



Times photo by Steve Adams

Dr. Peter N. Witt confers with student Bruno Paneth (right) on spider experiment

# Raleighite behind Skylab spiders

By TODD COLLINS  
Times staff writer

A Raleigh researcher has inspired a trip into space for spiders on the Skylab II mission Saturday.

The spiders will be used to study the effects of weightlessness and the psychological stress of space travel.

Dr. Peter N. Witt, director of research for the N. C. Department of Mental Health, thinks spiders are a uniquely useful animal for the study of behavior in space flight and everywhere else.

"No other animal in the world — including man — leaves such a detailed record of its behavior day after day as the spider," he said.

The record is the web.

On the wall in his office in a basement at Dorothea Dix Hospital, the Swiss-born Dr. Witt pointed to photographs of two different webs made by the same spider and smiled.

Even the casual observer could detect the difference between a web created under normal conditions and one made under the influence of drugs.

Similarly striking differences may result between a spider's web on earth and the web after the spider is shot into space.

Not only are the webs a delicate barometer of behavior, they are also accurate.

Scientists can be relatively sure that any changed behavior patterns, as reflected in altered web formations, are the result of a new condition.

"We have never found experience to play any part in the geometric pattern of the web produced," noted Dr. Witt.

Man, on the other hand, might do things in space he ordinarily would not for any number of reasons.

It would be very difficult to say, for instance that an astronaut bites his fingernails more often than usual because of the effects of weightlessness and not because he was worried about his wife.

"Man can be affected by the power of suggestion. But you can't tell a spider that he's not going to do well today and affect him," said Mabel Scarboro, Dr. Witt's research assistant of seven years.

Dr. Witt has worked with spiders and the webs they produce under normal and altered conditions for 25 years. He is an internationally recognized expert in the field of behavior.

"I'm basically interested in drugs, I found by accident that drugs affect web patterns," he said.

Female "cross spiders," members of a particular species with which Dr. Witt has worked ex-

tensively in the past, will go along on the 59-day space junket.

They will be transported by astronauts — perhaps in pockets — to the Skylab space station where photographic equipment and cages are already in place.

The information will be sent back to earth where it will be recorded on computers.

Witt said the spiders might weave normal webs, distorted webs or no webs at all. "We just don't know," he said.

One possibility — but only that — is that the cross spider will weave a round web. Under normal conditions the spider constructs an elongated web because of the effects of gravity.

The National Aeronautics and Space Administration contacted Witt about the spider experiment after it was suggested in a national contest seeking ideas for Skylab research.

A high school girl from Boston, having read of Witt's work, made the suggestion.

"She really knew nothing about it except she thought it was a good idea," said Witt.

Witt has served as a consultant for NASA for this experiment.

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