

POSSIBLE SUBSPECIES OF THE MOURNING CLOAK (*NYMPHALIS ANTIOPA*)

by Ross Layberry

In *The Butterflies of Canada* (Layberry et al. 1998) we stated confidently that the Mourning Cloak (*Nymphalis antiopa*) had no subspecies. We mentioned one old name, *hyperborea* (Seitz, 1913) referring to specimens from northern Canada and Alaska. We had compared far northern specimens with southern Canadian ones, and found no reliable differences in size or colour, so we did not recognize *hyperborea* as a valid subspecies. But we didn't compare either with European specimens. If we had done so, we would have seen what Seitz saw almost a century ago, that the colours are very different. Seitz described the colour of the upper surface of *antiopa*, meaning European *antiopa*, as blackish brown, and that of *hyperborea* as a very bright red-brown, which is not a bad description of the colour of the Mourning Cloak that we all know.

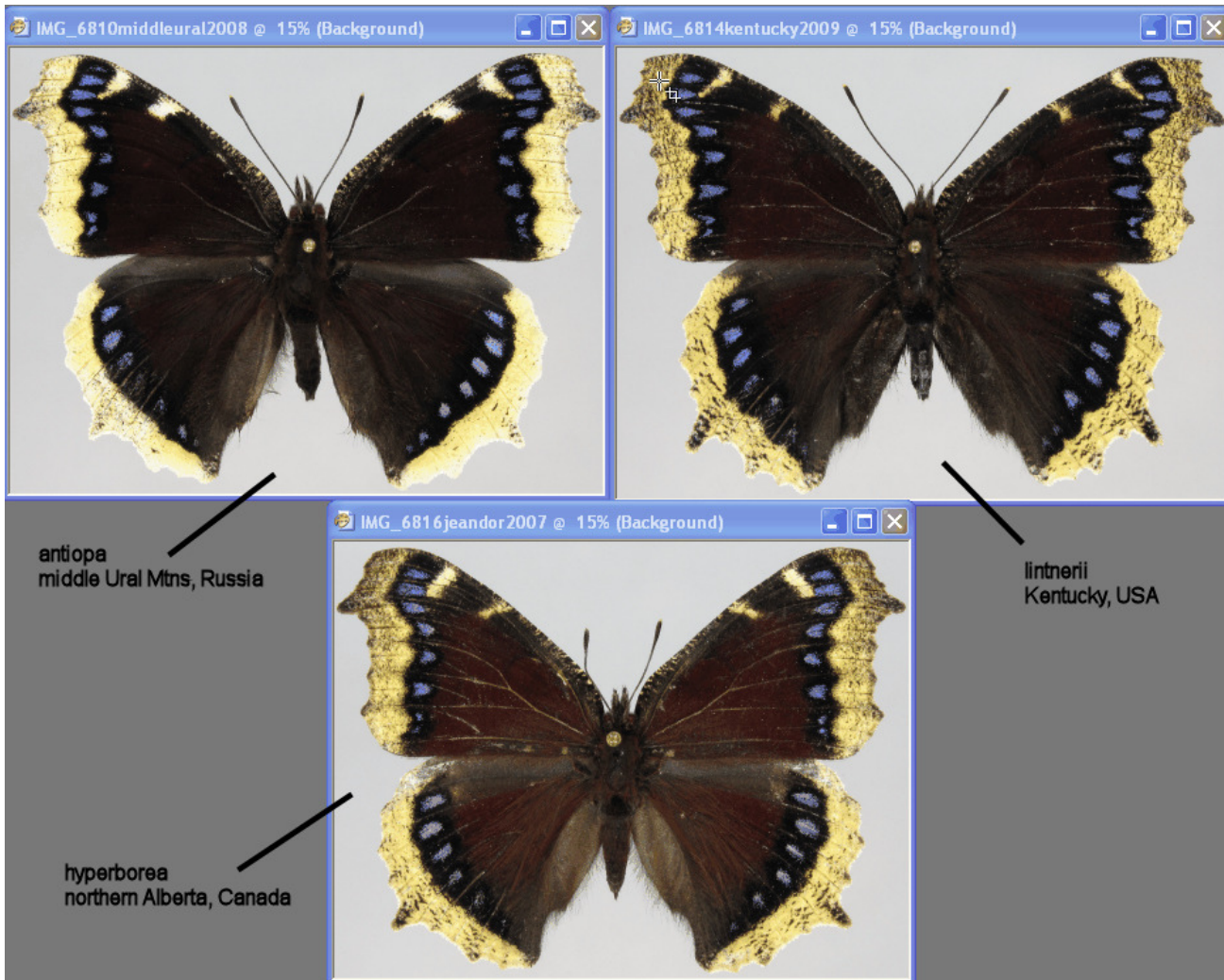


Reared July, 1976
Ottawa, Ontario

Reared July, 1973
Pribram, Czechoslovakia

This all came to my attention in correspondence with Norbert Kondla, who is a co-author of *Alberta Butterflies* (Bird et al. 1995) and *An Annotated List of the Lepidoptera of Alberta, Canada* (Pohl et al.

2010) and a well-known researcher of western Butterflies. He sent me photos showing differences between Canadian, European and Asian specimens, and I checked them out myself. I had in my collection unmounted Mourning Cloaks from Czechoslovakia, so I mounted some, and photographed them along with two caught at Ottawa (see photos on page 9). The difference is unmistakable – I would describe the colour of my European ones as the colour of a very dark chocolate, quite unlike our Mourning Cloaks. The International Code of Zoological Nomenclature (ICZN 2000) defines subspecies simply as geographical entities that differ in some way from each other, and by that definition there can be no doubt that most, if not all Canadian Mourning Cloaks should be referred to as *Nymphalis antiopa hyperborea*.



I say “most” because there is one other complication, in the form of another old name, *lintnerii* (Fitch, 1857), described from New York, probably Schoharie County in Central New York State, at about 42°40' north. Some of Norbert’s pictures (see photos above) clearly show that specimens from the eastern US are a lot darker than ours, almost as dark as European *antiopa*, which would make *lintnerii* also a valid subspecies, distinct from our *hyperborea*. The most interesting question is, how far north does the darker *lintnerii* fly? Norbert has specimens reared from wild-caught larvae at Miner’s Bay, Simcoe Co., Ontario, some of which appear to be normal bright *hyperborea* and others are dark like *lintnerii*. But does *lintnerii* fly together with the bright *hyperborea* or does it replace it somewhere in southern Ontario? Norbert asked me “When was the last time you looked closely at a Mourning Cloak?”, and I had to admit that I probably

have not caught one in at least thirty years. And I imagine that with most people it is the same; Mourning Cloaks are so distinctive that it is never necessary to catch one for identification purposes. There really might be two different forms out there that are not being noticed; is that not a very interesting thought?

A project team of five well-known lepidopterists, Norbert Kondla, Joseph Belicek, Crispin Guppy, Otakar Kudrna and Harry Pavulaan is presently reviewing the biology and taxonomy of the nominal species *Nymphalis antiopa*. They unfortunately do not have the resources or the time to personally conduct field research in southern Ontario, so would welcome the assistance of anyone in Ontario who might be willing to help unravel "The Mysteries of the Mourning Cloak". They would especially welcome contact with anyone who is willing to collect study specimens or to rear the butterflies. Many of you photograph butterflies; I am sure a series of clear upperside shots of Mourning Cloaks, with full date and locality data, would be very helpful as well. Please feel welcome to contact Norbert at 403-248-2511, or by email at colias@shaw.ca.

References cited

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THE CANADIAN GLOBAL CHANGE TRANSECT: EVALUATE AND PREDICT THE IMPACTS OF GLOBAL CHANGES ON THE DISTRIBUTION OF CANADIAN BUTTERFLY SPECIES

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Global changes, particularly climate change and land use conversion, threaten Canada's biodiversity. The latest research indicates that climate and land use changes have caused widespread and ongoing shifts in the distribution of Canadian butterflies. Accurate predictions of global change impacts are critical to successful future species and habitat conservation.

The Canada Global Change Transect (CGCT) will help test if species distributions of a large number of Canadian butterflies are responding to changing land uses and climatic conditions. It will also test and calibrate broad-scale models of butterfly species' ranges to allow predictions of future impacts of climate and land use change. To do so, the CGCT has undertaken to survey extensively the butterflies within 13 regional transects across Canada (Fig. 1, next page). The regional transects average 200 km in length (generally on a north-south axis), and they represent regions of Canada where butterfly richness increased or diminished the most over the 20th century, and/or where land use changes are most intense. Transect