

Three species instead of one: Provisional distribution of the species of the *Cicadetta montana* complex (Homoptera: Cicadidae) in Switzerland

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Introduction

At the end of the 20th century entomologists still considered all morphological varieties of the mountain cicada in Central Europe being one single species (*Cicadetta montana* s. l.). During the last few years the study of the calling songs suggested that at least three different species can be found in Central Europe, which can be separated by genetic characteristics as well. The morphological distinction is still very difficult due to high intraspecific variability.

Geographic distribution of the mountain cicadas now has to be reinvestigated in the whole Palaearctic. For the first time, this study presents provisional maps of distribution for a whole country.



Fig. 1: *Cicadetta montana* s. str., ♀, Salgesch, 18.06.2005

Method

In the Swiss central fauna data bank (CSCF), only about 25 records of *Cicadetta montana* s. l. are available. Maps are based on over 100 observations proven by calling songs (about 90 registered by the author and 20 by two other observers).

Results

Cicadetta montana s. str. SCOP.



Fig. 2: ♂, Riepel, 30.6.2004

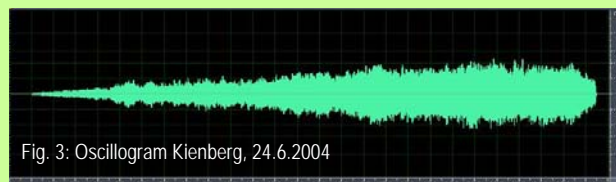


Fig. 3: Oscillogram Kienberg, 24.6.2004



Fig. 4: Habitat Riepel, 24.6.2005

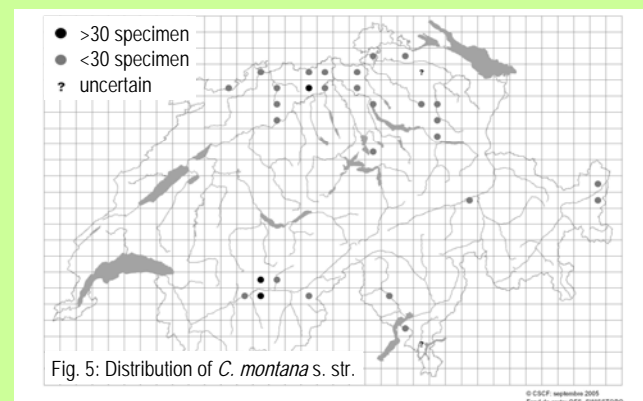


Fig. 5: Distribution of *C. montana* s. str.

Cicadetta cerdaniensis PUIS.



Fig. 6: ♂, Küttigen, 28.5.2004



Fig. 7: Oscillogram Monte San Giorgio, 11.7.2004

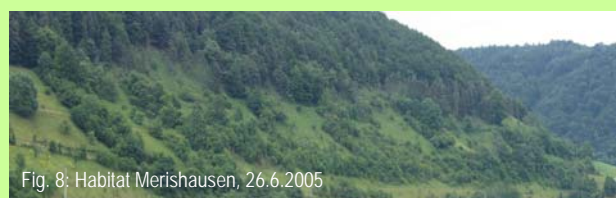


Fig. 8: Habitat Merishausen, 26.6.2005

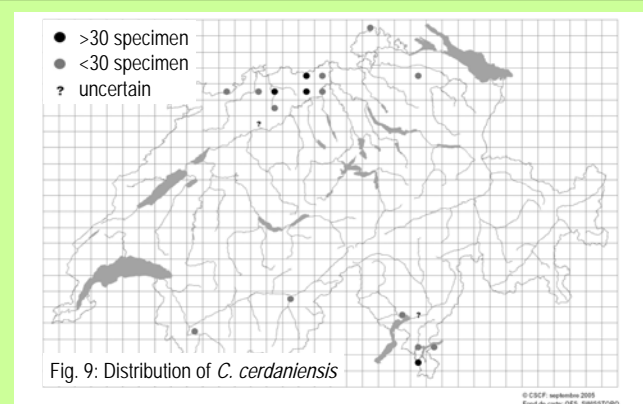


Fig. 9: Distribution of *C. cerdaniensis*

Cicadetta brevipennis FIEBER



Fig. 10: ♂, Mt. S. Giorgio, 6.6.2005

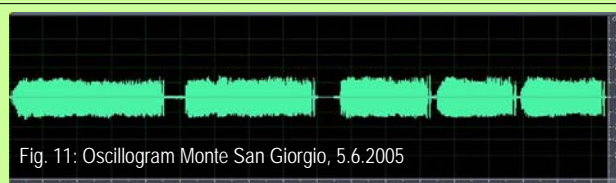


Fig. 11: Oscillogram Monte San Giorgio, 5.6.2005



Fig. 12: Habitat Monte San Giorgio, 5.6.2005

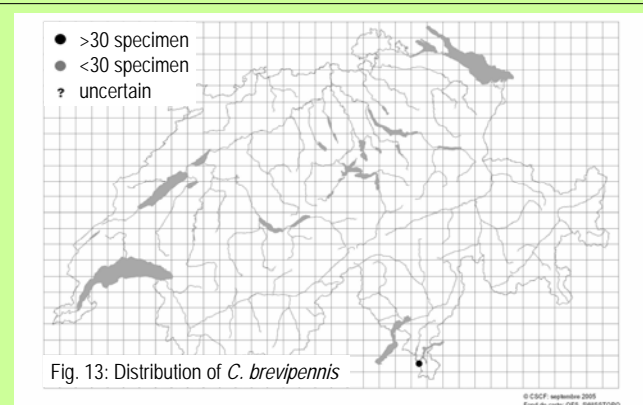


Fig. 13: Distribution of *C. brevipennis*

Discussion

The maps show a characteristic geographic distribution pattern for each species: *Cicadetta montana* s. str. is widely distributed but occurs only moderately frequent in some areas of the Valais. *Cicadetta cerdaniensis* is mainly spread in the eastern part of the Jura mountains and southern Ticino. The occurrence of this species in Switzerland now can be definitely confirmed after its first uncertain description in 1985 and its "rediscovery" in 2003. Finally, *Cicadetta brevipennis* was discovered in 2005 at one location in southern Ticino for the first time in Switzerland.

All species of *Cicadetta montana* complex can be found in Switzerland in dry habitats, mainly sparse woodlands with *Pinus silvestris*, *Quercus pubescens* or *Ostrya carpinifolia*.

Based on these observations it can be concluded that the cicada fauna of Switzerland consists of seven species instead of five.

Acknowledgments

Christian Monnerat for producing the maps, Georg Artmann and Bruno Keist for putting data at the author's disposal.