

# Karyological observations on the Field Cricket, *Gryllus campestris* L. (Gryllidae, Orthoptera)

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**Abstract.** The diploid chromosome number of males of the Field Cricket, *Gryllus campestris*, from Sivas was found to be  $2n = 29$ , with 6 pairs metacentric, 3 pairs submetacentric, 5 pairs subacrocentric autosomes, and 1 X metacentric. The X chromosome is the longest chromosome in the complement. C-banding was carried out on this species.

**Kurzfassung.** Bei männlichen Feldgrillen, *Gryllus campestris*, aus Sivas beträgt der diploide Chromosomensatz  $2n = 29$ , mit 6 Paaren metazentrischer, 3 Paaren submetazentrischer, 5 Paaren subakrozentrischer Autosomen und einem metazentrischem X-Chromosom. Das X-Chromosom ist das längste. Die Ergebnisse von C-banding werden mitgeteilt.

**Key words.** Karyotype, metaphase, chromosome, C-banding pattern, Turkey, Middle East.

## Introduction

Karyological analyses of *Gryllus campestris* L. include those of OHMACHI & UESHIMA (1957), LIM et al. (1973), WHITE (1973), HEWITT (1979), WARCHAŁOWSKA-ŚLIWA (1980), HANDA et al. (1985), and DAS & DAS (1991). The family Gryllidae has a wide range of chromosome numbers, from  $2n \text{♂} = 11$  to  $2n \text{♂} = 29$ . The great majority of the species have XX ♀ / X0 ♂ type of sex chromosome mechanism (WARCHAŁOWSKA-ŚLIWA 1980, HANDA et al. 1985, DAS & DAS 1992). Only 15-20% of the species of Grylloidea worldwide have been analysed cytologically, as can be seen from the authors cited. No chromosome investigations of Turkish gryllids have yet been made. As there are no data on the C-bands of *G. campestris* in Turkey, the present study is an attempt to describe the previously unknown karyotype of *G. campestris*, and to compare it with other populations.

## Material and methods

Adult males from natural populations of *G. campestris* were used in this study. They were collected from the environs of Cumhuriyet University campus during May and June, 1999. Chromosomal preparations were made from testes using the warm-dry method as described by KLIGERMAN & BLOOM (1977), with the minor modifications made by NAKAMURA (1986). Metasomas of the adult male testes were dissected in hypotonic sodium citrate solution supplemented with colchicine (0.1%). The testes were incubated in this solution at room temperature (25°C) for 3 hours. Following incubation, they were fixed in freshly-made Carnoy's fixative (3:1 ethyl alcohol:acetic acid). They were then minced gently in 50% acetic acid to prepare a cell suspension. A drop of the cell suspension was pipetted out and placed on warm clean glass slides. The cells left