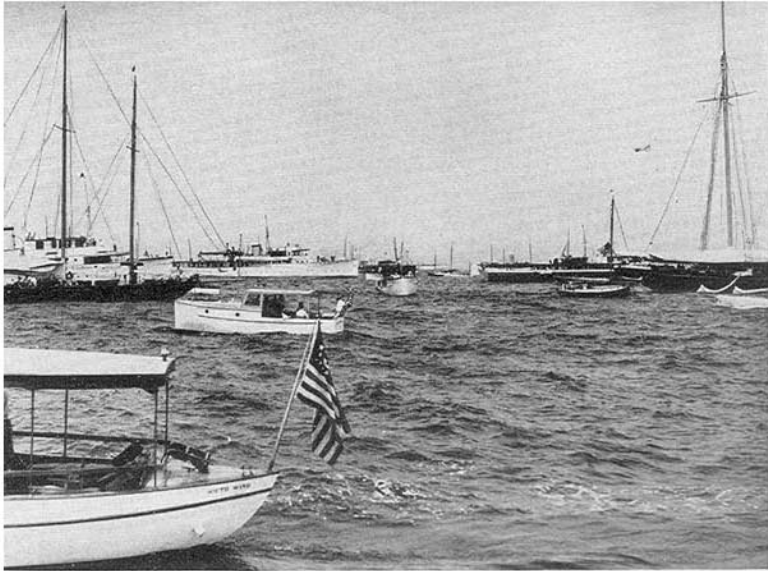
Ranger set a staysail soon after rounding the mark and in the increasing breeze was going like an express train. Endeavour II's head sail seemed to be trimmed too flat. Within four miles of the second mark, bearings from the cutter Chelan indicated that Ranger was 2.25 miles in the lead. She finally rounded the mark in beautiful style, gybed over and started the broad reach for home. Ranger rounded at 3:27:18 and Endeavour II rounded at 3:43:36, Ranger was 16 minutes and 12 seconds in the lead.

Nothing more happened except that Endeavour II was practically out of sight when Ranger neared the line. Ranger finished in a fine sailing breeze at 4:21:33 and Endeavour II did not finish until 4:40:05, a difference of 18 minutes and 32 seconds—a new record for a thirty-mile triangular course in a match for the America's Cup.

After the finish Mr. Sopwith requested a delay of one day and both Endeavour II and Ranger were hauled out over the intervening day, one yacht to have her bottom polished and the other in order that the owner and advisers might try to analyze what was wrong. At this

WITH GREATER WAY, GOES THROUGH AND AHEAD. RANGER WON BY 17 MINUTES





Above and below: Parts of the spectator fleet. The Coast Guard had perfect control of the hundreds of yachts at all times

point Endeavour's showing was generally conceded to be not as good as the previous challenger.

On August 4, the third race of the series was sailed over a fifteen-mile windward and leeward course. Officially the wind at the start was southwest with a velocity of seven and a half miles an hour. The windward buoy was therefore set directly southwest of the starting line, fifteen miles away.

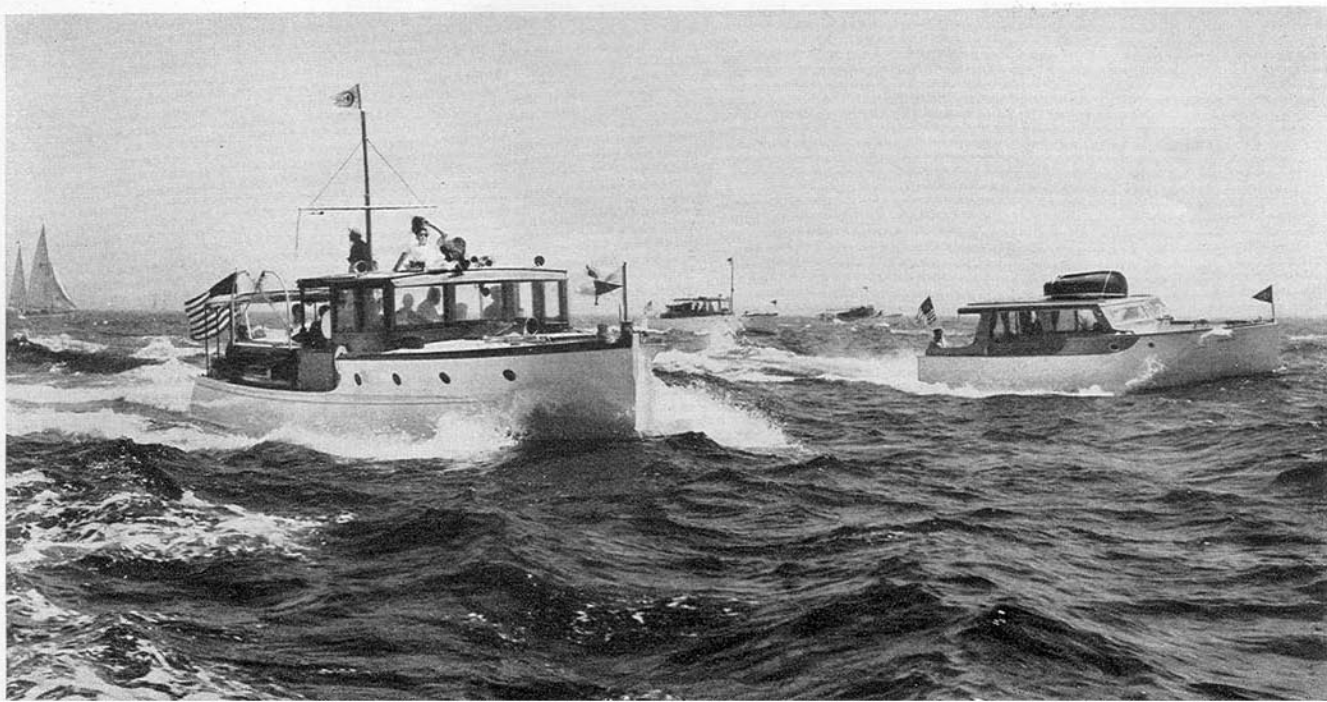
The start was most spectacular and for a few moments it looked as though Ranger was going to be ahead of the gun. She was not, however, and crossed the line exactly as the signal sounded on the committee boat. Endeavour II was slightly astern and a little to windward. Both yachts were moving fast but it was not long before Ranger's backwind began to bother Endeavour II with the result that she began sagging off to leeward. Within two minutes of the start, Ranger was approximately six lengths ahead and shortly after both tacked. Both yachts had quadrilateral jibs with staysails set underneath. Another series of short tacks by Endeavour II started at this point but Ranger kept her covered and at no time was she really threatened. About one o'clock Ranger started to go about to follow Endeavour's lead, but a jib sheet block jammed. She was in stays for a few seconds then went back again to the starboard tack.

The breeze had by now piped up to around twelve miles an hour and at 1:30 Ranger was estimated to be

about a third of a mile in the lead. The series of short tacks continued with Endeavour II taking more of them than Ranger. Ranger did not tack any more than was necessary to keep her rival covered. At 2:43:55 Ranger rounded the weather mark. Endeavour came around at 2:47:58, a difference of four minutes and three seconds—the closest race so far in the series. Ranger came around on the run for the finish line with her boom to port, while Endeavour's boom was to starboard. Both set spinnakers at once and there was little to choose in the matter of speed in handling. Rod Stephens went aloft on Ranger to clear a breaking line used to assist breaking out the spinnaker which had become snarled. Later on he stated that the view was so nice from aloft that he decided to stay up there and take his time at the job. At any rate, he stayed on his lofty perch, about 135 feet above the waterline, for around half an hour.

In the meanwhile the two yachts were on diverging courses, Ranger working up to the right of the finish line and Endeavour II going off to the left. Neither was on a direct line for the finish. Finally, as the finish line appeared out of the haze up ahead, Ranger gybed over at 4:20 and doused her spinnaker. She set a reaching jib and crossed the line at 4:34:30 coming in on the port tack. Endeavour II gybed and doused her spinnaker at 4:30 and crossed the finish line at 4:38:57, a difference of 4 minutes and 27 seconds. For a time on the last leg it looked as though Endeavour II might get a break after all as the two yachts were almost parallel but about a mile apart. If the finish line had happened to be a little nearer Endeavour, she would certainly have won, but when it did show up through the murk ahead, it was just about half way between. However, even then there might have been a slight shift of wind to favor the Britisher but this did not happen. Ranger was ready for anything and even as she reached for the finish she ran up another spinnaker in stops and with the spinnaker boom out, to be ready instantly to take advantage of a sudden shift. This was removed before she crossed the line but it made things interesting. The breeze at the finish was still southwest and had a velocity of twelve and a half statute miles an hour. At one time during the race it had gotten up to about fifteen.

The fourth and concluding race of the series was sailed on the next day, August 5, around a triangular course. The breeze was still southwest with a velocity of about twelve and a half miles an hour at the start.



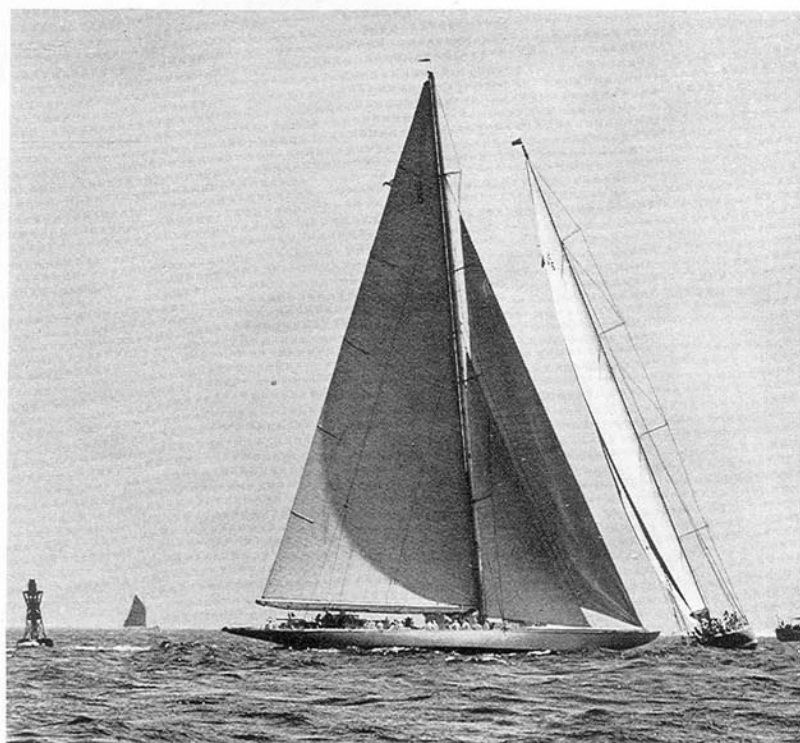
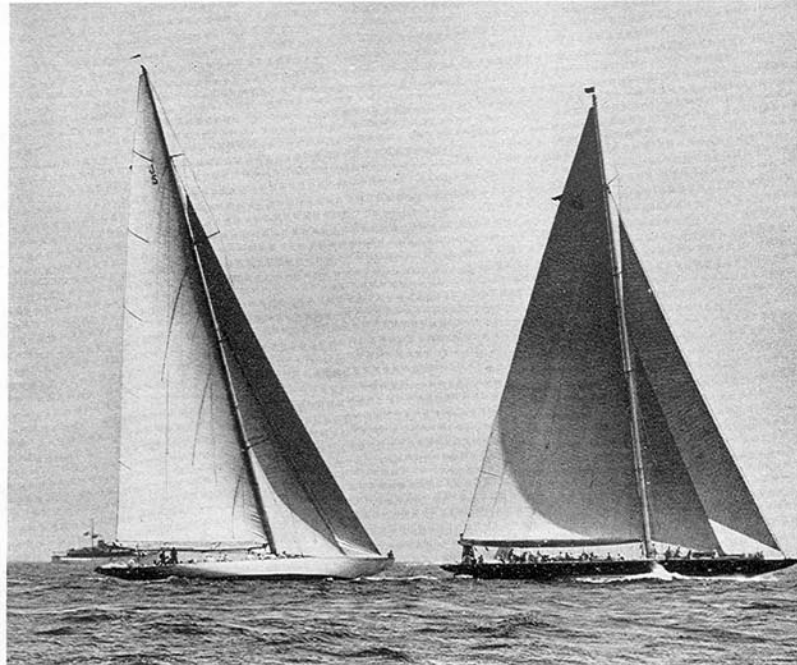
This race was around a triangular course, ten miles to a leg, the first course being to windward, directly south-west, the second leg east by south, a reach, and the final leg north by west one-half west, another reach. Near the windward mark the breeze got up to close to twenty statute miles an hour but faded off toward the second mark. At the finish it was sixteen statute miles an hour.

This was the race in which Endeavour II established a new record in that she was the first cup yacht on record to have crossed the starting line ahead of the gun and was recalled to start over again. For seven or eight minutes before the start, there was a regular dog fight around the starting line between the two big yachts which were being sailed more like Frostbite dinghies. Each gybed, tacked and spun around for all the world like two small class boats. At the start, both were on the starboard tack with Endeavour II ahead and slightly to leeward. However, she was early and her nine second lead at this point cost her one minute and fifteen seconds as she had to swing back around the buoy and again cross the line. The remarkable thing was that she did not lose more time.

While Endeavour II was going through this maneuver, Ranger had crossed, stood out a short distance and then come about on the port tack so that she could cover Endeavour. Endeavour came over the line then on the port tack which put Ranger to windward and slightly ahead of her. Ranger seemed to be working more and more to windward and at 1:16 both yachts went about on the starboard tack. Endeavour II seemed to be going much better in the freshening breeze. Then Sopwith started another of those tacking duels of his with a tack every two minutes for the next sixteen minutes. Ranger, always keeping him covered, only came about six times and ignored Endeavour's last two tacks as Ranger was laying the weather mark. Ranger was a little over half a mile ahead. She rounded the mark at 1:57:45 and Endeavour II came around at 2:01:50. Ranger had established a new record for a cup race windward leg on a triangular course, beating the old Endeavour's mark made in 1934 by thirty-four seconds.

The big quadrilateral Genoa jib broke out quickly after Ranger rounded with a reaching staysail underneath. Endeavour II set her high cut Genoa in a hurry after rounding with the usual staysail under it. Endeavour II's performance on the next two legs was better than Ranger's as she continually picked up on the American but not enough to threaten her. The reach to the second mark was uneventful with the exception that Endeavour II gained thirty-four seconds on the leader. Ranger gybed around the mark at 2:54:51 and Endeavour gybed around at 2:58:26. On the final leg both yachts

(Continued on page 57)



When Endeavour beat the start. Note buoy directly over stern in top picture. Lower photo shows Endeavour starting to gybe around to recross the line

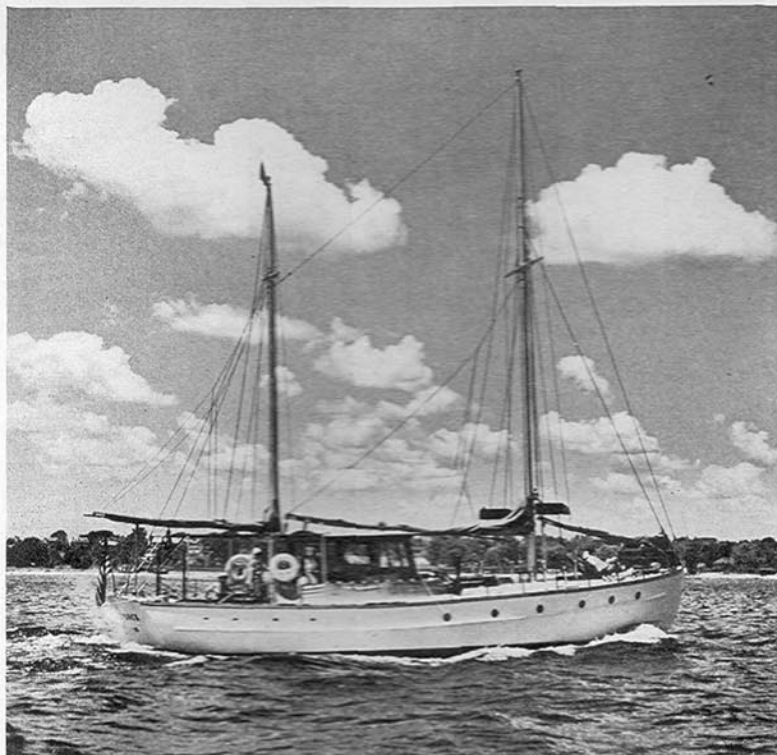
SUMMARY AMERICA'S CUP RACES, 1937

Challenger: ENDEAVOUR II, 164 tons; T. O. M. Sopwith, owner, Royal Yacht Squadron.

Defender: RANGER, 166.5 tons; H. S. Vanderbilt, owner, N. Y. Y. C.

Date	Yacht	Course	Start D.S.T.	Finish	Elapsed Time	Wins By
July 31	Ranger	15 Miles Windward and Leeward	1:25	5:06:15	4:41:15	17:05
	Endeavour II	Off Brenton's Reef, L. V.		5:28:20	4:58:20	
August 2	Ranger	Equilateral Triangle, 30 Miles	12:40	4:21:33	3:41:33	18:32
	Endeavour II	Off Brenton's Reef, L. V.		4:40:05	4:00:05	
August 4	Ranger	15 Miles Windward and Leeward	12:40	4:34:30	3:54:30	3:37
	Endeavour II	Off Brenton's Reef, L. V.		4:38:57	3:58:07	
August 5	Ranger	Equilateral Triangle, 30 Miles	12:40	3:47:49	3:07:49	3:37
	Endeavour II	Off Brenton's Reef, L. V.		3:51:26	3:11:26	

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Only one of the entries was unreported throughout the race, (for 90 hours Coast Guard cutters and race committee were concerned about her) Victory, Carl Norberg's 39 foot Columbia Yacht Club sloop. She finished safely after sailing a lone wolf course up the Wisconsin shore, which no yacht has followed in these races for years.

During the height of the storm the 165 foot Coast Guard cutter Escanaba, flagship of the four-boat fleet patrolling the course, stood by off Ludington checking the location of all yachts in sight. A flare was sighted far out in the lake and the Escanaba came up to the 57 foot racing yawl Dorello, owned by George T. Murphy, Columbia Yacht Club, running before it under bare poles. A two-inch hawser parted half an hour after the cutter took the yawl in tow, and a six-inch towline was passed to the exhausted yachtsmen, who made it fast to the mainmast. The waves running too high either to tow the yacht northward into it, or eastward into Ludington, the cutter towed Dorello slowly with wind and wave all during the night of the storm, to South Haven, Michigan, ninety miles southward. After seeing to it that the yacht was on her way into port, Escanaba drove into it, northward again and reached Mackinac Island the following afternoon, Tuesday, July 27, when the winners finished.

Fortune, which appears in the summary, was one of those that put into White Lake. She apparently sailed out again and continued after the blow had subsided, which, considering the narrowness of the White Lake entrance, must have been quite a trick in itself.

SUMMARY

—Racing division, for Mackinac Cup—

	Elapsed time	Corrected time
Revenge, 59' 10-meter cutter, Walliser-Griffin	76:38:49	75:24:51
Fortune, 50' schooner, Kenneth Brown	88:46:27	86:34:59

—Cruising division, for Chicago-Mackinac Trophy—

Rubaiyat, 43' sloop, Nathaniel Rubinkam	62:43:21	54:42:14
Southern Cross, 55' yawl, R. P. Benedict	64:05:00	59:10:14
Bagheera, 56' schooner, John T. Snite	68:11:64	64:24:26
Meridian, 72' schooner, Milton Knight	74:38:52	74:38:52
Wind Song, 36' cutter, Clyde Larish	88:37:47	77:25:07
Victory, 39' sloop, Carl Norberg	88:18:29	80:00:14

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CUP RACES (Continued from page 13)

stood the shortest course to the finish and nothing whatever happened except that Endeavour gained two seconds.

Ranger finished at 3:47:49 and Endeavour II finished at 3:51:26, both yachts receiving a tremendous ovation from the rather small spectator fleet assembled at the finish line. Ranger's time was the fastest turned in for a Cup Race since 1871.

Outside of the slight delay at the start of the first race, the series went off in well-nigh perfect shape. Each day was beautiful except for a slight amount of fog on the second race day. Good, steady breezes, fine weather, and a course kept entirely clear of all spectator interference, will make the series long remembered. There were no accidents to the yachts and so far as is known, none to the spectators either. The fleet on the first day comprised around 800 boats of various types but the number dwindled each day to a mere handful on the last day. The United States Coast Guard, under command of Captain James F. Hottel, maintained a perfect patrol of the course at all times.

Ranger has been pronounced to be the "super" class J yacht and there is no doubt at all but what she must come close to it. However, her wonderfully trained crew, her thoroughly competent skipper, Harold S. Vanderbilt, may have had a lot to do with it. The combination of skipper, crew, and yacht is the real answer. Then, too, one must not forget W. Starling Burgess and Sparkman & Stephens who collaborated in designing the hull. To Professor K. S. M. Davidson of Stevens Institute of Technology must also go credit for his highly valuable model towing experiments which had so much to do with the development of Ranger's hull form.