Atalanta (December 1994) **25** (3/4): 559–561, Würzburg, ISSN 0171-0079

A chromosome study of four species of Notodontidae

(Lepidoptera)

by

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received 7.I.1994

Summary: The present paper reports the data on the haploid chromosome numbers of 4 species of Notodontidae, collected in the Far East of Russia. All the descriptions of the karyotypes are presented here for the first time.

Резюме: В статье описываются кариотипы четырех видов хохлаток с Дальнего Востока России.

Zusammenfassung: In dieser Arbeit werden die Karyotypen von 4 Arten der Familie Notodontidae erstmals beschrieben.

The karyotypes of some species of the family Notodontidae from Europe, Japan, North Africa, India and Canada are known (Robinson, 1971; Templado & Ortiz, 1970; Saitoh et al., 1969; Kaur, 1988; Ennis, 1976). The present study reports some data on the haploid chromosome numbers of 4 species from 4 genera of Notodontidae from the Far East of Russia. Three genera belong to the subfamily Notodontinae and one species to the subfamily Pygaerinae. All the descriptions of the karyotypes are presented for the first time.

Material and methods

The material was collected in the Far East of Russia. Larvae were reared up until a suitable stage had been reached. Only males were used for the karyological study. Testes were taken from the final instar larvae and were fixed in ethanolacetic solution (3:1) and stained in 2% aceto-orcein medium. The squashed temporary preparations were made in a drop of 45% acetic acid. The chromosomes were examined in the metaphase I (MI) or metaphase II (MII) of the meiosis of spermatogenesis.

Results

Subfamily Notodontinae

Notodonta dembowskii Oberthür, 1879 (fig. 2): Russia, Far East, Gornotaezhnoe, I. V. Dolinskaya leg. The haploid chromosome number was determined as n = 31, based on counts of 6 MI and 1 MII from one male. All the bivalents gradually decrease in size.

Fig. 1–4: Photomicrographs of spermatocyte metaphases (MI):
1 – *Semidonta biloba* (OBERTHÜR, 1880); n = 31; 2 – *Notodonta dembowskii* OBERTHÜR, 1879, n = 31; 3 – *Peridea oberthueri* (STAUDINGER, 1892), n = 31; 4 – *Gonoclostera timoniorum* (BREMER, 1861) (= *timonides* (BREMER, 1864)), n = 23. Scale bar = 0.01 mm.

Peridea oberthueri (STAUDINGER, 1892) (fig. 3): Russia, Far East, Gornotaezhnoe, I. V. DOLINSKAYA leg. The haploid chromosome number was determined as n = 31, based on counts of 16 MI and 2 MII from four males. All the bivalents gradually decrease in size.

Semidonta biloba (OBERTHÜR, 1880) (fig. 1): Russia, Far East, Gornotaezhnoe, I. V. DOLINSKAYA leg. The haploid chromosome number was determined as n = 31, based on counts of 24 MI and 1 MII from one male. All the bivalents gradually decrease in size.

Subfamily Pygaerinae

Gonoclostera timoniorum (BREMER, 1861) (= *timonides* (BREMER, 1864)) (fig. 4): Russia, Far East, Gornotaezhnoe, I. V. DOLINSKAYA leg. The haploid chromosome number was determined as n = 23, based on counts of 19 MI from two males. All the bivalents gradually decrease in size.

The haploid chromosome number n = 31 was established for all three investigated species of the Notodontinae from the Far East. This number ist typical for the subfamily Notodontinae

and was also found in other species from different regions (ROBINSON, 1971; ENNIS, 1976). The species of the Pygaerinae differ in the haploid number, in contrast to a consistent number in the species of Notodontinae. The haploid number n = 23 was established by us for *G. timoniorum*. Chromosome numbers from n = 10 to n = 30 have been found in other species of the subfamily Pygaerinae (ROBINSON, 1971; KAUR, 1988).

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