

## The sun above, the volcanoes below

All is well in that 100-ton space station in the sky.

As Skylab passed its 100th day in earth orbit this week, the crew of Skylab 2, Alan Bean, Jack Lousma and Owen Garriott, were setting some records of their own. On Aug. 25 they would pass the 28-day record set by the Skylab 1 crew.

The astronauts even started the week with a first: with a record nine and one-half hours at the solar telescope controls on Aug. 20, the crew topped the total 88 hours of solar observations performed by the Skylab 1 crew.

The sun rewarded their efforts with an unusual performance Aug. 21—it “blew” a bubble in the corona. According to solar scientists in Houston, the event was “the most important, dynamic and interesting” yet photographed by the crews of the laboratory. Scientists think the bubble—seen on the east limb of the sun above the equator—was associated with a flare on the back side of the sun. The prominence reached three-fourths the size of the sun. Radio emissions were recorded.

Late this week the crew was scheduled to take their second walk outside the station to replace the solar telescope film and do some repair work.

The Skylab and Apollo hardware were holding up well enough for NASA to cancel plans for a rescue mission and make tentative plans to delay the launch of the last Skylab crew until Nov. 9 to allow manned observations of the comet Kohoutek (SN: 7/14/73, p. 24).

NASA is also holding out the possibility the last crew could remain in space until Jan. 14, 1974 (instead of splashing down Jan. 4), to photograph the comet as it recedes from the sun. “It’s now a matter of the technology [hardware] keeping up with the science,” quipped one Skylab official.

Much to the relief of spider- and minnow-lovers everywhere, the Skylab 2’s menagerie has settled down. Ara-

bella the spider adapted quickly to her zero-gravity living, spun her web, and even “ate” human food. Because no insects of her liking were available, Garriott gave her a piece of raw meat. She treated it as she would a fly, reports Raymond Gause of the Marshall Space Flight Center who is the scientist in charge of the spiders. She injected her poison and enzymes (to aid in digestion) and sucked out all the juices. Garriott verified this. “She kicked it [the meat] out of the web this morning and it has diminished in size,” he said. The meat then probably resembled dried beef jerky, says Gause.

Anita, the backup spider taken along in case Arabella couldn’t spin a web, will get her chance to perform in weightlessness next week. The crew will take Anita from the vial and place her in the cage.

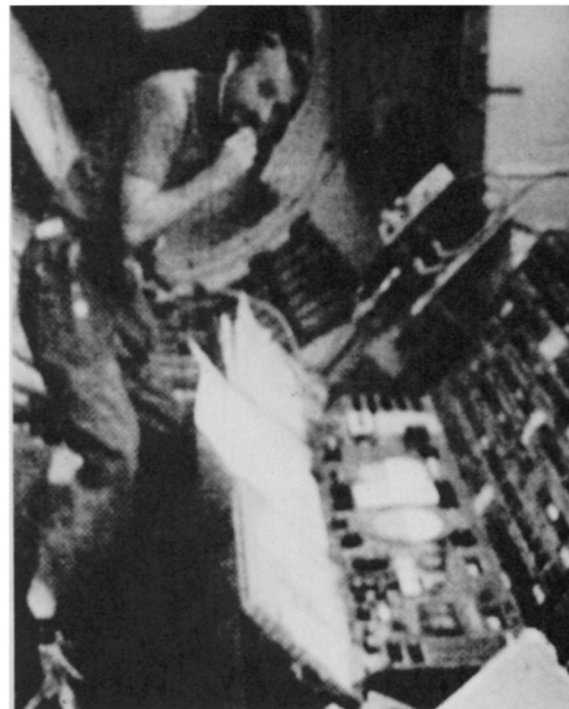
The minnows, after several days of swimming in circles, also seemed to have adapted. They were last seen, via television from Skylab, darting around as they would in earth’s gravity. The small minnow, hatched Aug. 14, never had the trouble swimming his older brothers had. Biologists speculate that the small minnow’s vestibular system has not yet fully developed and that when it does he may have trouble swimming for awhile.

In addition to sun watching, the Skylab cameras have also been focused on some flare-ups on earth: hurricanes, erupting volcanoes and typhoons. They tracked Hurricane Brenda this week in the Gulf of Mexico. Active volcanoes in the Pacific, one with a lava flow over a mile long, were being captured on multispectral film. Geologists think there may also be an undersea volcano in the area which would show up in the film as discoloration in the water. A typhoon south of Japan was tracked.

For ground observers and as a technological experiment, the crew did acrobatics and ballet. In the first exercise, they charged against the sides of the walls of the space station, bouncing off one wall toward the other much the way a swimmer pushes off the side of the tank. This was to see how much the physical movements jarred the space station. The movements did. One crewman at the telescopes watched as the sun bounced around the cross-hairs on the instrument during the exercise.

The second performance, a ballet which lasted almost half an hour, consisted of triple and quadruple spins in the air, summersaults and other stunts.

For some of their darting around, the crew used three maneuvering units on board: a hand-held jet gun similar to the one used by Ed White in the Gemini program, a back-pack maneuvering unit and a foot-controlled maneuvering unit. These will be tested again on Skylab and may be used in future spacewalks. □



NASA

*Garriott at the controls: Watching the sun through Skylab’s solar telescopes.*

## Soviets make it four to Mars

Mars 7 has joined the list of spacecraft heading to Mars. The Soviets launched the fourth spacecraft, and apparently the last in this series, to Mars Aug. 9. It joins Mars 4, launched July 21; Mars 5, launched July 25; and Mars 6, launched Aug. 5. Mars 4 and 5 are identical in design. Mars 6 and 7 are also identical, but different from the first twins.

The Soviets have said only that one spacecraft in each pair, Mars 4 and Mars 6, will perform certain missions jointly. They have not said what these missions are, but Western experts think perhaps two may land on the planet and the other two remain in orbit. Trying to second guess the Soviets, however, has proved risky.

The spacecraft should reach the planet between mid-February and mid-March 1974. □

## Threading through the asteroid belt

Pioneer 11, launched April 5, began its seven-month journey through the asteroid belt this week, traveling at a speed of 56,000 miles an hour. The spacecraft will reach Jupiter in December 1974. So far it has traveled 200 million miles and has some 400 million yet to go.

Its predecessor, Pioneer 10, is only 51 million miles from Jupiter and will arrive in the vicinity of that planet Dec. 3, 1973. □



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