

Wiad. entomol.	25, Supl. 1: 45-48	Poznań 2006
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Anomalies in the structure of elytra of *Carabus cancellatus* ILL. (*Coleoptera: Carabidae*)

Anomalie w budowie pokryw u *Carabus cancellatus* ILL.
(*Coleoptera: Carabidae*)

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ABSTRACT: An interesting anomaly in *Carabus cancellatus* ILL. consisting in shortened and deformed elytra in both beetle sexes is presented.

KEY WORDS: *Coleoptera, Carabidae, anomalies, elytra.*

Introduction

A few teratologic cases in beetles have been reported in the Polish literature. The first records applied to anomalies in *Cerambycidae* (KAWECKI 1934). More recent information was related to anomalies in *Curculionidae* observed by CMOLUCH (1965, 1975, 1985). For *Carabidae* a single teratological case in *Carabus granulatus* L. (JAWORSKA 1994) was reported.

Description

In 1998 a research study was carried out to make inventory of *Carabidae* (*Coleoptera*) at three locations (rye crops, balks, idle land) in the territory of the Community of Szydłów, village of Brzeziny. 187 beetles of *Carabus cancellatus* ILL., including 116 males and 71 females, were col-

lected from 30 Barbera traps containing ethylene glycol during the *Carabidae* activity period, i.e. between April 11 and October 4. Three of collected beetles, i.e. 2% of total number of *C. cancellatus*, showed a clearly visible deformation of elytra. In average a single teratological case occurs for 62 beetles under investigation.

The first case among *C. cancellatus* was found in a female collected on 1998, May 2 in trap no 19. Total body length of 26 mm. The right forewing of 17 mm in length was properly developed. The shortened and deformed left forewing was of 14 mm in length. The regular relief stretched over 2/3 of its length, while the wing end was crooked toward the right hand side (Fig. 1).

The second case was found in a male collected on 1998, July 11 from trap no 22. Total body length 22 mm. The left forewing of typical relief was properly developed. The right forewing was highly shortened to 7 mm in length and twisted upward. The crooked wing part showed no relief (Fig. 2).

1 2

Fig. 1, 2. *Carabus cancellatus*: 1 – female deformation of left elytra (specimen from pitfall traps no 19), 2 – male deformation of right elytra (specimen from pitfall traps no 22)

Ryc. 1, 2. *Carabus cancellatus*: 1 – samica, deformacja lewej pokrywy (osobnik z pułapki nr 19), 2 – samiec, deformacja prawej pokrywy (osobnik z pułapki nr 22)

Fig. 3. *Carabus cancellatus* – male deformation of left right elytra (specimen from pitfall traps no 22)

Ryc. 3. *Carabus cancellatus* – samiec, deformacja lewej pokrywy (osobnik z pułapki nr 22)

The third case was found in a male collected on 1998, August 8 from trap no 22. Total body length of 21 mm. The right forewing of 13 mm in length showed typical relief. The left forewing was highly crimped and crooked upward over the length of 2mm (Fig. 3).

After this one-year study it is impossible to identify accurately the cause of anomalies found in *C. cancellatus*. The elytra anomalies were observed in the imago stage. For each beetle no differences in body and elytra colors were found. Thus, one can conclude that the anomalies were of genetic origin or resulted from direct effect of pesticides on beetles or its feed.

STRESZCZENIE

W 1998 roku prowadzono badania faunistyczne nad występowaniem *Carabidae* we wsi Brzeziny, gmina Szydłów, woj. świętokrzyskie. Podczas badań na polu z uprawą żyta stwierdzono wśród odłowionych 179 osobników *Carabidae* 3 okazy teratologiczne *Carabus cancellatus* ILL. Zmiany widoczne gołym okiem dotyczyły zniekształceń pokrywy prawej lub lewej. Zaznacza się tu wyraźnie silne skrócenie jednej z tych pokryw. Anomalie w budowie lewej pokrywy wystąpiły u samicy i samca, natomiast prawej pokrywy tylko u samca.

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