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Some notes on migrant Lepidoptera species in Central Norway 1996

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#### Introduction

1996 was a very good year concerning migrant lepidoptera in central Norway. The following notes are based on obsevation and collecting done by the author at the following localities: Trondheim, 63.5° North Latitude at sea level. Brekken, 150 km south-southeast of Trondheim, 850–1100 meters level.

#### The weather

June and July were colder than normal. The average temperature for June was, according to the Weather Service at Trondheim airport,  $11.5 \,^{\circ}$ C (high 20.8 - low 4.8), and average for July was 12.9  $^{\circ}$ C (high 24.0 - low 5.3). Average the last 30 years for these months:  $12.6 \,^{\circ}$ C and  $13.9 \,^{\circ}$ C. Winds from West and North dominated during these months. This cold weather was interrupted by shorter periods of warmer winds from South. One such period, from June 8th to June 10th, and another one from June 25th to June 26th, brought migrant lepidoptera to Central Norway. The weather changed totally in the beginning of August: Winds from South with plenty of sunshine and high temperatures dominated that month. At Trondheim airport the average temperature for August was  $17.2 \,^{\circ}$ C (high 26.8 - low 9.1). Average last 30 years:  $13.4 \,^{\circ}$ C. Average for September and October was  $8.4 \,^{\circ}$ C and  $6.2 \,^{\circ}$ C. Average last 30 years:  $9.8 \,^{\circ}$ C and  $6.1 \,^{\circ}$ C. Trondheim had the first frosty night at September 5th. The first snow fell October 10th. September was dominated by calm weather and plenty sunshine. The warm air that dominated in August, was replaced by typical arctic air. This ment cold nights but rather warm sunshine a few hours in the afternoon. The first storms of the autumn-season appeared early October.

## The species

Pieris rapae L.

#### Brekken:

8.VIII.1996: One female was observed taking nectar in a mountain valley at 850 meters. This is my first observation of this species in Central Norway. While *Pieris brassicae* L. and *Pieris napi* L. are common species in the region most years, is *P. rapae* not a permanent breeder in Central Norway.

# Nymphalis antiopa L.

## Trondheim:

6.IX.1996: One male captured. Probably a migrant from southern Scandinavia. This is the third specimen the author has recorded in Trondheim. Earlier observations are in 1985 and 1990, both in June. During the last years, *N. antiopa* has been common in the rather restricted areas where it is permanent in southern Norway. I have seen it common in August 1994 in fresh individuals and again in early July 1996 in overwintering specimens in Andebu, southwest of Oslo. In the late eighties and early nineties *N. antiopa* was scarce in the same area.

# Vanessa atalanta L.

Trondheim:

11.VI.-29.VII.1996: Four males were observed in the period, hilltopping, representing migrants from south.

16.–21.VIII.1996: Five caterpillars collected on *Urtica dioica*. Two were kept outdoor. Both pupated during the first days of September. One died. The other was taken indoor on October 30th. On November 10th it produced a butterfly which did not expand its wings completely. It had spent two months a pupae and had been exposed to several frosty nights.

6.IX.1996: Two specimens taking nectar on thistles. The first fresh specimens of a new generation.

7.IX.1996: Four specimens on plums.

21.IX.1996: Two caterpillars on Urtica dioica.

26.IX.1996: One specimen observed.

29.IX.1996: One specimen captured.

*V. atalanta* migrated to the region in June/July and produced a new generation flying in small number in September. Many caterpillars and pupaes certainly died during September and October.

Vanessa cardui L.

## Brekken:

25.–26.VI.1996: Several specimens flying north. Probably between 50 and 100 individuals were observed each day, most of them well above tree-line. Some were observed feeding on flowers, and a few males where recorded when hilltopping.

## Trondheim:

10.VI.–29.VII.1996: 23 specimens recorded, mostly males which had established territories. The first migrants of June looked surprisingly fresh. The last seen late July were very worn. 16.–21.VIII.1996: 30 caterpillars collected. They were feeding singly on *Cirsium arvense* and *Cirsium helenoides*, but a few were also found on *Urtica dioica*. All five stages were represented. After being taken indoor, the first fresh butterfly emerged September 3. With one exception, all caterpillars developed into butterflies.

26.VIII.1996: The first butterfly of the new generation was observed.

1.-20.IX.1996: 25 individuals observed, most of them feeding on thistle flowers.

26.IX.1996: Eleven specimens recorded feeding on thistle flowers in warm sunshine. This was the last day for observations of imagines outdoor.

21.IX.-7.X.1996: Two pupaes and 20 last instar caterpillars collected, having survived frosty nights. Also a few dead caterpillars were found. Four caterpillars and eight pupaes died. Ten butterflies emerged. They were all small, dark specimens, most probably as a result of the marginal conditions they had been living under. The last butterfly hatched October 28th.

*V. cardui* migrated to the region more numerous than *V. atalanta* in 1996. But also *V. cardui* suffered from the cold conditions in June and July. The warm weather of August resulted in a rather small number of adults. As a contrast to the season of 1996, the warm summer of 1988 must be mentioned. This year both *Vanessa*-species migrated to Central Norway and a numerous new generation was produced, flying from early August.

# Autographa gamma L.

## Brekken:

25.–26.VI.1996: Many individuals, at least 25, observed in daylight at 850–1100 meters. 06.–15.VIII.1996: Again several specimens observed in daylight. Supposed by the author to be a second wave migrants from south.

## Trondheim:

11.VI.-5.VII.1996: 23 specimens observed in parks in the center of town.

16.VIII.–15.X.1996: 15. *A. gamma* appeared extremely numerous, especially on sunny days where thistles were growing. Even on cloudy days with temperature around 10 °C specimens were observed taking nectar commonly. *A. gamma* began to be more scarce at the end of September and disappeared almost totally when a heavy rain and cold winds set in the first days of October. The last specimen, which had survived two snowstorms, was observed on October 15th. In the period, caterpillars and pupaes were seen on different plants, locally in large numbers. A lot of the pupae were empty, proving that *A. gamma* had succeeded in producing a generation here in Trondheim.

A. gamma clearly tackled the climate better than the vanessas. The author has not observed the species more numerous ever before.

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Address of the author

RUNAR KROGEN Finnmyrveien 38 N-7350 Buvika

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