

at New York. Harold Skinner is placing a pair in the collection of the Central University of Venezuela at Maracay. One male and three females are being retained each in my collection and in Harold Skinner's collection in Los Palos Grande.

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#### LITERATURE CITED

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### WINTER SURVIVAL OF *PIERIS RAPAE* AT THE PAS, MANITOBA

There seem to be no records in the literature as to how far north in North America *Pieris rapae* (L.) can survive the winters.

I was much surprised to have a male *Pieris rapae* emerge in the house on May 3, 1967, from a chrysalid found outdoors one week before. The chrysalid was one of three found attached to the cement foundation of the house. It was attached six inches from the ground, next to a plot of ground in which cabbage had been grown the preceding season. The chrysalid here would have been exposed to seven months of winter, with the temperature regularly dropping to -40 degrees F. for the better part of a month.

One of the chrysalids had dried out and the third, though apparently living, was eaten by a Carabid beetle. The emerged specimen is in the writer's collection labelled "1st recorded winter survivor, The Pas, Manitoba, May 3rd, 1967."

*Pieris rapae* is common in gardens at The Pas and has been so for the past 30 years. I have always assumed it to arrive freshly from the south each spring, not being able to survive our severe winters. The present record shows that this species is adapted to our climate and can survive the winters in the pupal state.

This species is at present absent from the Lynn Lake area and likely in other northern settlements of Manitoba. I propose to document its rate of spread northward.—WALTER V. KRIVDA, P. O. Box 864, The Pas, Manitoba, Canada.