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Chromosome number of *Brenthis ino* (Rottemburg, 1775) from Sweden (Lepidoptera, Nymphalidae)

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Summary

The haploid chromosome number, 13, was confirmed in males of *Brenthis ino* (Rottemburg, 1775) from Överkalix and Byske, Sweden

Résumé

Le nombre haploïde des chromosomes, 13, a été confirmé chez les mâles de *Brenthis ino* (Rottemburg, 1775) de Överkalix et Byske, Suède.

The lesser marbled fritillary, *Brenthis ino* (Rottemburg, 1775) is distributed widely from Europe to Japan. Males of this species from Porvoo, Finland, have thirteen chromosomes in haploid (Saitoh, 1987). On the contrary, each of the two subspecies of Japan, *B. ino mashuensis* (Kono, 1931) and *B. ino tigroides* (Fruhstorfer, 1901), is characterized by an *n*, 14-karyotype (♂) (Maeki, 1961 ; Saitoh, 1988 ; Saitoh *et al.*, 1989). Recently, through the courtesy of Erik von Mentzer, Täby, Sweden, the author has had the opportunity to examine spermatocyte chromosomes of Swedish males of this species from two localities. The present paper outlines the results of a chromosome survey with them.

Materials and methods

Adult testes, fixed by von Mentzer in Bouin's solution and then re-fixed by the present author in Allen's PFA-3 mixture, were sectioned (10 μm) according to the ordinary paraffin method. The slides prepared were stained with Heidenhain's iron-haematoxylin.

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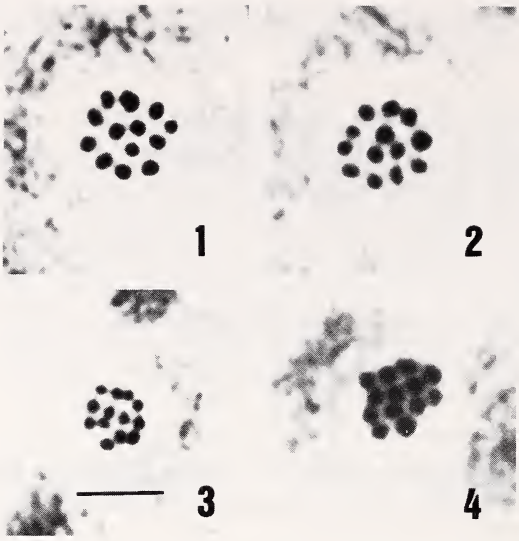

Figs 1-4. Spermatocyte chromosomes (*n*, 13) of *Brenthis ino* from Sweden. 1. First division. Specimen no. 228 (Överkalix). 2 and 3. First and second division, respectively. Specimen no. 232 (Överkalix). 4. First division. Specimen no. 256 (Byske). Scale bar : ca. 5 μm.

A total of nine males from the two localities, Överkalix and Byske, were examined and spermatocyte chromosomes were observed in 178 metaphases in seven of them.

Observations and remarks

As evident from the results of chromosome counts (Table 1), the number of haploid chromosomes is consistent in each of the seven males. It can therefore be safely concluded that an *n*, 13-karyotype is characteristic of them. Spermatocyte metaphase chromosomes are round, or oval in shape (Figs 1-4), as is usual with sectioned testis material of the lepidopterans examined so far.

It has become evident that the *n*, 13-karyotype is common also to the Swedish males examined. However, inconsistency in the established chromosome number of this species sampled in Sweden and Japan is noticeable, because each of these two countries is nearly the western and eastern extremity of the range of this species, respectively. Therefore, a further inquiry into the chromosome constitution is still necessary especially of populations of this species from intermediate regions.

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Table 1.

Chromosome counts in seven males of *Brenthis ino* from Sweden.

Locality	Specimen no.	No. of metaphases examined in : First division *n*,13(*)	Second division *n*,13(*)
Överkalix, Norbotten	228	4	
	232	53	50
	233	11	
	248	31	2
Byske, Västerbotten	255	5	
	256	13	
	274	7	2
Total		124	54

(*) Variation in the haploid chromosome number could not be observed.

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