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Short communication

NEW AUCHENORRHYNCHA SPECIES IN HUNGARY: *CHLOOTHEA ZONATA* EMELJANOV, 1959

GY. GYÖRFFY and K. MARGÓCZI

Department of Ecology, József Attila University Szeged, P.O. Box 659, Hungary

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Introduction

EMELJANOV described the *Chloothea zonata* species (Homoptera, Cicadellidae) from Kazakhstan in 1959. At that time he considered that the appearance of the species depended on the presence of grasses, and primarily *Festuca sulcata*. Later (EMELJANOV, 1964), he mentioned the *Stipa lessingiana* and *Stipa sareptana* species as host plants. Since the description, the distributional data have been extended towith the Southwest of the European part of the former Soviet Union (EMELJANOV, 1964), then to Mongolia, and the Altaj Mountains (NAST, 1972).

Hungarian biotopes

In Hungary we collected the leafhopper in Kéleshalom in 1991, and in Fülöpháza in 1992-93 , altogether 131 specimens (Tables 1 and 2).

Kéleshalom:

The area is situated south of Kiskunhalas, near to the village of Kéleshalom. This sand-hill territory is covered by mosaics of grass, forest, and shrub patches. The different successional stages of the sandy grassland plant communities can be investigated very well in this conservation territory. We took insect samples in eight 200-300 m^2 patches with Barber traps and sweep nets. Phytocoenological data were collected as well. The *Chloothea zonata* leafhoppers were found in the samples from the perennial open sandy grassland (*Festucetum vaginatae danubiale*) and from the more closed grassland (*Festucetum vaginatae salicetosum rosmarinifoliae*).

Fülöpháza:

This area comprises part of the Kiskunság National Park. The soil is extremely dry, limy, wind-blown sand. The typical plant community is *Festucetum vaginatae*

stipetosum. At the beginning of summer *Stipa sabulosa*, and at the end of summer *Stipa capillata* is the main plant species of the upper grass layer. Barber and pan traps were used in spring, summer and autumn.

Table 1. The relative cover values of the more important plant species in the investigated biotopes

1991, 1992 August	Kélesh.1.	Kélesh.2.	Kélesh.3.	Kélesh.4.	Kélesh.5.	Fülöpháza
Festuca vaginata	62	33	20	52	28	16
Stipa spp.	10	25	30	2	8	37
Fumana procumbens	6	1	12	11	0	4
Alyssum tortuosum	3	0	1	2	0	12
Euphorbia sequieriana	8	2	1	4	0	8
Teucrium chamaedris	0	10	0	0	14	0
Plant coverage	16	35	39	32	52	38
No. of plant species	18	17	17	16	20	20

Table 2. The individual number and relative frequencies of *Chloothea zonata* in the different biotopes

	trap	No. of individuals	relative frequency	relative frequency of imagos
Kéleshalom				
I. 07.27-08.14.	Barber	4	8.7	15
II.07.27-08.14.	Barber	12	29.7	78
III.07.27-08.14.	Barber	2	6.5	18
IV.07.27-08.14.	Barber	3	3.6	14
V. 07.27-08.14.	Barber	2	5	22
Fülöpháza				
1993.05.14-28.	Barber	40	53	0
1992.08.10-24.	Barber	13	65	81
1992.08.10-24.	Pan	58	57	64
1992.10.12-26.	Barber	1	3.1	3.3

Factors affecting the distribution of the species

From the relative cover values of the predominant plant species of the biotope and from the absolute cover values, it can be observed by means of classification (Renkonen index, weighted average) and ordination (PCA) methods that the distribution of the leafhoppers is determined by the presence of the *Stipa* species, together with the total cover of the vegetation, which affects the microclimate (Figs 1 and 2).

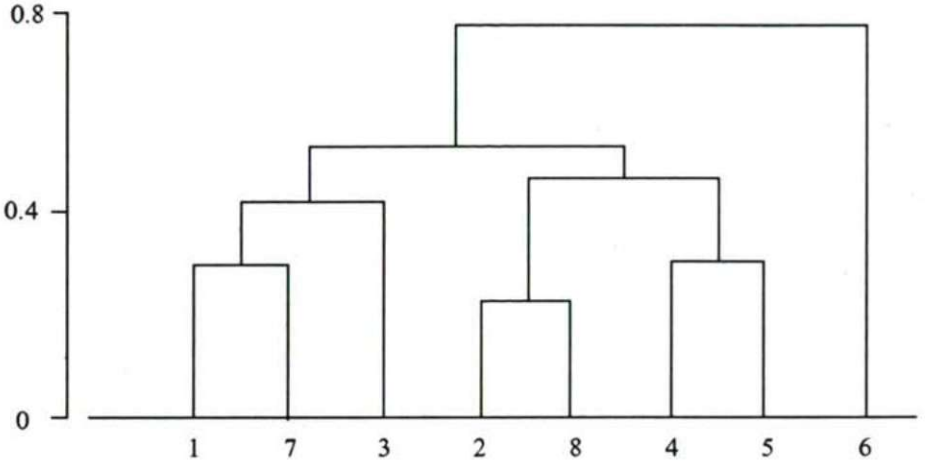

Fig. 1. Cluster analysis of the relative frequencies of *Chloothea zonata*, the cover of the important plant species, and the total plant cover. (1-6: plant species as in Table 1., 7: total plant cover, 8: relative frequency of the leafhopper)

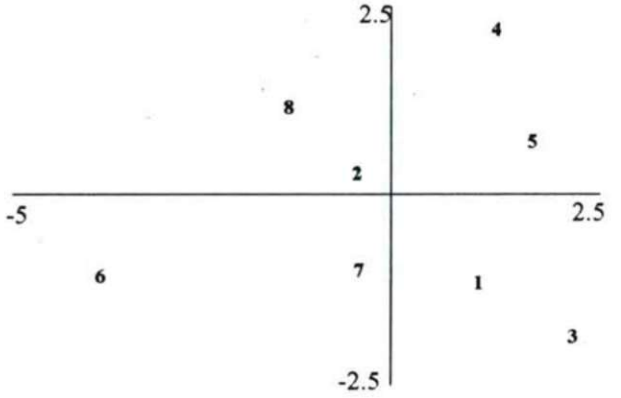

Fig. 2. PC-analysis of the relative frequencies of *Chloothea zonata*, the cover of the important plant species, and the total plant cover. The meanings of the numbers are the same as in Fig. 1.

Discussion

Chloothea zonata, a recently discovered species (genus) in Hungary, lives in sandy biotopes. It is the typical predominant species in the middle of summer, when otherwise the leafhopper community is rather poor in species. It probably spends the winter as a larva. The larvae can be found from spring until August. One generation

develops. Its appearance depends on the presence of *Stipa* plant species and also on the plant cover.

References

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