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Occurrence of groundhopper *Tetrix bolivari* (Orthoptera: Tetrigidae) in the Czech Republic and Slovakia

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Abstract

The occurrence of *Tetrix bolivari* in the Czech Republic and Slovakia is presented and discussed. This groundhopper is a very rare species on the northern edge of its range there. We confirm the present occurrence in the southern territories of the both republics. All published as well as new data of the occurrence of *Tetrix bolivari* in the former Czechoslovakia are presented in the map.

Introduction

Tetrix bolivari Saulcy, 1901 (Fig. 1, 2) is a hygrophilous (ripicolous and geophilous) (INGRISH & KÖHLER 1998) subpontic-mediterranean species with a disjunctive area (DEVRIESE 1996). In the territory of the former Czechoslovakia firstly MAŘAN (1956) mentioned its occurrence but without the name of any locality. ČEJCHAN (1963, 1985) recorded particular localities. The specimens were found at the end of the 40-ties and the beginning of the 50-ties. According to the author (ČEJCHAN 1963) *Tetrix bolivari* occurs sporadically throughout the whole south Slovakia and south-east Moravia (Czech Republic).

During the last fifty years *Tetrix bolivari* was not recorded from the Czech Republic. CHLÁDEK (1995) characterised this species as vulnerable in the territory of Pálava Biosphere Reserve but he does not know any other data besides localities published by ČEJCHAN (1963) (all known localities in the Czech Republic are situated in this reserve). Due to dramatic changes in south Moravian landscape (disappearing of wetlands and flooded areas in large scale) we supposed that this species had become extinct in the Czech Republic (KOČÁREK et al. 1999).

We confirmed the occurrence of *Tetrix bolivari* in the Czech Republic and Slovakia. Bellow we show these findings as well as all published data. All the data are presented in a grid map (Fig. 3) (for the code of map field see ZELENÝ (1972) and PRUNNER & MÍKA (1996)).

The number of collected males and females are presented in the following form: number of males / number of females.

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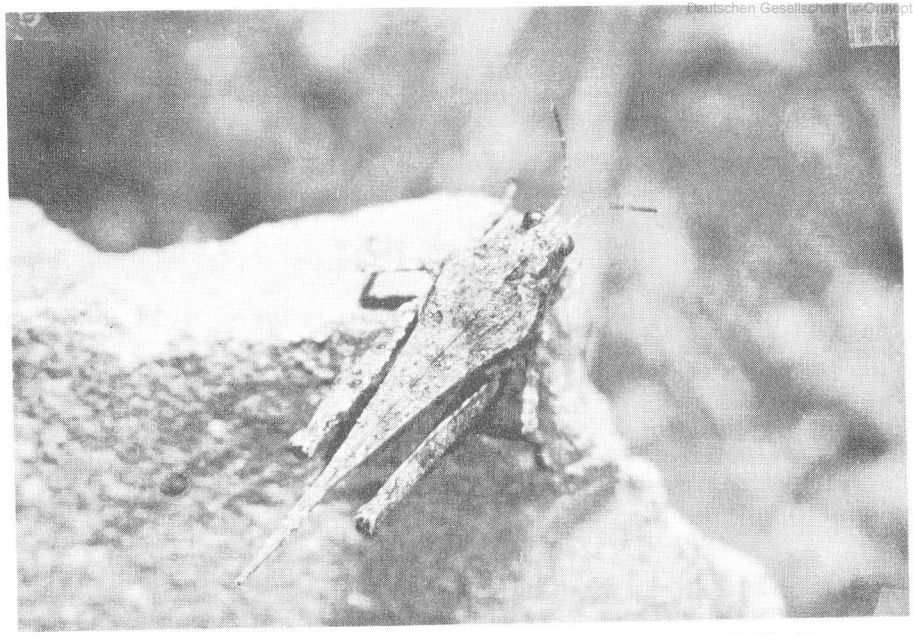

Fig. 1: Female catch at village of Přímětice 19.08.2000 (photo by P. Kočárek)

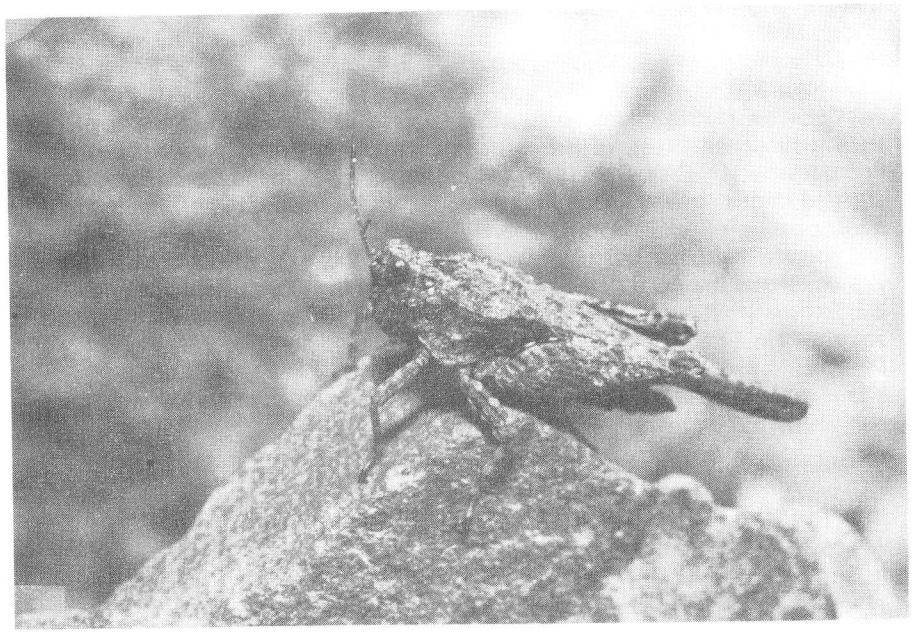

Fig. 2: Female catch at village of Přímětice 19.08.2000 (photo by P. Kočárek)

Results

Czech Republic

Published data:

Lednice (7266-67), 01.07.1952, 0/2, 10.07.1954, 2/0; ? Věstonice (both villages of Dolní Věstonice and Horní Věstonice are in the map field 7165), 02.07.1952, 0/1; Pouzdřany (7065), August 1959, 0/2, all specimens Mařan leg., National Museum in Praha coll. (ČEJCHAN 1963).

Unpublished data:

Pouzdřany (7065), 1954, 0/1, Dobšík leg., Museum Ostravian coll., Holuša det.; Přímětice (7162), 08.05.2000, 3/4, 19.08.2000, 2/1, Holuša leg. det. et coll., 19.08.2000, 0/2, Kočárek leg., det. et coll.

At the village of Přímětice this species lives around a small lake (area of 2 are) in the former kaolin-pit in now flooded. The banks are scarcely covered mainly by *Phragmites communis* and *Juncus* sp. In the period of 02.08.-06.08.1999 only nymphs were observed while on 08.05.2000 only adults were collected. 19.08.2000 we found a few adults as well as nymhs. After the intensive research it seems that the population counted only several dozens of specimens.

Slovak Republic

Published data:

Svätá Mária (7597), 22.08.1960, 0/1, Čejchan leg., Regional Museum of Eastern Bohemia in Hradec Králové coll.; Kamenín (8177), 26.06.1959, 0/1, Smetana leg., Čejchan coll.; Kamenný Most (8177), August 1952, 1/2, Mařan leg., National Museum in Praha coll.; Štúrovo - Kováčovské kopce hills (8178), 17.06.1949, 1/0, Hoffer leg., Čejchan coll.; Chotín (8175), 04.08.1952, 1/0, Mařan leg., National Museum in Praha coll., 22.7.1960, 3/0, 08.08.1962, 4/2, Čejchan leg. et coll; Gabčíkovo (8171), 04.09.1953, 1/1, Mařan leg., National Museum in Praha coll. (ČEJCHAN 1963); Leles, at river of Latorica, (7598), 05.06.1960, 0/1, Pecina leg. et coll.; Kamenice nad Hronom (8178), July 1952, 0/1, exc. et coll. National Museum in Praha, 20.03.1954, 0/1, Pospíšil leg., Pecina coll.; Štúrovo (8178), 24.08.1950, 1/0, Trakal leg. et coll. (ČEJCHAN 1985).

Unpublished data:

Velké Raškovce (7497), 21.08.1996, 2/5, Holuša leg., det. et coll.

On the scarce covered mud bank of the oxbow lake of the rive of Laborec.

Chľaba (8179), 18.05.1995, 1/1, Kočárek leg., det. et coll.; 02.07.1996, 3/2, Kočárek leg., det. et coll., 1/1, Kočárek leg. et det., Ischikawa coll.

In regularly flooded area of the river Danube with scarce vegetation around periodical and nonperiodical pools.

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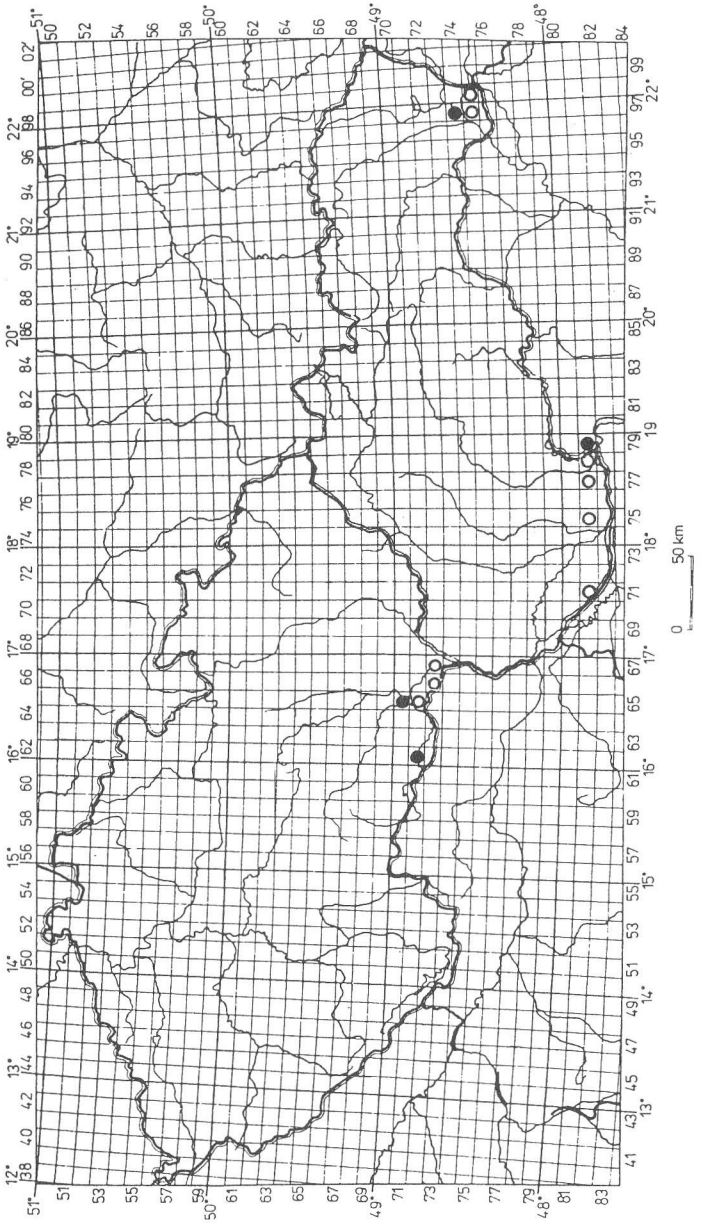

Fig. 3: Map of the occurrence of *Tetrix bolivari* in the Czech Republic and Slovakia (empty circle - published data, full circle - new data)

Discussion

ČEJCHAN (1963) characterised *Tetrix bolivari* as the species with sporadic occurrence. Only a few specimens were found in all mentioned localities (ČEJCHAN 1963). A possible reason of this is that the majority of specimens were collected in July or August when the nymphs dominated in the population. On the other hand it is incredible that this species has not been recorded so far in Hungary (RÁCZ 1998) as well as *Tetrix ceperoi* known from south-western Slovakia (HOLUŠA & CHLÁDEK 1998). According to published data (MARSHALL & HAES 1990, BELLMANN 1985, HOLUŠA & CHLÁDEK 1998) it seems that *Tetrix ceperoi* prefers mainly sandy places (or other good drainage ground) while *Tetrix bolivari* occurrs on loamy or even clayey places (locality of Přímětice).

In the territory of the Czech Republic and Slovakia *Tetrix bolivari* is a very rare species with polydisjunctive area (Fig. 3). All known localities are located in the territory of panonic subprovince but the locality of Přímětice is on the northern edge of this subprovince (CULEK et al. 1996). The future existence of the population in the Czech Republic is unsure due to the natural succession there. In Slovakia our data confirmed the occurrence in southern areas.

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